

2008

RESEARCH PUBLICATIONS & RESEARCH PROFILES



**United Arab Emirates University
Faculty of Medicine and Health Sciences**

Office of the Associate Dean for Research & Graduate Studies



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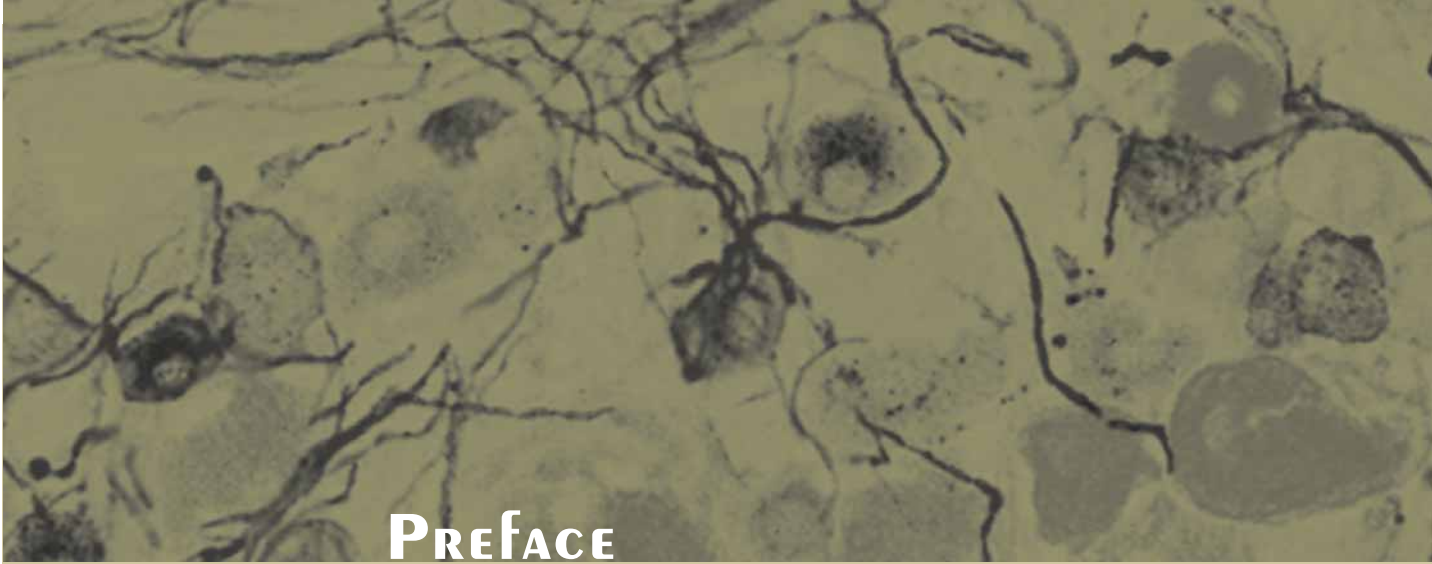
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PREFACE

This is the 18th yearly report on Research Publications and Research Profiles for the Faculty of Medicine & Health Sciences, United Arab Emirates University. This volume is a continuation of a series of annual reports, dating back to our very first report in 1991.

As usual, every year, we try to upgrade and maintain the quality of this directory and this year is no exception. We have continued to include the Departmental Profiles and the Reports from the Research Priority Groups, including a report on Student Medical Research.

The main change this year is the re-design of the booklet's layout. The new layout carries a more uniform style with a consistent use of visual elements; it also uses a modern typographical selection and a more functional way to display information. With the new layout you should find it easier to identify chapters, sections and text categories. Furthermore, the list of impact factors, at the back of the booklet, has been changed from a strict alphabetical listing to one that lists the journals in which we have succeeded in publishing this year by their impact factors; there is no reason to hide our achievements!

As always, it is a pleasure to thank the individuals who have put this report together to transform it into one book. Ms Ivanna Lizarriturri was the Graphic Designer assisted by Ms Shaikha Butti. Mr Rajagopalan, as always, took care of editing the initial departmental contribution and the communication between all parties while Mrs Pamela Roberts reviewed the booklet for mistakes and conspicuous inconsistencies. Mr Ashook provided numerous photographs and Mr Mohamed Zaggar took care of the translation.



*Dr Wim Lammers,
Editor*



*Dr Sehamuddin Galadari,
Associate Dean for Research & Graduate Studies*



DEAN'S MESSAGE

It is my pleasure in my final report as Dean to offer sincere thanks to faculty, students and technical staff for another very high level of research productivity during the calendar year 2008. Professor Wim Lammers is to be congratulated yet again for editing the diverse information into a cohesive document. Thanks also to Ms. Ivanna Lizarriturri for the improved style.

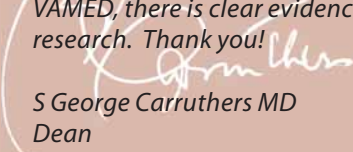
Grant sponsorship at FMHS involves a wide range of benefactors such as Sheikh Hamdan Awards for Medical Science, Terry Fox Cancer Funds in Dubai and Abu Dhabi and the Michael J Fox Foundation. The British Council in the UAE continues to enable student research electives to the United Kingdom in partnership with FMHS. Our dedicated students and their research mentors, both faculty and staff, should be suitably proud of their continued high level of achievement during 2008. Their efforts certainly paid off in the 6th GCC Medical Students Conference in Al Ain.

Major research conferences celebrate the efforts of our Research Priority Groups. Many international researchers attend these meetings as regular delegates to enjoy the well earned scientific reputations of the meetings. It is also a joy to see greater participation in the programs of UAEU graduate students, residents, research fellows and clinical colleagues from local hospitals whose contributions to oral presentations and posters match international standards.

A highlight of 2008 was the announcement of a Centre of Excellence funded by the National Research Foundation for a Genes and Disease collaboration from FMHS and Zayed University led by Professor Lihadh Al-Gazali and Dr. Bassam Ali.

The UAE University Research Affairs sector led by Her Excellency Dr. Maitha Al Shamsi, ably assisted by Professor Mohamed Fahim, and the FMHS research administration team led by Dr. Sehamuddin Galadari are warmly appreciated by all FMHS researchers.

It is the challenge of all good biomedical research to enhance the quality of patient care through improved diagnosis or better treatment. With growing support from Tawam Hospital - Johns Hopkins Medicine and Al Ain Hospital - Medical University of Vienna VAMED, there is clear evidence of positive steps in enhancing clinical research. Thank you!



S George Carruthers MD
Dean

RESEARCH Publications by DEPARTMENT

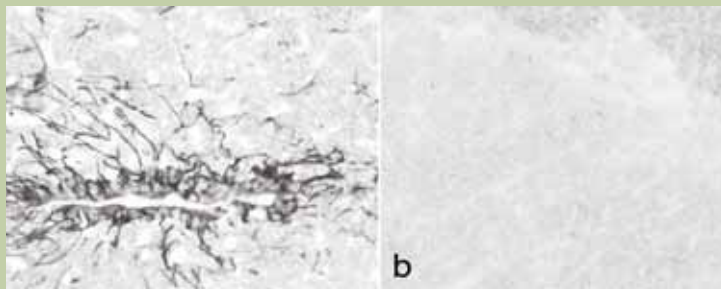
DEPARTMENT of ANATOMY

RESEARCH Profile

Academic staff in the Department of Anatomy pursue research interests in a number of directions. We show considerable strength in the fields of neurobiology, stem cells, cancer, diabetes, and structure/function relations.

Research by

Eric Mensah-Brown has continued to be focused on the mechanisms underlying autoimmune type 1 disease and the role of microglia in experimental allergic encephalomyelitis (EAE). Together with collaborators in the Medical Microbiology and Immunology Department, we have shown that different mechanisms regulate autoimmunity in C57BL/6 and BALB/c mice. Using the multiple low dose streptozotocin model and cyclophosphamide, we have shown that while T regulatory cells prevent disease in C57BL/6 mice, they are completely ineffective in controlling diabetogenesis in BALB/c mice which seem to be controlled by the ST2/IL-33 paradigm of disease. The latter was demonstrated by showing that diabetes developed in normally resistant BALB/c mice after deletion of the ST2 gene. We have also demonstrated in rats that macrophages and dendritic cells, but not microglia, are antigen presenting cells in EAE. We contend that microglia remain as protective cells in the central nervous system.



Micrographs showing immunoreactivity to dendritic cells 14 days after disease induction in DA rats (Grade 3 disease) (a) and their absence in AO rats (b), which do not develop EAE.

Professor & Chair:

Prof G Buzzell

Professor:

Prof E Adeghate

Prof S Karam

Prof DE Lorke

Associate Professor:

Dr E Mensah-Brown

Dr S Shehab

Medical Research

Specialist:

Mr RS Hameed

Dr RR John

Ms A Rifaat

Mr S Singh

Mr S Tariq

Mr W Wanniarachi

Medical Research

Technician:

Mr M Madathil

Secretary:

Ms L Ravindranathan

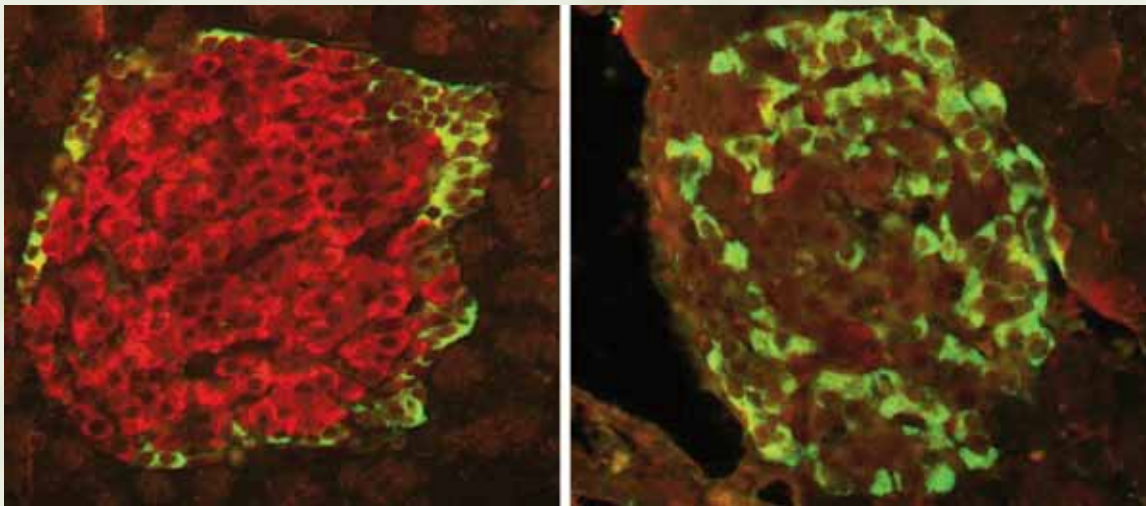
Office Assistant:

Mr TV Basheer

The aim of **Sherif Karam's** research focuses on some fundamental aspects of stem cell biology and their role in carcinogenesis, particularly in the gastrointestinal tract and mammary glands. The epithelial lining of these tissues is characterized by continuous production of new cells and loss of old cells by apoptosis. The source of this continual cell renewal is a small population of stem cells that are able to proliferate and differentiate as required into the appropriate cell types. We are interested in defining the molecules that regulate stem cells in the steady state, which are also those that are perturbed during cancer development.

Ernest Adeghate's major research interest is on the effect of pancreas transplantation on

the metabolic parameters in experimental diabetes. He also examines the role of neuropeptides on insulin and glucagon secretion from the pancreas, especially in diabetic conditions. Recent results from his laboratory showed that visfatin is expressed in many cells located in the central region of pancreatic islet. The expression of visfatin is reduced significantly in pancreatic islet cells of diabetic rats compared to control. Visfatin appears to co-localize with insulin in pancreatic islet cells of normal rats. Visfatin is an adipose tissue hormone implicated in the pathogenesis of diabetes mellitus and its complications. The presence of visfatin in islet cells shows that visfatin may have a role to play in the metabolism of insulin.

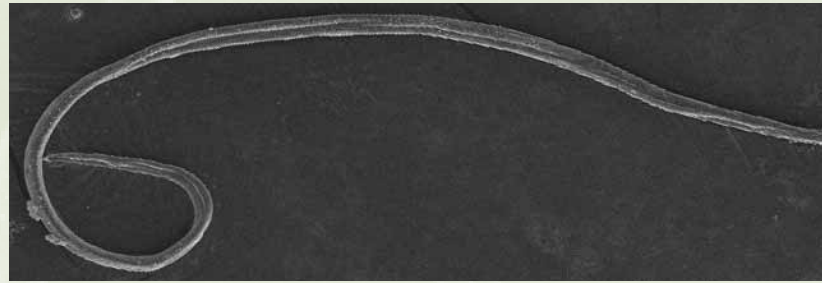


Immunofluorescence images of pancreatic islets showing visfatin (red) and glucagon (green) immunopositive cells in normal (left) and diabetic (right) Wistar rats. Note that visfatin-immunoreactive cells are observed reduced significantly in the islet of Langerhans in diabetic rats.

Jerry Buzzell's research has benefited from cooperation with the Central Veterinary Research Laboratory in Dubai, and involves studies on the histology of the third eyelid and the pleural edge of the dromedary camel. He is also returning to his parasitological roots by investigating the surface anatomy of the larval form of a *Habronema muscae*, a nematode parasite of flies and horses.

Safa Shehab studies the reorganisation of the neuronal circuitry in the dorsal horn of the spinal cord after peripheral nerve section. His findings do not support the notion that peripheral nerve section causes sprouting of either injured or adjacent uninjured primary afferents in the dorsal horn. He is currently investigating the pain pathways that are likely to be critical in the production of the neuropathic pain. He is also investigating the role of the basal ganglia in suppressing epileptic seizures. His recent findings showed that the subthalamic nucleus might not have critical role in suppressing tonic seizure. He is currently investigating whether high frequency stimulation of the substantia nigra can produce anticonvulsant effects, using an animal model of epilepsy.

Dietrich E. Lorke's main research activities are in the area of neuroembryology. He studies developmental changes in the expression of neurotransmitters (GABA, catecholamines), of receptors (glycine receptor, nicotinic acetylcholine receptor, NMDA receptor, estrogen receptor-related receptor) and of functional parameters (functional MRI, c-fos) in different brain regions of rodents and humans. Together with his collaborators in Hamburg, he demonstrated that the transcription factor Nkx6.1 is not only required for the early specification of cranial motoneuron progenitors, but also controls their migration and axonal pathfinding. This collaboration also includes the investigation of altered brain development in mutant mouse strains, including knock-out mice, and studies on the reaction to injury in the spinal cord of mutant mice. His second research interest is concerned with the blood-brain barrier. In collaboration with the Department of Pharmacology, FMHS, he analyses factors influencing the passage of oximes into the brain. Oximes are important adjunct therapeutics in the treatment of organophosphorus poisoning. Together with his colleagues in Hong Kong, he



Habronema muscae larva

characterises neurotransmitter expression in the central nervous system of different vertebrates and studies apoptotic cell death as well as neurotransmitter changes during aging and in Alzheimer's disease. In addition, he is involved in cooperative clinical research, performing experimental studies on the development, imaging and therapy of malignant tumours and on the morphological basis of injuries of the musculoskeletal system.

ARTICLES IN PEER-REVIEWED JOURNAL

- Adeghate E. (2008). Visfatin: structure, function and relations to diabetes mellitus and other dysfunctions. *Current Medicinal Chemistry* 15; 1851-1862.
- Adeghate E, Sótonyi P, Kalász H. (2008). Chronic experimental diabetes accelerates urinary elimination of deprenyl and its metabolites. *The Open Medicinal Chemistry Journal* 2; 1-5.
- Al-Dhaheri WS, Hassouna I, Al-Salam S, Karam SM (2008) Characterization of breast cancer progression in the rat. *Ann N Y Acad Sci* 1138; 121-131.
- Farook V, AlKhalaf M, Karam SM (2008) Establishment of a gastric epithelial progenitor cell line from a transgenic mouse expressing the Simian virus 40 large T antigen gene in the parietal cell lineage. *Cell Proliferation* 41; 310-320.
- Fernandez-Cabezudo MJ, Azimullah S, Nurulain SM, Mechkarska M, Lorke DE, Hasan MY, Petroianu GA, Al-Ramadi BK. (2008) The organo-phosphate paraoxon has no demonstrable effect on the murine immune system following subchronic low dose exposure. *Int J Immunopathol Pharmacol* 21; 891-901.
- Giannakis M, Chen SL, Karam SM, Engstrand L, Gordon JI (2008) *Helicobacter pylori* evolution during progression from chronic atrophic gastritis to gastric cancer and its impact on gastric stem cells. *Proceedings of the National Academy of Sciences USA* 105; 4358-4363.
- Howarth FC, Jacobson M, Shafiullah M, Adeghate E. (2008). Long-term effects of type 2 diabetes mellitus on heart rhythm in the Goto-Kakizaki rat. *Experimental Physiology* 93; 362-369.
- Karam SM (2008) Cellular origin of gastric cancer. *Ann N Y Acad Sci* 1138; 162-168.
- Karam SM, Tomasetto C, Rio MC (2008) Amplification and invasiveness of gastric epithelial progenitors during carcinogenesis in TFF1-knockout mice. *Cell Proliferation* 41; 923-935.
- Morrison JF, Shehab S, Sheen R, Dhanasekaran S, Shafiullah M, Mensah-Brown E. (2008). Sensory and autonomic nerve changes in the MSG-treated rat: A model of type II diabetes. *Experimental Physiology*. 93:213-22.
- Lorke DE, Hasan MY, Arafat K, Kuāa K, Musilek K, Schmitt A, Petroianu GA (2008) In vitro oxime protection of human red blood cell acetylcholinesterase inhibited by diisopropylfluorophosphate. *J Appl Toxicol* 28; 422-429
- Lorke DE, Hasan MY, Nurulain SM, Shafiullah M, Nagelkerke N, Petroianu GA (2008) Effect of intrathecal pralidoxime administration upon survival of rats exposed to the organophosphate paraoxon. *Neurotoxicology* 29; 663-670.
- Lorke DE, Nurulain SM, Hasan MY, Kuāa K, Musilek K, Petroianu GA. (2008) Eight new bispyridinium oximes in comparison with the conventional oximes pralidoxime and obidoxime: in vivo efficacy to protect from diisopropylfluorophosphate toxicity. *J Appl Toxicol* 28; 920-928.
- Lorke DE, Ip CW, Schumacher U. (2008) Increased number of microglia in the brain of severe combined immunodeficient (SCID) mice. *Histochem Cell Biol* 130; 693-697.
- Lorke DE, Hasan MY, Nurulain SM, Kuāa K, Schmitt A, Petroianu GA. (2008) Efficacy of two new asymmetric bispyridinium oximes (K-27 and K-48) in rats exposed to diisopropylfluorophosphate (DFP): comparison with pralidoxime, obidoxime, trimedoxime, methoxime and HI-6. *Clin Toxicol (Phila)* 23; 1-7.
- Nurulain SM, Lorke DE, Hasan MY, Shafiullah M, Kuca K, Musilek K, Petroianu GA (2008) Efficacy of eight experimental bispyridinium oximes against paraoxon-induced mortality: Comparison with the conventional oximes pralidoxime and obidoxime. *Neurotox Res* 14; 1-9.
- Polgar E, Al-Khater KM, Shehab S, Watanabe M, Todd AJ. (2008) Large projection neurons in lamina I of the rat spinal cord that lack the neurokinin 1 receptor are densely innervated by VGLUT2-containing axons and possess GluR4-containing AMPA receptors. *Journal of Neuroscience* 28; 13150-13160.
- Raza H, John A, Brown EM, Benedict S, Kambal A. (2008). Alterations in mitochondrial respiratory functions, redox metabolism and apoptosis by oxidant 4-hydroxynonenal and antioxidants curcumin and melatonin in PC12 cells. *Toxicology and Applied Pharmacology*. 226:161-8.
- Schumacher U, Lukacs Z, Kaltschmidt C, Freudlsperger C, Schulz D, Kompisch K, Müller R, Rudolph T, Santer R, Lorke DE, Ullrich K. (2008) High concentrations of phenylalanine stimulate peroxisome proliferator-activated receptor gamma: Implications for the pathophysiology of phenylketonuria. *Neurobiol Dis* 32; 385-390.
- Shehab SAS, Al-Marashda K, Al-Zahmia A, Abdul-Kareema A, Al-Sultan, MAH. (2008) Unmyelinated primary afferents from adjacent spinal nerves intermingle in the spinal dorsal horn: A possible mechanism contributing to neuropathic pain. *Brain Research* 1208; 111-119.



Books, Chapters, Reviews and Editorials

Lorke DE, Kalasz H; Petroianu GA, Tekes K. (2008) Entry of oximes into the brain: A Review. *Curr Med Chem*. 15; 743-753.

Petroianu GA, Lorke DE. (2008) Pyridinium oxime reactivators of cholinesterase inhibited by diisopropyl-fluorophosphate (DFP): Predictive value of in-vitro testing for In-Vivo efficacy. *Mini Rev Med Chem*. 8; 1328-42.

Published Abstracts, Letters and Correspondence

Adeghate E, Hameed R, Shafiullah M, Ali Al Kuwaiti A, Fayez Al Qassimi A, Saeed Al Shehhi F, Mabkhout Al Sayeri N. (2008). Localization of gamma-aminobutyric acid and glutamic acid decarboxylase in the endocrine pancreas of Type 1 and Type 2 animal models of diabetes: 7th International Diabetes Federation Western Pacific Region Congress. *Diabetes Res Clin Pr* 79 (Suppl. 1); S59-S60.

Hasan MY, Lorke DE, Nurulain SM, Kuca K, Schmitt A, Petroianu GA (2008) Efficacy of two new asymmetric bispyridinium oximes (K-27 and K-48) in rats exposed to diisopropylfluorophosphate (DFP): Comparison with the established oximes pralidoxime, obidoxime, trimedoxime, methoxime and Hi-6. *Clin Toxicol* 46; 397-398.

Hasan MY, Lorke DE, Arafat K, Kuca K, Musilek K, Schmitt A, Petroianu GA (2008) In vitro oxime protection of red blood cell acetylcholinesterase inhibited by diisopropyl-fluorophosphate. *Clin Toxicol* 46; 397.

Langer R, Usmani A, v. Gorkom K, Nurulain SM, Petroianu G, Lorke DE, Azimullah S. (2008) In vitro study of the efficacy of adding antibiotics to contrast media at discography to inhibit bacterial growth. *Radiology*, 249, Suppl: 976.

Lorke DE, Schreiber J, Schumacher U (2008) ECM changes after spinal cord hemisection in Tenascin C-knockout. *Matrix Biology* 27, Suppl. 1: 42

Proceedings, Conferences, Invited Lectures, Web Sites and Others

Adeghate E, Hameed R, Shafiullah M, Ali Al Kuwaiti A, Fayez Al Qassimi A, Saeed Al Shehhi F, Mabkhout Al Sayeri N. (2008) Localization of gamma-aminobutyric acid and glutamic acid decarboxylase in the endocrine pancreas of Type 1 and Type 2 animal models of diabetes. 7th International Diabetes Federation Western Pacific Region Congress, Wellington, New Zealand.

Karam SM, Tomassetto C, Rio MC (2008) Trefoil factor 1 controls proliferation and differentiation of gastric stem cells. International Congress on Cell Biology. Seoul, South Korea.

Karam SM (2008) Interaction of *Helicobacter pylori* and gastric cancer stem cells. The 3rd Al-Ain International Immunology Conference, Al-Ain, UAE.

Karam SM (2008) Relationship between gastric epithelial stem cells and gastric carcinogenesis. The 2nd Emirates Pathologists Meeting, Dubai, UAE.

Research Grants

FMHS Research Grants

Prof DE Lorke. Investigation of the development of nephrogenic systemic fibrosis (NSF) after intra-peritoneal administration of gadolinium-based contrast agents (GBCA).

Dr E Mensah-Brown. The effects of Toll-like receptor-2 ligand, peptidoglycan on the development of autoimmune diabetes: An analysis in multiple low dose streptozotocin-induced diabetes in wild type mice, interferon-gamma and iNOS deficient mice.

Dr S Shehab. Neurochemical plasticity in the dorsal horn of the spinal cord following the fifth lumbar spinal nerve injury. A possible mechanism contributing to neuropathic pain.

UAEU Individual Grants

Prof E Adeghate. Effect of visfatin and adiponectin on the metabolic parameter of diabetic rats

Prof DE Lorke. In Vitro Study of the Efficacy of Adding Antibiotics to nonionic Contrast Media for intradiscal use at Discography in order to reduce Bacterial Growth.

Dr E Mensah-Brown. Antigen presentation and CNS immune-mediated inflammation: The role of dendritic cells in experimental allergic encephalomyelitis.

UAEU Interdisciplinary Grants

Prof SM Karam. Ghrelin and recovery after anti-neoplastic and cytotoxic therapy

Sheikh Hamdan Award for Medical Sciences

Prof E Adeghate. Effect of pancreatic beta cell transplantation on the metabolic parameters of diabetic rats.

Dr S Shehab. Does high frequency stimulation of the substantia nigra suppress

tonic epileptic seizures?
Terry Fox Fund for Cancer Research

Prof SM Karam.
Role of gastric epithelial progenitors in gastric carcinogenesis

Prof SM Karam.
Characterization of the early stages of mammary gland carcinogenesis

National Research Foundation

Prof SM Karam.
Stem cell genes and gastric carcinogenesis



Standing left to right:
Safa Shehab, Eric Mensah-Brown, Rasheed Hameed, Saeed Tariq, Sherif Karam, Dietrich Lorke, Mohammed Madathil, Gerald Buzzell, Tayeb Mohamed, Ernest Adeghate.

Seated left to right :
Sarabjit Singh, WAJ Wanniarachi, Rony John, Laurence Garey (visiting Professor), Lakshmi Ravindranathan, Afaf Rifaat, TV Basheer.

Anatomy



<http://www.fmhs.uaeu.ac.ae/Departments/Anatomy>
tel: 7672000 / Fax: 7672033

DEPARTMENT of Biochemistry



RESEARCH PROFILE

October, 2008 saw the return of Prof. J. Michael Conlon from exile in Doha to resume his position as departmental chair. Prior to this time, Prof. Haider Raza had served with distinction as acting chair. Dr Sehamuddin Galadari was appointed Associate Dean for Research and Graduate Studies and Dr Omar El-Agnaf assumed the chairmanship of the Neuroscience Research Priority Group.

Molecular toxicology and cellular oxidative stress (Prof. H. Raza)

My research is mainly focused on mitochondrial dysfunction in oxidative stress conditions caused by chemicals, drugs, diseases and toxicity. I am using whole animal, cell culture and molecular models in these studies. In this regard, I have interdepartmental collaboration with other faculty members and also have developed an international collaboration with the University of Pennsylvania, Philadelphia, USA. In addition, I am also investigating the mechanisms of molecular/cellular defense against toxicity and/or diseases in oxidative stress-related complications by using known phytochemicals and dietary antioxidants.

Research Highlights: In our recent studies, we have demonstrated that mitochondrial dysfunction is tightly coupled to cell survival and apoptosis. Alterations in mitochondrial redox and respiratory metabolisms were found to be critical during oxidative stress. Some of our recent publications have highlighted the significant role of dietary antioxidants, such as EGCG (green tea), black tea polyphenols and curcumin to modulate cellular growth and functions.

Professor & Chair:

Prof J M Conlon

Professor:

Prof H Raza

Associate Professor:

D. S Galadari

Dr O M A El-Agnaf

Assistant Professor:

Dr A H Al-Marzouqi

Dr M J Fernandez-

Cabezudo

Medical Research

Specialist:

Dr M Patel

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Ms E Ahmed

Ms N Al-Ghafari

Ms. A John

Medical Research

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Ms K Al-Baloushi

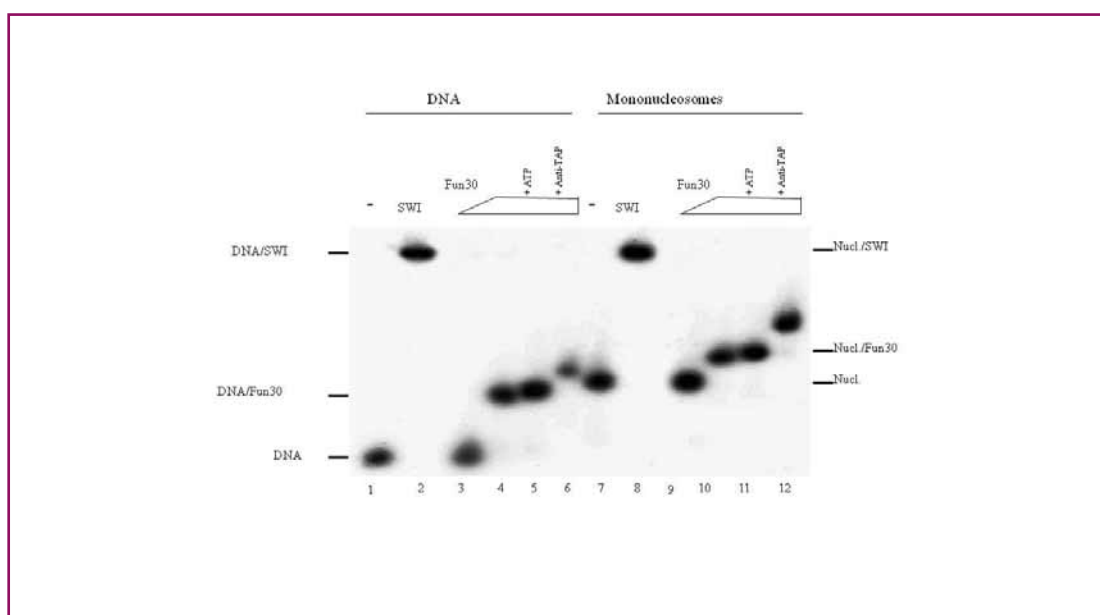
Mechanisms of transcriptional regulation by chromatin-modifying complexes (Dr. A.H. Al-Marzouqi)

The overall goal of my research is to understand the basic concepts of how genes are controlled and how that affects cancer development. Our genome is under the control of multiple mechanisms. One of them is the control of the packaging of the DNA in our cells and involves the chromatin-modifying protein complexes. Defects in these proteins lead to the development of cancers such as leukemias and lymphomas and some others. These protein complexes have been found to interact with some known tumor suppressors and oncogenic proteins showing that the chromatin remodeling is important for cell regulation. We have been studying the functions of these modifying complexes in order to understand how they regulate genes and how their misregulation leads to cancer formation. We are also interested in identifying new chromatin-remodeling proteins. These findings might be used in the future to help cure some types of cancers.

Research Highlights: (1) Investigation the importance of the Swi2/Snf2 bromodomain for the binding of the complex to acetylated nucleosomes. (2) Purification the SWI/SNF-related chromatin remodeling protein Fun30, and (3) Testing its DNA and chromatin binding in vitro.

Protein misfolding and neurodegenerative diseases (Dr. O.M.A. El-Agnaf)

Pathological studies in human neurodegenerative diseases such as Alzheimer's disease (AD), Parkinson's disease (PD), dementia with Lewy bodies (DLB), the prion dementias (e.g. mad cow disease and its equivalent, CJD, in humans), British dementia and Huntington's disease, have revealed abundant protein deposits ('amyloid') in the affected neurones. There is now substantial evidence from molecular genetics, transgenic animal and biochemical studies to suggest that the conversion of these amyloid proteins from soluble monomers to aggregated, insoluble forms in the brain is a key event in the pathogenesis of these diseases. This led us to hypothesize that small molecules that can block and/or reverse amyloid protein aggregation, particularly in its early stages, would provide an attractive therapeutic approach for targeting the underlying disease progression of neurodegenerative disease. Our research is concerned with the mechanism of formation and deposition of protein aggregates in these various diseases, and on the potential relationship between protein aggregation, neurodegeneration and cell loss. We are also very interested in novel approaches to improved diagnosis and therapy for these diseases. A further aspect of our research is the development of novel techniques for detecting amyloid aggregates, particularly in their early



Binding of SWI/SNF and Fun30 to GUB DNA and mononucleosomes.

stages. We are assessing these methods for the detection of aggregated forms of A β and α -synuclein in CSF and plasma samples from AD, PD and DLB patients as an aid to diagnosis of these diseases. Our work also involves the development of peptide and non-peptide inhibitors of amyloid aggregation and toxicity as potential novel therapeutics for these neurodegenerative diseases.

Research Highlights: We recently developed a simple and novel ELISA method that specifically recognizes only oligomeric species of α -synuclein. We employed this method to probe for oligomeric forms of α -synuclein in human brain lysates. Interestingly, based on our results, the ELISA was able to detect α -synuclein oligomers in post mortem brain lysates from DLB patients, but, in contrast, only a very weak signal was obtained from all control and AD samples tested (Paleologou, et al., 2009). Our data add further support to the idea that soluble oligomeric forms of α -synuclein play an important role in the pathogenesis of the PD and DLB. The methods developed in our laboratory provide a reliable and sensitive technique for the assay of α -synuclein oligomers in tissue extracts and body fluids that will be useful in many future studies.

Peptides with therapeutic potential from frog skin (Prof. J.M. Conlon)

The skins of certain species of frogs represent an important source of biological active peptides that have the potential for development in therapeutically valuable pharmaceutical agents. These include bactericidal and fungicidal peptides as anti-infectives, peptides with potent cytolytic activity against tumor cells as anti-cancer agents, and peptides with in vitro and in vivo insulin-releasing activities as therapy for patients with Type 2 diabetes.

Research Highlights: A peptide belonging to the brevinin-2 family (brevinin-2GUb) from the skin of the Asian frog *Hylarana güntheri* (Ranidae) and a peptide of the phylloseptin family (phylloseptin-L2) from the skin of the frog South American *Hylomantis lemur* (Phyllomedusinae) stimulated the release of insulin from BRIN-BD11 clonal β -cells at sub-micromolar concentrations that were not toxic to the cells. Both peptides when administered to mice significantly ($P < 0.05$) increased total release of insulin and improved glucose tolerance during the 60 min period following an intraperitoneal injection of glucose.



Frogs of the Year- *Hylomantis lemur* (left) and *Hylarana güntheri* (right)

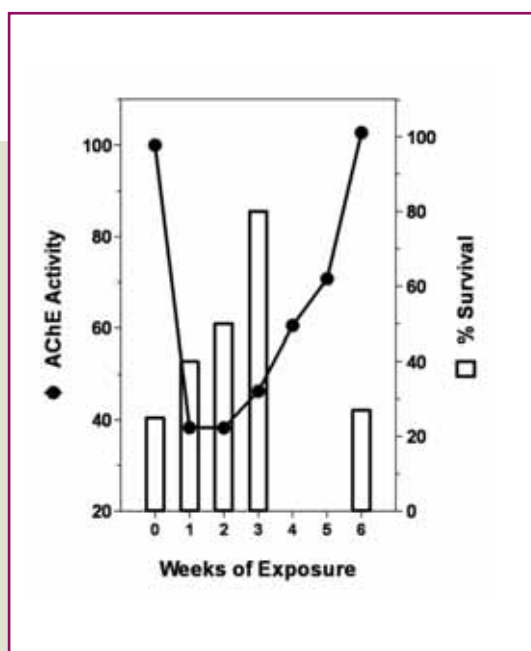
Modulation of the activation and function of immune-competent cells by organophosphorus compounds. (Dr. M.J. Fernandez-Cabezudo)

My main research interest is the investigation of the effect of organophosphorus compounds on the immune system. Organophosphorus compounds (OPCs) are extensively used as pesticides throughout the world. Toxic effects of the OPCs are due to inhibition of acetylcholinesterase (AChE) in the central and peripheral nervous system, with a consequent increase in the levels of the neurotransmitter acetylcholine (ACh) that leads to cholinergic hyperstimulation. Compared to the well-documented neurological consequences of exposure to OPCs, the data on their potential effect on the immune system remain controversial. We have recently demonstrated that paraoxon, a bioactive metabolite of the organophosphate pesticide parathion, is able to modulate dramatically the immune response through its inhibitory effect on AChE activity. Another area of interest in my laboratory is to investigate signaling pathways in macrophages, the principal cells involved in the innate immune response. We are trying to elucidate the biochemical mechanisms that govern the interaction between macrophages and bacterial pathogens.

Research Highlights. We have recently demonstrated that exposure to some OPCs can modulate the immune system of the host in response to bacterial infections. The exact mechanism(s) by which the OPCs mediate their effect is currently under investigation.

Preliminary evidence indicates this immunomodulation may well be due to changes in AChE levels, suggesting a functional link between the nervous and immune systems.

Differential activation of macrophages, the principal cells of the innate immune system, is currently one of the most intriguing subjects in that field. By modulating the activity of these cells, it is possible to alter completely their effector functions, for example from a predominantly pro-inflammatory mediator (as in rheumatoid arthritis) to a cell that can actively suppress immune responses (as in tumor tissue). The potential of modulating macrophage activity and function is an area of research interest in my laboratory. The approach that we have developed is to study the consequences of the interaction between cytokine-expressing bacterial strains and macrophages, either using transformed macrophage cell lines or primary peritoneal macrophages. We have so far demonstrated the utility of this approach and we plan to continue to explore the specific intracellular signaling pathways which are induced by the different bacterial strains.



Erythrocyte acetylcholinesterase (RBC-AChE) activity (expressed as percent of baseline) is inversely correlated with the percentage of survival following lethal infection.

BALB/c mice were exposed to paraoxon (40 nmols/day) for different lengths of time, as indicated. Blood was collected weekly and analyzed for AChE activity. For survival studies, mice exposed to paraoxon for 1, 2, 3 or 6 weeks were challenged with a lethal dose of a virulent Salmonella strain and scored for survival for up to 60 days. The overall survival for each group is shown in comparison to control mice (0 weeks of exposure).

Signal transduction pathways and disease (Dr. Sehamuddin Galadari)

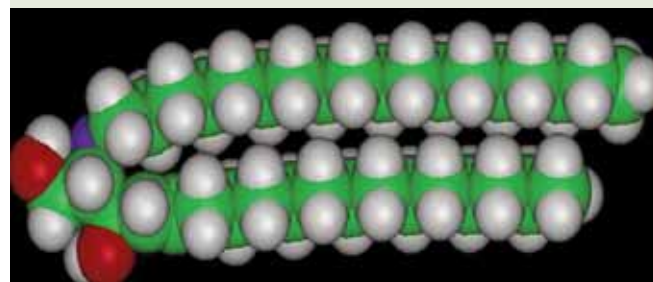
Cellular homeostasis is dependent upon an array of intracellular communication pathways. Cells need to receive signals and send signals, and in that way they communicate with one another at the molecular level. This is achieved by an intricate network of enzymatically regulated biochemical signal pathways prone to regulation by specific messages. If one or more of these enzymes are abrogated or over-subscribed, then disease is set. Indeed, this is what happens at the molecular level of diseases such as cancer, where normal cell growth runs out of control, either due to over subscription of the growth signaling pathway or under subscription of the cell death signaling pathway, both of which may occur following deregulated activity of some enzymes in that pathway, thus leading to tumor formation. Our research effort is focused on studying the following:

Sphingolipids, a novel group of putative second messengers, their putative targets, and the enzymes that produce them. In particular, our effort is focused on ceramide, sphingosine, and sphingosine 1-phosphate, as well as, their targets. This group of messengers play vital signaling role in apoptosis, angiogenesis and stress responses.

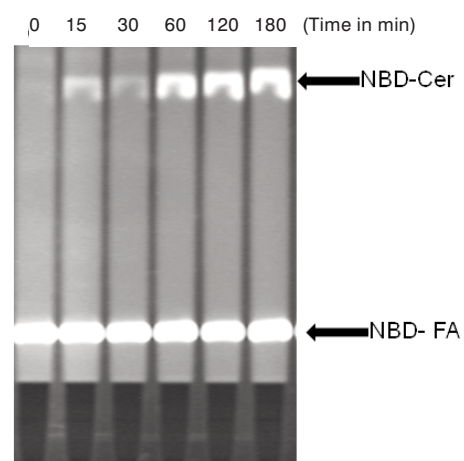
We are applying the tools of molecular cell biology as well as classical biochemistry to elucidate the function of these messengers, the enzymes that generate them, and their targets.

Phytochemicals, are naturally occurring compounds that are extracted from fruits, vegetables, and herbs. Increasingly, evidence is being provided as to their importance in health. To that end, we are investigating the effects of different natural products on lipid signaling pathways involved in diseases such as cancer and diabetes.

Research Highlights. We have been investigating neutral ceramidases which regulate the levels of ceramide, sphingosine, and sphingosine 1-phosphate. Recently, we have purified the human neutral ceramidase from human cervical cancer cells and we are currently characterizing the reverse ceramidase activity of this enzyme.



Ceramide (cer) a pro-death lipid ©



Reverse activity of recombinant neutral ceramidase

ARTICLES IN PEER-REVIEWED JOURNALS

- Abdel-Wahab YHA, Power GJ, Flatt PR, Woodhams DC, Rollins-Smith LA, Conlon JM. (2008). A peptide of the phylloseptin family from the skin of the frog *Hylomantis lemur* (Phyllomedusinae) with potent in vitro and in vivo insulin-releasing activity. *Peptides*, 29; 2136-2143.
- Abdel-Wahab YH, Power GJ, Ng MT, Flatt PR, Conlon JM. (2008). Insulin-releasing properties of the frog skin peptide pseudin-2 and its [Lys18]-substituted analogue. *Biological Chemistry*, 389; 143-148.
- al-Ramadi BK, Fernandez-Cabezudo MJ, El-Hasasna H, Al-Salam S, Attoub S, Xu D, Chouaib S. (2008). Attenuated bacteria as effectors in cancer immunotherapy. *Annals of the New York Academy of Sciences*, 1138; 351-357.
- Anderson WG, Leprince J, Conlon JM. (2008). Purification, structural characterization, and myotropic activity of a peptide related to des-Arg9-bradykinin from an elasmobranch fish, the little skate, *Leucoraja erinacea*. *Peptides*, 29; 1280-1286.
- Austen BM, Paleologou KE, Ali SAE, Qureshi MM, Allsop D, El-Agnaf OMA. (2008). Designing peptide inhibitors for oligomerization and toxicity of Alzheimer's β -amyloid peptide. *Biochemistry*, 47; 1984-1992.
- Awad S, Hassan AH. (2008). The Swi2/Snf2 Bromodomain Is Important for the Full Binding and Remodeling Activity of the SWI/SNF Complex on H3- and H4-acetylated Nucleosomes. *Annals New York Academy of Sciences*, 1138; 366-375.
- Chathoth S, Thayyullathil F, Galadari S. (2008). Curcumin cell signaling: a possible target for chemotherapy, *Current Trends in Biotechnology and Pharmacy*, 2; 226-238.
- Conlon JM. (2008). "Liberation" of urotensin II from the teleost urophysis: An historical overview. *Peptides*, 29; 651-657.
- Conlon JM. (2008). A proposed nomenclature for antimicrobial peptides from frogs of the genus *Leptodactylus*. *Peptides*, 29; 1631-1632.
- Conlon JM. (2008). Reflections on a systematic nomenclature for antimicrobial peptides from the skins of frogs of the family Ranidae. *Peptides*, 29; 1815-1819.
- Conlon JM, Galadari S, Raza H, Condamine E. (2008). Design of potent, non-toxic antimicrobial agents based upon the naturally occurring frog skin peptides, ascaphin-8 and peptide XT-7. *Chemical Biology and Drug Design*, 72; 58-64.
- Conlon JM, Leprince J, Vaudry H, Coquet L, Jouenne T, Kolodziejek J Nowotny N, King JD. (2008). Characterization of antimicrobial peptides from the skin secretions of the Malaysian frogs, *Odorrana hosii* and *Hylarana picturata* (Anura: Ranidae). *Toxicon*, 52; 465-473.
- Conlon JM, Power GJ, Abdel-Wahab YHA, Flatt PR, Jiansheng H, Coquet L, Leprince J, Jouenne T, Vaudry H. (2008). A potent, non-toxic insulin-releasing peptide isolated from an extract of the skin of the Asian frog, *Hylarana guntheri* (Anura: Ranidae). *Regulatory Peptides*, 151; 153-159.
- Eley A, Ibrahim M, Kurdi SE, Conlon JM. (2008). Activities of the frog skin peptide, ascaphin-8 and its lysine-substituted analogs against clinical isolates of extended-spectrum beta-lactamase (ESBL) producing bacteria. *Peptides* 29; 25-30.
- Fernandez-Cabezudo MJ, Azimullah S, Nurulain SM, Mechkarska M, Lorke DE, Hasan MY, Petroianu GA, al-Ramadi BK. (2008). The organophosphate paraoxon has no demonstrable effect on the murine immune system following subchronic low dose exposure. *International Journal of Immunopathology and Pharmacology* 21; 891-901.
- Galadari S, Thayyullathil F, Hago A, Patel M, Chathoth S. (2008). Akt depletion is an important determinant of L929 cell death following heat stress. *Annals of the New York Academy of Sciences* 1138; 385-392.
- Irvine GB, El-Agnaf OMA, Shankar GM, Walsh DM. (2008). Protein aggregation in the brain - the molecular basis for Alzheimer's and Parkinson's Diseases. *Molecular Medicine* 14; 451-64.
- Kawasaki H, Iwamuro S, Goto Y, Nielsen PF, Conlon JM. (2008). Characterization of a hemolytic protein, identified as histone H4, from the skin of the Japanese tree frog *Hyla japonica* (Hylidae). *Comparative Biochemistry and Physiology B* 149; 120-125.
- Kawasaki H, Koyama T, Conlon JM, Yamakura F, Iwamuro S (2008) Antimicrobial action of histone H2B in *Escherichia coli*: evidence for membrane translocation and DNA-binding of a histone-2B fragment after proteolytic cleavage by outer membrane proteinase T1. *Biochimie* 90; 1693-1702.
- King JD, Leprince J, Vaudry H, Coquet L, Jouenne T, Conlon JM. (2008). Purification and characterization of antimicrobial peptides from the Caribbean frog, *Leptodactylus validus* (Anura: Leptodactylidae). *Peptides* 29; 1287-1292.
- Le Mével JC, Lancien F, Mimassi N, Leprince J, Conlon JM, Vaudry H. (2008). Central and peripheral cardiovascular, ventilatory, and motor effects of trout urotensin-II in the trout. *Peptides*. 29; 830-837.
- Mollenhauer B, Cullen V, Kahn I, Krastins B, Outeiro TF, Pepivani I, Ng J, Schulz-Schaeffer W,

Kretzschmar HA, McLean PJ, Trenkwalder C, Sarracino DA, Vonsattel JP, Locascio JJ, El-Agnaf OMA, Schlossmacher MG. (2008). Direct quantification of CSF alpha-synuclein by ELISA and first cross-sectional study in patients with neurodegeneration. *Experimental Neurology* 213; 315-25.

Raza H, John A, Brown EM, Benedict S, Kambal A. (2008). Alterations in mitochondrial respiratory functions, redox metabolism and apoptosis by oxidant 4-hydroxynonenal and antioxidants curcumin and melatonin in PC12 cells. *Toxicology and Applied Pharmacology* 226; 161-168.

Raza H, John A. (2008). In vitro effects of tea polyphenols on redox metabolism, oxidative stress and apoptosis in PC12 cells. *Annals of the New York Academy of Sciences* 1138; 358-365.

Rizk DE, Hassan HA, Al-Marzouqi AH, Ramadan GA, Al-Kedrah SS, Daoud SA, Fahim MA. (2008). Combined estrogen and ghrelin administration restores number of blood vessels and collagen type I/III ratio in the urethral and anal canal submucosa of old ovariectomized rats. *International Urogynecology Journal and Pelvic Floor Dysfunction* 19, 547-552.

Rizk DE, Hassan HA, Al-Marzouqi AH, Shafiullah M, Fahim MA. (2008). Combined estrogen and ghrelin administration decreases expression of p27(kip1) and proportion of isomyosin type I in the striated urethral and anal sphincters and levator ani of old ovariectomized rats. *International Urogynecology Journal and Pelvic Floor Dysfunction* 19; 1363-1369.

Siddig A, Mohamed AO, Awad S, Hassan A, Zilahi E, Al-Haj M, Bernsen R, Adem A. (2008). Estrogen Receptor - Gene Polymorphism and Breast cancer. *Annals of the New York Academy of Sciences* 1138; 95-107.

Singh MN, Stringfellow HF, Taylor SE, Ashton KM, Ahmad M, Abdo KR, El-Agnaf OMA, Martin-Hirsch

PL, Martin FL. (2008). Elevated expression of CYP1A1 and gamma-synuclein in human ectopic (ovarian) endometriosis compared to eutopic endometrium. *Molecular Human Reproduction* 14; 655-663.

Subasinghage AP, Conlon JM, Hewage CM. (2008). Conformational analysis of the broad-spectrum antibacterial peptide, ranatuerin-2CSa: Identification of a full length helix-turn-helix motif. *Biochimica Biophysica Acta* 1784; 924-929.

Thayyullathil F, Chathoth S, Hago A, Wernery U, Patel M, Galadari S. (2008). Investigation of heat stress response in the camel fibroblast cell line dubca. *Annals of the New York Academy of Sciences* 1138; 376-384.

Thayyullathil F, Chathoth S, Hago A, Patel M, Galadari S. (2008). Rapid reactive oxygen species (ROS) generation induced by curcumin leads to caspase-dependent and -independent apoptosis in L929 cells. *Free Radical Biology and Medicine* 45; 1403-1412.



PROCEEDINGS, CONFERENCES, INVITED LECTURES, WEB SITES AND OTHERS

Attoub S, Al-Salam S, John A, Manjush S, Al Sultan M, Al Safi MM, John A, Raza H, Adem A. (2008). Thymoquinone induces human cancer cell death and tumor growth inhibition. American Association for Cancer research (AACR) sponsored International Conference on "Advances in Cancer Research: from the Laboratory to the Clinic". Dead Sea, Jordan.

Awad S, Al-Marzouqi A, Rizvi TA, Hassan AH. (2008).

Mechanisms of the anti-cancer activity of the clove extract. 9th UAEU conference, Al-Ain, UAE.

Conlon JM. (2008). Dermal peptides and the system of innate immunity in amphibians. State-of-the-Art Lecture, 22nd Conference of European Comparative Endocrinologists, Genoa, Italy.

El-Hasasna H, Fernandez-Cabezudo MJ, Al-Salam S, Bashir G, Attoub S, Chouaib S, al-Ramadi BK. (2008). The anti-tumor activity of systemically-administered IL2-expressing Salmonella correlates with decreased angiogenesis and enhanced tumor apoptosis. The 3rd Al-Ain International Immunology Meeting, Al-Ain, UAE.

El-Hasasna H, Fernandez-Cabezudo MJ, El-Wasila M, Al-Salam S, Bashir G, Chouaib S, al-Ramadi BK. (2008). Oral administration of TNF- α -expressing Salmonella inhibits melanoma cell growth and prolongs host survival independent of intra-tumoral bacterial accumulation. The 3rd Al-Ain International Immunology Meeting, Al-Ain, UAE.

Fernandez-Cabezudo MJ, Ullah A, Nurulain SM, al-Ramadi BK, Petroianu GA. (2008). Assessment of immunologic parameters following exposure to organophosphate-containing pesticides. The 3rd Al-Ain Immunology Meeting, Al-Ain, UAE.

Hassan AH, Awad S., Prochasson P., and Owen-Hughes T. (2008). Fun 30 is a novel chromatin remodeling protein with dimer exchange activity that interacts with ubiquitinated histones. Gordon Conference on Chromatin Structure & Function in Lucca (Barga), Italy.

Mechkarska M, al-Ramadi BK, Fernandez-Cabezudo MJ. (2008). Invasion-Independent Modulation of Macrophage Activation by Bacteria-Expressed

Cytokines. The 3rd Al-Ain Immunology Meeting, Al-Ain, UAE.

Ojali SM, Ullah A, Bashir G, El-Hasasna H, Fernandez-Cabezudo MJ, al-Ramadi BK. (2008). Enhancement of immune responsiveness by attenuated interferon gamma-expressing Salmonella vaccine. The 3rd Al Ain International Immunology Meeting, Al-Ain, UAE.

Raza H, John A, Benedict S, Al-Otaiba A. (2008). Aspirin-induced cell cycle arrest, mitochondrial dysfunction, oxidative stress and apoptosis in hepatoma HepG2 cells. 47th Annual Meeting of Society of Toxicology, Seattle, Washington, USA, The Toxicologist (supplement to Toxicological Sciences) 102, 1395.

Ullah A, El-Hasasna H, Mechkarska M, Flavell R, Fernandez-Cabezudo MJ, al-Ramadi BK. (2008). Role of MyD88 expression and TLR signaling in immunity to Salmonella infection. The 3rd Al Ain International Immunology Meeting, Al-Ain, UAE.



RESEARCH GRANTS

FMHS New Research Grants

Conlon JM. Purification and characterization of novel antimicrobial peptides from skin secretions of frogs of the genus Lithobates. (seed grant)

Raza H. Impairment of cellular redox and respiratory functions by acetaminophen: role of oxidative stress and glutathione metabolism in the prevention of toxicity by antioxidants

Galadari S. Characterization of the human neutral ceramidase from Hela cells

UAEU University Interdisciplinary Grants

El-Agnaf OMA. Testing novel inhibitors of α -synuclein oligomerization and toxicity as a novel treatment for Parkinson's and related disorders

Conlon JM. Detection and characterization of antimicrobial peptides from frog skin using pyrolysis liquid chromatography mass spectrometry

Terry Fox Fund for Cancer Research Grants

Al-Marzouqi AH. Investigating the mechanisms of action of the Snf2-homolog protein Fun30

Fernandez-Cabezudo MJ. Novel resistance biomarkers in human breast cancer

Sheikh Hamdan Awards for Medical Research Grants

Al-Marzouqi AH. Characterization and functional analysis of the putative chromatin remodeling protein Fun30

El-Agnaf OMA. Designing inhibitors of α -synuclein oligomerization and toxicity in cell and animal models: implications for Parkinson's and related disorders therapy

Conlon JM. Development of the frog skin peptide temporin-1DRA into a therapeutically valuable antimicrobial and antitumour agent: a structure-activity study.

Emirates Foundation Grants

Galadari S. Purification and characterization of a novel more hydrophobic isoform of N-acylsphingosine amidohydrolase

Michael J. Fox Foundation for Parkinson's Research, USA Grants

El-Agnaf OMA. Validation of CSF α -synuclein as a biomarker for Parkinson's disease.

El-Agnaf OMA Development of

Lewy bodies MRI imaging agents for the early diagnosis of Parkinson's disease and related disorders

El-Agnaf OMA A strategy to develop a radiotracer targeting α -synuclein



Standing left to right:

H Raza, JM Conlon, A Qader, S Galadari, OMA El-Agnaf,

Seated left to right:

AH Al-Marzouqi, M Patel, A John, M Fernandez-Cabezudo, M Mechkarska,

M Qureshi

Biochemistry



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DEPARTMENT of COMMUNITY MEDICINE

RESEARCH Profile

Professor & Chair:

Prof TC. Aw

Professor:

Prof N Nagelkerke

Associate Professor:

Dr P Barss

Dr R Bernsen

***Dr I Blair**

****Dr S Shah**

Assistant Professor:

Dr M Grivna

Dr J Schneider

*****Dr A Wheatley**

Academic Assistant

Dr M El Sadig

Medical Research

Specialist:

******Mr H El Agab**

Office Assistant

Mr M Jamal

Medical Secretary:

Ms A Kaljee

The Department of Community Medicine has a mission to train health professionals to protect and improve the health of the population of the United Arab Emirates, with special reference to the vulnerable. A key element in achieving our department's mission is providing good information about the main threats to health, particularly lifestyle-related chronic diseases, injury, and infectious diseases. This is the main thrust of our research initiatives. Departmental research expertise includes Epidemiology, Public Health, Occupational Health and Biostatistics. Our multidisciplinary departmental staff are currently involved in the following research areas, with special emphasis on health issues of importance to the UAE:

General Public Health Research: Surveys for infectious diseases include HIV/AIDS prevention, and occupational blood-borne diseases. Health surveys to assess awareness about breast cancer, breast and other infant feeding, antenatal care, school hygiene, premarital screening, oral contraceptives, alternative medicine, folic acid intake during pregnancy, smoking hazards, healthy diet and physical activity. Health care administration research includes patients' satisfaction with primary health care services, perinatal services and doctor-patient relationship.

Chronic Diseases Prevention Research: Incidence, prevalence and risk factor analysis of asthma, obesity, osteoporosis, anemia, ischemic heart disease, stroke, hypertension, diabetes mellitus and DM complications.

Injury Prevention Research: Incidence and risk factor research

* Joined May 2008

** Joined August 2008

*** Joined August 2008

**** Departed March 2008

of school related traffic injury, home injury, road crashes and use of safety belts, and drowning.

Occupational Health Research: The Department has a 1 million USD grant to carry out a 600-household field epidemiology survey on Environment and Health. This is being done jointly with collaborators from the Gillings School of Public Health at North Carolina University, Chapel Hill (UNC). The source of funding is the Environment Agency of Abu Dhabi (EAD). The field study is part of a larger project involving UNC, RAND Corporation, and our department as research partners.

The Health Authority of Abu Dhabi (HAAD) has also awarded a research grant to our department for developing guidelines on preventing heat stress. This is an occupational and environmental health issue particularly relevant to the desert climate in the UAE and the surrounding region.

Biostatistics: Our team of statisticians / epidemiologists provides advice on study design and statistical analyses to researchers at the Faculty of Medicine and to external organizations including government departments and industry.

Research Interests

Dr. Fatma Al Maskari: Public health physician and epidemiologist with interest in non-communicable chronic diseases epidemiology and prevention, lifestyle and health and evidence-based medicine. She is currently involved in research aiming to determine prevalence of DM complications among patients in Al-Ain. Recently received the best Oral Presentation Award at the First International Conference for the Study of Diabetes, held in Dubai during February 2005.

Prof. Tar-Ching Aw: US-Board certified in occupational medicine. He has a special interest in occupational toxicology, occupational risks to health-care workers, and training and education. Prof. Aw is a member of the International Advisory Board of Occupational Medicine.

Dr. Roos Bernsen: Epidemiologist and Biostatistician with special interest in allergy and asthma. She provided consultations to the Research Department of the Erasmus Medical Center of the University of Rotterdam in the

Netherlands for many years before joining FMHS, and conducted studies in the Netherlands on risk factors for childhood asthma and allergy. She is organizing related studies in the UAE.

Dr. Iain Blair: Public health specialist physician with a background in UK health protection. He has published articles on the surveillance and control of infectious diseases and has co-authored a textbook on health protection and several book chapters. His current research projects include the molecular epidemiology of Staphylococcal aureus infection and occupational health aspects of tuberculosis control.

Dr. Mohamed El-Sadig: Epidemiologist and health economist, with special interest in traffic safety and non-communicable diseases. He is currently coordinating a collaborative research project with Monash University Accident Research Center (MUARC) and co-investigating several safety research projects in collaboration with stakeholders in the UAE.

Dr. Michal Grivna: Public health specialist physician with a special interest in child injury control, school and community safety, bicycle-related and playground injuries and more recently school traffic safety, trauma registration and HIV/AIDS prevention in the UAE. A founding member of the European Child Safety Alliance and the Centre for Childhood Injury Epidemiology and Prevention in the Czech Republic. Dr. Grivna is a leading figure in the promotion and implementation of "WHO - Safe Community Programs".

Prof. Nico Nagelkerke: Senior Biostatistician with a special interest in statistical methodology and infectious disease modeling. Prof. Nagelkerke has provided input in biostatistics to a number of projects which resulted in peer reviewed publications during 2008. He is collaborating with the Department of Preventive Medicine on a study on tuberculosis.

Dr. John Schneider: Occupational health physician. His main research interests are occupational rehabilitation, organization and planning of occupational health services in rural and remote work sites, work in hot environments, and impairment assessment at the workplace.

Dr. Syed Shah: Chronic disease epidemiologist with research interests in epidemiology of cardiovascular disease, work-related injuries and mental health.

Dr. Andrew Wheatley: Occupational hygienist with a broad-based background in consultancy, teaching and research. Research interests include exposure and risk characterization for combustion processes, metal industries and organic dusts. Currently engaged in projects concerned with the health, safety and welfare of migrant workers in the UAE.

Visiting Professors during 2008: include Prof. Ken Addley from the Faculty of Occupational Medicine, Royal College of Physicians (Ireland); and Dr. David Fishwick from the University of Sheffield, UK.

Academic Collaboration Within and Outside the UAE University

The Department collaborates on clinical research issues and works closely with the Health Authority Abu Dhabi, particularly the Preventive Medicine Department of Al Ain, on projects assessing infectious diseases, including HIV/AIDS, chronic diseases, injury, mortality reporting and death certification, and occupational health. In addition,

the Department has established academic and community service relations with the Department of Medical Services of ADCO-Abu Dhabi. This has resulted in training opportunities for students in occupational health. The Department also provides academic input to the UAEU Masters program of Environmental Sciences, the Arab Board Residency Programs, Medical Laboratory Technology (MLT) Masters Degree and various CME programs within and outside Al-Ain District.

The Department provides scientific input to the UAEU collaborative Road Safety Research Centre (RTTSRC) which undertakes collaborative research with agencies within and outside the UAE.

Research Training

An essential function of training in community medicine is field research on target populations to assess incidence, prevalence, and risk factors for health, disease, and injury. The Department provides research training for final year and second year medical students, as well as residents in Family and Community Medicine. The faculty members of the Department supervise many field research projects for five senior clerkship groups every year.

Senior Medical Student Clerkship Research Projects

Adi MMMF, Al Khaili JRM, Al-Shrief KA. (2008). Women's awareness, attitude and practice regarding the risk of baby walkers: an interventional study. Supervisors: Grivna M (Principal), El-Sadig M, Bernsen R.

Al Awadhi AMSB, Al Neaimi KAAA, Al Hammadi AAKO, Kazim BMMS. (2008). Knowledge, attitude and practice of poultry farm workers towards avian influenza in Al Ain

District in the UAE. Supervisors: Blair I (Principal), Wheatley A.

Al Kaabi KMS, Al Haj EAIH, Khonji DMA, Al Sharhan RYR. (2008). Prevalence of anxiety, depression and suicidal behavior among residents of labour camps in Al Ain City, UAE. Supervisors: Al Maskari F & Shah S (Joint Principal), Schneider J, Bernsen R.

Al-Shamsi HS, Al-Ali MH, Al-Hammadi AH, Al-Senani AS, Al-Obthani MM. (2008). Knowledge, attitude and practice of traffic

police towards car restraints in Al Ain, UAE. Supervisors: Grivna M (Principal), Schneider J, Barss P, El-Sadig M, Nagelkerke N.

Shemali OM, Al-Rahoomi AM, Al-Kuwaiti MH, Al-Kuwaiti AH. (2008). Epidemiology, risk factors, and prevention of injury from falls seen at hospital emergency departments of Al Ain, United Arab Emirates. Supervisors: Barss P (Principal), Grivna M, Bernsen R.

Articles in PEER-REVIEWED JOURNALS

- Abdulle AM, Nagelkerke N, Obineche R, Yasin J, Obineche EN. (2008). Biochemical markers and lipid profiles in a multiethnic hypertensive population from the United Arab Emirates. *Journal of Nephrology and Renal Transplantation (JNRT)* 1; 23-31.
- Abdulle AM, Nagelkerke NJ, Abouchacra S, Obineche EN. (2008). Potential benefits of controlling coronary heart disease risk factors in the United Arab Emirates. *Kidney Blood Press Res*;31(3):185-8.
- Abdulrazzaq YM, Kendi AA, Nagelkerke N. (2008). Child care practice in the United Arab Emirates: the ESACCIPS study. *Acta Paediatr*;97(5):590-5.
- Abdulrazzaq YM, Moussa MA, Nagelkerke N. (2008). National growth charts for the United Arab Emirates. *J Epidemiol*.18(6):295-303.
- Abdulrazzaq YM, Osman N, Nagelkerke N, Kosanovic M, Adem A. (2008). Trace element composition of plasma and breast milk of well-nourished women. *J Environ Sci Health A Tox Hazard Subst Environ Eng*;43(3):329-34.
- Adam SH, Eid HO, Barss P, Lunsjo K, Grivna M, Torab FC, Abu-Zidan FM. (2008). Epidemiology of Geriatric Trauma in United Arab Emirates. *Archives Gerontology Geriatrics* 2008;47(3):377-82.
- Al-Banna A, Al-Bedwawi S, Al-Saadi A, Al-Maskari F, Eapen V. (2008). Prevalence and correlates of conduct disorder among inmates of juvenile detention centres, United Arab Emirates. *Eastern Mediterranean Health Journal*; 14(5):1054-9.
- Al-Falasi O, Al-Dahmani K, Al-Eisaei K, Al-Ameri S, Al-Maskari F, Nagelkerke N, Schneider J. (2008). Knowledge, attitude and practice of anabolic steroids use among gym users in Al-Ain District, United Arab Emirates. *The Open Sports Medicine Journal*;2: 75-81.
- Al-Kaabi J, Al-Maskari F, Saadi H, Afandi B, Parkar H, Nagelkerke N. (2008). Assessment of dietary practice among diabetic patients in the United Arab Emirates. *The Review of Diabetic Studies*;5(2):110-5. Epub 2008 Aug 10.
- Al-Maskari F, El-Sadig M, Obineche E. (2008). Prevalence and determinants of microalbuminuria among diabetic patients in the United Arab Emirates. *BMC Nephrology*;29; 9:1.
- Barss P, Al-Obthani M, Al-Hammadi A, Al-Shamsi H, El-Sadig M, Grivna M. (2008). Prevalence and Issues in Non-Use of Safety Belts and Child Restraints in a Desert City in the United Arab Emirates. *Traffic Injury Prevention* 2008;9:256-263.
- Barss P, Djerrari H, Leduc BE, Lepage Yves, Dionne CE. (2008). Risk factors and prevention for spinal cord injury from diving in swimming pools and natural sites in Quebec, Canada: a 44-year study. *Accident Analysis & Prevention* 2008;40:787-797.
- Barss P, Grivna M, Al-Maskari F, Kershaw G. (2008). Strengthening public health medicine training for medical students: development and evaluation of a lifestyle curriculum. *Medical Teacher*; 30 (9-10):e196-218.
- Barss P, Subait OM, Al Ali MH, Grivna M. (2008). Drowning in a high-income developing country: newspapers as an essential resource for injury surveillance. *J Sci Med Sport*;12:164-170.
- Bates G P, Schneider J. (2008). Hydration status and physiological workload of UAE construction workers: A prospective longitudinal observational study. *J Occ Med and Tox* 2008; 3:21
- Baynouna LM, Revel AD, Nagelkerke NJ, Jaber TM, Omar AO, Ahmed NM, Naziruldeen MK, Al-Sayed MF, Nour FA. (2008). High prevalence of the cardiovascular risk factors in Al-Ain, United Arab Emirates. An emerging health care priority. *Saudi Med J*;29(8):1173-8.
- Bernsen RM, Nagelkerke NJ, Thijs C, van der Wouden JC. (2008). Reported pertussis infection and risk of atopy in 8- to 12-yr-old vaccinated and non-vaccinated children. *Pediatr Allergy Immunol*;19(1):46-52.
- Bernsen RM, Nagelkerke NJ. (2008). Impairment of regulatory T cells in cord blood of atopic mothers (2008). *J Allergy Clin Immunol*;122:841.
- Bernsen RM, van der Wouden JC. (2008). Measles, mumps and rubella (MMR) infections and atopic disorders in MMR-unvaccinated and MMR-vaccinated children. *Pediatr Allergy Immunol Pediatr Allergy Immunol*;19:544-51.
- Chandrasekaran P, Dallabetta G, Loo V, Mills S, Saidel T, Adhikary R, Alary M, Lowndes CM, Boily MC, Moore J. (2008). Avahan Evaluation Partners. Evaluation design for large-scale HIV prevention programmes: the case of Avahan, the India AIDS initiative. *AIDS*;22 Suppl 5:S1-15.
- Clatney L, MacDonald H, Shah SM. (2008). Mental health care in the primary care setting: Family physicians' perspectives. *J Canadian Family Physicians*: 2008;54(6):884-9.
- Denic S, Nagelkerke N, Agarwal MM. (2008). Consanguineous marriages and endemic malaria: can inbreeding increase population fitness? *Malar J*;7:150.
- Eid HO, Barss P, Adam SH, Torab FC, Lunsjo K, Grivna M, Abu-Zidan FM. (2008). Factors Affecting Anatomical Region of Injury, Severity, and Mortality for Road Trauma in a High-Income Developing Country: Lessons for Prevention. *Injury* 2008 Dec 29. [Epub ahead of print]
- Ferguson LW, Rajput ML, Muhajarine N, Shah SM, Rajput A. (2008). Clinical features at first visit

- and rapid disease progression in Parkinson's disease. *Parkinsonism Relat Disord*;14(5):431-5
- Gafczak M, Barss P. (2008). Nosocomial HIV infection: epidemiology and prevention - a global perspective. *AIDS Reviews* 2008 Jan-Mar;10(1):47-61.
- Hadi U, Duerink DO, Lestari ES, Nagelkerke NJ, Keuter M, Huis In't Veld D, Suwandojo E, Rahardjo E, van den Broek P, Gyssens IC. (2008). Antimicrobial resistance in Indonesia: prevalence and prevention – audit of antibiotic prescribing in two governmental teaching hospitals in Indonesia. *Clin Microbiol Infect*;14(7):698-707.
- Hadi U, Duerink DO, Lestari ES, Nagelkerke NJ, Werter S, Keuter M, Suwandojo E, Rahardjo E, van den Broek P, Gyssens IC (2008).; Antimicrobial resistance in Indonesia: prevalence and prevention study group – survey of antibiotic use of individuals visiting public healthcare facilities in Indonesia. *Int J Infect Dis*;12(6):622-9.
- Hardie RA, Knight E, Bruneau B, Semenik C, Gill K, Nagelkerke N, Kimani J, Wachihi C, Ngugi E, Luo M, Plummer FA. (2008). A common human leukocyte antigen-DP genotype is associated with resistance to HIV-1 infection in Kenyan sex workers. *AIDS*;22(15):2038-42.
- Hardie RA, Luo M, Bruneau B, Knight E, Nagelkerke NJ, Kimani J, Wachihi C, Ngugi EN, Plummer FA. (2008). Human leukocyte antigen-DQ alleles and haplotypes and their associations with resistance and susceptibility to HIV-1 infection. *AIDS*;22(7):807-16.
- Hardy AD, Farrant AJ, Rollinson G, Barss P, Vaishnav R. (2008). A study of the chemical composition of traditional eye cosmetics ("kohl") used in Qatar and Yemen. *J Cosmet Sci* 2008 Sep-Oct;59(5):399-418.
- Harmsen JA, Bernsen RM, Bruijnzeels MA, Meeuwesen L. (2008). Patients' evaluation of quality of care in general practice: what are the cultural and linguistic barriers? *Patient Educ Couns*;72:155-62.
- Heidema AG, Nagelkerke N. (2008). Developing a discrimination rule between breast cancer patients and controls using proteomics mass spectrometric data: a three-step approach. *Stat Appl Genet Mol Biol*;7(2):Article5.
- Hirbod T, Kaul R, Reichard C, Kimani J, Ngugi E, Bwayo JJ, Nagelkerke N, Hasselrot K, Li B, Moses S; Kibera HIV Study Group, MacDonald KS, Broliden K. (2008). HIV-neutralizing immunoglobulin A and HIV-specific proliferation are independently associated with reduced HIV acquisition in Kenyan sex workers. *AIDS*;22(6):727-35.
- Kimani J, Kaul R, Nagelkerke NJ, Luo M, MacDonald KS, Ngugi E, Fowke KR, Ball BT, Kariri A, Ndinya-Achola J, Plummer FA. (2008). Reduced rates of HIV acquisition during unprotected sex by Kenyan female sex workers predating population declines in HIV prevalence. *AIDS*;22(1):131-7.
- Lacap PA, Huntington JD, Luo M, Nagelkerke NJ, Bielawny T, Kimani J, Wachihi C, Ngugi EN, Plummer FA. (2008). Associations of human leukocyte antigen DRB with resistance or susceptibility to HIV-1 infection in the Pumwani Sex Worker Cohort. *AIDS*;22(9):1029-38.
- Le Cessie S, Nagelkerke N, Rosendaal FR, van Stralen KJ, Pompe ER, van Houwelingen HC. (2008). Combining matched and unmatched control groups in case-control studies. *Am J Epidemiol*;168(10):1204-10.
- Lorke DE, Hasan MY, Nurulain SM, Shafiullah M, Nagelkerke N, Petroianu GA. (2008). Effect of intrathecal pralidoxime administration upon survival of rats exposed to the organophosphate paraoxon. *Neurotoxicology*;29(4):663-70.
- Meuwese-Jongheugd A, van Splunder J, Vink M, Stilma JS, van Zanten B, Verschuure H, Bernsen R, Evenhuis H. (2008). Combined sensory impairment (deaf-blindness) in five percent of adults with intellectual disabilities. *Am J Ment Retard*;113:254-62.
- Moses S, Ramesh BM, Nagelkerke NJ, Khera A, Isac S, Bhattacharjee P, Gurnani V, Washington R, Prakash KH, Pradeep BS, Blanchard JF. (2008). Impact of an intensive HIV prevention programme for female sex workers on HIV prevalence among antenatal clinic attenders in Karnataka state, south India: an ecological analysis. *AIDS Dec*;22 Suppl 5:S101-8.
- Peters HO, Mendoza MG, Capina RE, Luo M, Mao X, Gubbins M, Nagelkerke NJ, Macarthur I, Sheardown BB, Kimani J, Wachihi C, Thavaneswaran S, Plummer FA. (2008). An integrative bioinformatic approach for studying escape mutations in human immunodeficiency virus type 1 gag in the Pumwani Sex Worker Cohort. *J Virol*;82(4):1980-92.
- Rhodes A, Aw TC, Allen C, Ridout M. (2008). Immunisation status of dental practice staff in Kent. *Br Dent J*;205(10).
- Saadi H, Nagelkerke N, Carruthers SG, Benedict S, Abdulkhalek S, Reed R, Lukic M, Nicholls MG. (2008). Association of TCF7L2 polymorphism with diabetes mellitus, metabolic syndrome, and markers of beta cell function and insulin resistance in a population-based sample of Emirati subjects. *Diabetes Res Clin Pract*;80(3):392-8.
- Siddig A, Mohamed AO, Awad S, Hassan AH, Zilahi E, Al-Haj M, Bernsen R, Adem A. (2008). Estrogen receptor alpha gene polymorphism and breast cancer. *Ann N Y Acad Sci*;1138:95-107.
- Siddig A, Mohamed AO, Kamal H, Awad S, Hassan AH, Zilahi E, Al-Haj M, Bernsen R. (2008). HER-2/neu Ile655Val polymorphism and the risk of breast cancer. *Ann N Y Acad Sci*;1138:84-94.
- Van den Wijngaard C, van Asten L, van Pelt W, Nagelkerke NJ, Verheij R, de Neeling AJ, Dekkers A, van

der Sande MA, van Vliet H, Koopmans MP. (2008). Validation of syndromic surveillance for respiratory pathogen activity. *Emerg Infect Dis*;14(6):917-25.

Van der Wouden JC, Uijen JH, Bernsen RM, Tasche MJ, de Jongste JC, Ducharme F. (2008). Inhaled sodium cromoglycate for asthma in children. *Cochrane Database Syst Rev*;4:CD002173.

Van Rijn RM, van Os AG, Bernsen RM, Luijsterburg PA, Koes BW, Bierma-Zeinstra SM. (2008). What is the clinical course of acute ankle sprains? A systematic literature review. *Am J Med*;121:324-331.e6.

Vissers DC, Voeten HA, Nagelkerke NJ, Habbema JD, de Vlas SJ. (2008). The impact of pre-exposure prophylaxis (PrEP) on HIV epidemics in Africa and India: a simulation study. *PLoS ONE* 7;3(5):e2077.

Books, Chapters, Reviews and Editorials

Bates G, Schneider J. (2008). Development, and scientific validation for Gulf conditions, of guidelines and protocols for the management of work in hot environments. Research Report for the Health Authority of Abu Dhabi. 2008.

Grivna M, Barss P, El-Sadig M. (2008). Epidemiology and prevention of child injuries in the United Arab Emirates: A Report for SafeKids Worldwide. Faculty of Medicine & Health Sciences and Roadway Transportation & Traffic Safety Research Centre, Al Ain. 2008:1-44.

Trakoli A, Aw TC. (2008). Occupational blood-borne infections. In: Occupational Health for Health Care Professionals, 1st edition (eds. Jayakumar G & Retneswari M). Malaysian Medical

Association, Kuala Lumpur, 2008;5:43-53.

Williams AN, Aw TC. (2008). Stress among health care professionals. In: Occupational Health for Health Care Professionals 1st edition (eds. Jayakumar G & Retneswari M), Malaysian Medical Association, Kuala Lumpur, 2008;15:179-194.

Published Abstracts, Letters and Correspondence

Arora P, Kumar R, Bhattacharya M, Nagelkerke NJ, Jha P. (2008). Trends in HIV incidence in India from 2000 to 2007. *Lancet*;372(9635):289-90. Bernsen RM, Nagelkerke NJ. (2008). Impairment of regulatory T cells in cord blood of atopic mothers. *J Allergy Clin Immunol*;122(4):841.

Denic S, Nagelkerke N, Nicholls MG. (2008). Germline genomic homozygosity and cancer risk. *JAMA*;300(2):169-70.

Nowshad G, Shah SM, Bano R, Alam S, Alvi A, Jahan N. (2008). Correlates of access to antenatal care in villages of Pakistan. *Annals of Epidemiology*; 18(9);738.

Shah SM, Nishtar S, Merchant A. (2008). Role of diet and physical activity in patients with coronary artery disease in South Asian population: a case control study. *Annals of Epidemiology*; 18(9);720-721.

Shah SM, Whiting S, Vatanparast H. (2008). Self-reported hypertension among Canadians: disparity across gender. *The Canadian Journal of Cardiology*;24 (Supplement E) 318E.

PROCEEDINGS, CONFERENCES, INVITED LECTURES, WEB SITES AND OTHERS

Abu-Zidan FM, Eid HO, Lunsjo K, Torab FC, Barss M, Grivna M, Shaban S, Barka E. (2008). Establishment of a road traffic injury registry in Al Ain city. Faculty Research Seminar, FMHS, UAE University, 12 November 2008, Al Ain, UAE.

Abu-Zidan FM, Eid HO, Lunsjo K, Torab FC, Barss M, Grivna M, Shaban S, Barka E. (2008). Establishment of a road traffic collision injury registry in Al Ain City. Proceedings from the 9th Annual UAE University Research Conference, May 2008.

Al-Belooshi SH, Al-Hosani SM, Al-Yamahi AR, Al-Zaabi MR, Barss P, Grivna M. (2008). What are the real causes of death in the United Arab Emirates? Proceedings from the 9th Annual UAE University Research Conference, May 2008.

Al-Hammadi S, Al-Maskari F, Bernsen R. (2008). Prevalence of food allergy among children in Al-Ain City, UAE. Proceedings from the 9th UAE University Research Conference, May 2008.

Al-Hosani SM, Al-Belooshi SH, Al-Yamahi AR, Al-Zaabi MR, Barss P, Grivna M. (2008). What are the real causes of death in the United Arab Emirates? Fifth Scientific Conference for Medical Students in the GCC Countries, Bahrain, January 2008.

Alkaabi J, Al-Maskari F, Saadi H, Afandi B, Parker H. (2008). Assessment of physical activity and dietary practices among diabetic patients among diabetic patients. 13th Annual Workshop on Diabetes Mellitus - Diabetes Mellitus and its Complications". Faculty of Medicine & Health Sciences, UAE University, Al Ain, UAE.

- Alkaabi J, Al-Maskari F, Saadi H, Afandi B, Parker H. (2008). Assessment of physical activity and dietary practices among diabetic patients among diabetic patients. The 1st International Conference on Advanced Technologies and Treatments for Diabetes (ATTD), Prague, Czech Republic.
- Al-Maskari F, El-Sadig M, Alkaabi J, Afandi B. (2008). Knowledge, attitude and practices of diabetic patients in Al-Ain Medical District, UAE. The Endocrine Society; 90th Annual Meeting, San Francisco, US
- Aw TC. (2008). Developments in occupational health in the Middle East. 19th Asian Conference on Occupational Health, Singapore, 17 to 19 September 2008.
- Aw TC. (2008). Challenges in producing criteria for diagnosing occupational diseases. The 18th World Congress on Safety and Health at Work, Seoul, Korea, 29 June to 2 July 2008.
- AwTC. (2008). Occupational health initiatives in the United Arab Emirates. The 18th World Congress on Safety and Health at Work, Seoul, Korea, 29 June to 2 July 2008.
- AwTC. (2008). Occupational health workers as part of the community. Ninth International Conference on Chemical and Environmental Hazards: Working together, Protecting Communities, The Health Protection Agency, Manchester, UK, 20-21 May 2008.
- Barss P, Al-Hammadi M, Al-Atiq M, Al-Awadhi H, Grivna M, Bernsen R. (2008). Evaluation of a short educational intervention on knowledge and attitudes of motor vehicle crashes and safety restraints among high school students in the United Arab Emirates, 9th World Conference on Injury Prevention and Safety Promotion, Méridam Yucatán, Mexico, 15-18 March 2008.
- Barss P, Al-Maskari F, Grivna M, Al-Shehhi K, Al-Shamsi H, Al-Kaabi N, Al-Suwaidi A. (2008). Smoking, other high-risk behaviours, and mate selection among University students in the United Arab Emirates. Proceedings from the 9th Annual UAE University Research Conference, May 2008.
- Barss P, Grivna M, Ali M, Nasser A, Helal I, Karami A. (2008). Water safety and drowning prevention: High school student survey. The 2nd Asia Pacific Injury Prevention Conference, Hanoi, Vietnam, 4-6 November 2008.
- Barss P, Grivna M, Subait O, Al-Kuwaiti A, Al-Kuwaiti M, Al-Rahoomi A. (2008). Epidemiology of falls in a high-income Middle Eastern country: an Emergency Department interview survey. Third Australian and New Zealand Falls Prevention Conference, Melbourne, Australia, 12-14 October 2008.
- Barss P, Grivna M. (2008). Letter to Editor – Trends in childhood injury mortality in a developing country: United Arab Emirates. IENJ 2008 doi:10.1016/j.ienj.2008.12.003
- Barss P, Grivna M. (2008). Traditional and epidemiological concepts of causality and preventability of injury, HIV, and chronic disease among Arabs in a Middle Eastern country. 18th International Epidemiologic Association World Congress, Porto Alegre, Brazil, 18th International Epidemiologic Association World Congress, September 2008.
- Barss P, Musaab A, Nassar A, Helal I, Karami A, Grivna M. (2008). Epidemiology and prevention of drowning in coastal cities of a high-income Middle Eastern country. Second Asia-Pacific Conference on Injury Prevention, Hanoi, Vietnam, November 2008.
- Barss P, Al Hammadi M, Al Atiq M, Al Awadhi H, Grivna M, Bernsen R. (2008). Evaluation of short educational sessions to improve knowledge and attitudes towards car safety restraints among grade 12 students at government schools in United Arab Emirates. Ninth World Conference on Injury Prevention and Safety Promotion, Merida, Mexico, March 2008.
- Barss P, Grivna M, Subait O, Al-Kuwaiti A, Al-Kuwaiti M, Al-Rahoomi A. (2008). Epidemiology of falls in a high-income Middle Eastern country: An Emergency Department Interview Survey. Third Australian and New Zealand Falls Prevention Conference, Melbourne, October, 2008.
- Barss P, Grivna M. (2008). Traditional and epidemiological concepts of causality and preventability of injury, HIV, and chronic disease among Arabs in a Middle Eastern country. Porto Alegre, Brazil. 18th International Epidemiologic Association World Congress, September 2008.
- Barss P, Grivna M. Epidemiology and Prevention of Drowning in Coastal Cities of a High-Income Middle Eastern Country. Asia-Pacific Injury Prevention Conference, Hanoi, October 2008.
- Bernsen RM. (2008). Characteristics of non-participants in blood testing in a cross-sectional study on the association between childhood immunisations and atopic disorders. EAP (European Academy of Pediatrics), Nice, France.
- Bernsen RM. (2008). EAACI. Measles, mumps and rubella (MMR) infections and risk of atopic disorders in vaccinated and unvaccinated children (poster presentation). European Academy of Allergy and Clinical Immunology, Barcelona, Spain.
- Black T, Shah SM, Lim H, Abony S, Busch A, Metcalfe J. (2008). The effect of a transfer, lifting and repositioning (TLR) injury prevention program on musculoskeletal disorders in health care workers. Sixth International Symposium: Public Health and the Agricultural Rural Ecosystem.
- Blair I. (2008). Public health aspects of anthrax. Exercise Solent Regional Multiagency Conference on Bio-terrorism, Southampton, Hampshire, UK, 24 January 2008.
- Blair I. (2008). Public health

- response to avian influenza. "Exercise Chicken Run" Regional Health Services Conference on Avian Influenza, Southampton, Hampshire, UK, 13 February 2008.
- Blair I. (2008). Environmental health and health protection partnerships. Hampshire Environmental Health Officers' Meeting, Eastleigh, Hampshire, UK, 16 January 2008.
- Blair I. (2008). Pandemic Influenza. "Exercise Eclipse" Multiagency Conference, Southampton, Hampshire, UK, 18 January 2008.
- El-Sadig M. (2008). The socio-economic and environmental determinants of MVC injuries and deaths among vulnerable road users in Al-Ain, UAE. WHO-EMRO Seminar, Center for Social Studies (SRC) of the American University in Cairo and the IUSSP, Cairo, Egypt, 14 to 18 February 2008.
- Grivna M, Barss P, Al-Dhabab A, Hanaee A, Al-Kaabi F, Al-Muhairi S. (2008). Babywalkers in the United Arab Emirates: A survey among female high school students of prevalence, injuries, and knowledge. 9th World Conference on Injury Prevention and Safety Promotion, Merida, Mexico, March 2008.
- Grivna M, Barss P, Stanculescu C, Abu-Zidan F. (2008). Epidemiology of child and youth traffic injury in a high-income Arab country: use of a trauma registry to identify priorities for prevention. Second Asia-Pacific Conference on Injury Prevention, Hanoi, Vietnam, November 2008.
- Hyder GM, Shah SM, Alvi R, Hussain A. (2008). Patterns of injuries in high mountain villages of Northern, Pakistan; a community-based study. 12th National Health Sciences Research Symposium, Injury in the Developing World: from Prevention to Care, Karachi, Pakistan, 26 to 28 August 2008.
- Moses S, Ramesh B, Isac S, Nagelkerke N, Bhattacharjee P. (2008). Impact of an intensive, targeted HIV prevention program on HIV prevalence in the general population. AIDS 2008 - XVII International AIDS Conference, Mexico City, 3-8 August 2008.
- Nagelkerke N, de Vlas S, Jha P, Luo M, Plummer F, Kaul R. (2008). Heterogeneity in HIV host susceptibility as a potential contributor to recent HIV prevalence declines. AIDS 2008 - XVII International AIDS Conference, Mexico City, 3-8 August 2008.
- Nagelkerke N, Moses S, de Vlas S, Bailey R. (2008). Modelling the public health impact of male circumcision for HIV prevention in high prevalence areas. AIDS 2008 - XVII International AIDS Conference Mexico City, 3-8 August 2008.
- Nagelkerke, N. (2008). Heterogeneity in host HIV susceptibility as a potential contributor to recent HIV prevalence declines in Africa. Tubingen Epidemics Workshop on Spatio-temporal and Network Modelling of Diseases, Baden-Württemberg, Germany, 21-25 October 2008.
- Nagelkerke, N. (2008). Modelling the public health impact of male circumcision for HIV prevention in high prevalence areas in Africa. XVII International AIDS Conference, Mexico City, 3-8 August 2008.
- Nikpartow N, Shah SM, Koehncke N, Lim H, Melenchuk J. (2008). Work-related ocular injuries in Saskatchewan: disparity across industry sectors. Sixth International Symposium: Public Health and the Agricultural Rural Ecosystem, Saskatoon, Canada, 19 to 23 October 2008.
- O'Carroll R, Ulmer B, Shah SM, Hundseth M. (2008). Role of above knee amputation as initial treatment for ischemic lower extremity. The Canadian Society for Vascular Surgery 2008 Annual Meeting, Saskatoon, Canada, 12 to 13 September 2008.
- Schneider J. (2008). A survey of upper limb injuries in carpenters in Al Ain, United Arab Emirates. XVIII World Congress on Safety and Health at Work & 24th Asia Pacific Safety and Health Organisation Annual Conference, Seoul, Korea, 29 June to 2 July 2008.
- Schneider J. (2008). Assessing heat stress during summer in UAE construction workers. 24th Asia Pacific Safety and Health Organisation Annual Conference, Seoul, Korea, 29 June 2008.
- Schneider J. (2008). Assessing heat stress in United Arab Emirates construction workers during summer. Combined Meeting of The Australasian Faculty of Rehabilitation Medicine & Australasian Faculty of Occupational and Environmental Medicine, Adelaide, South Australia, 8 May 2008.
- Schneider J. (2008). Critical success factors in designing and implementing an defective occupational health Scheme for your organization. Sixth Annual GCC Occupational Health Conference, Dubai, UAE, 26 June 2008.
- Schneider J. (2008). GCC Occupational Health Professionals Website - Dept Community Medicine, UAEU, <http://www.fmhs.uaeu.ac.ae/cmd/ohs/>.
- Shah SM, Afridi I, Nowshad G. (2008). Prevalence and correlates of depression among married women in high mountain villages of North Pakistan. The World Psychiatric Association Section of Epidemiology and Public Health Meeting "From Epidemiology Toward Mental Health Planning", Saskatoon, Saskatchewan, Canada, May 2008.
- Shah SM, Hussain A, Midtry R, Walraven G, Nishtar N, Jafar T, Reeder B. (2008). Pakistan and Canadian Teamwork (PACT) for CVD prevention: the way forward. 15th Canadian Conference on International Health, Ottawa, Canada.
- Shah SM, Koehncke N, Melenchuk

J, Lim H, Gordon JR, Dosman J. (2008). Caring for care givers: burden of work-related musculoskeletal disorder in health care, Sixth International Symposium: Public Health and the Agricultural Rural Ecosystem, Saskatoon, Canada.

Shah SM, Melenchuk J, Koehncke N, Lim H, Gordon JR, Dosman J. (2008). Work-related musculoskeletal disorders in agriculture in Saskatchewan, 1996-2005. Sixth International Symposium: Public Health and the Agricultural Rural Ecosystem, Saskatoon, Canada.

Shah SM. (2008). Tobacco use among women in rural Pakistan: trends between 1994 and 2007. The 39th Union World Conference on Lung Health of the International Union Against Tuberculosis and Lung Disease, "Global threats to lung health: the importance of health system responses", Paris, France.

Dhabi (HAAD).
Drs J Schneider (PI), G Bates. Development, and scientific validation for Gulf conditions, of guidelines and protocols for the management of work in hot environments. Health Authority of Abu Dhabi (HAAD).

Drs M Grivna (PI), P Barss, M El-Sadig.
The magnitude and risk factors of childhood injuries in UAE. A project funded by Johnson&Johnson Middle East and Safe Kids Worldwide through the Scientific Research Affairs Sector of the UAE University. (2007-2008).

Dr I Blair (PI).
Understanding S. aureus carriage in the community. United Kingdom Health Protection Agency, London. Local and Regional Services Division R&D Pump-Priming & Small Initiatives Fund – 2007/08.

RESEARCH GRANTS

FMHS Seed Money Grant

Profs TC Aw [PI], M McClean, Dr S Shaban.
Comparison of preventive medicine curriculum in GCC medical schools.

UAEU Individual Grants

Drs SM Shah [PI], F Al-Maskari.
Parents assisting children and teachers (PACT) for obesity prevention. (2008-2009).

Others

Prof TC Aw [PI], Drs F Al-Maskari, J Schneider, M El-Sadig.
Developing a National Strategy for Environment and Health in the UAE.

Prof TC Aw [PI], Drs Z Taimur, M Zaidi. Determining occupational health priorities for Abu Dhabi and the UAE. Health Authority of Abu

Standing left to right:

***Mr Hussein El Agab, Dr Michal Grivna, Dr Peter Barss, Dr Mohamed El Sadig,
Prof Nico Nagelkerke, Dr John Schneider and Mr Jamal.***

Seated left to right:

Dr Roos Bernsen, Prof Tar-Ching Aw (Chair), Dr Fatma Al Maskari and Ms Arlene Kaljee.

Community Medicine



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DEPARTMENT of Family Medicine

RESEARCH Profile

Professor & Chair:
Prof L Nasir
Associate Professor:
Dr C Ellis
Dr C Leduc
Dr S Major
Dr A Prinsloo
Dr B Raasch
Assistant Professor:
Dr DM Mirza
Dr MJ Hashim
Medical Secretary:
Ms MCT Cetra
Medical Research Technician:
Ms H Mustafa
Mr J Cherian

The Department of Family Medicine is fortunate to be able to draw on the talents of a diverse, energetic and talented pool of faculty and staff for its teaching, service and research activities. The mission statement of our department integrates the discovery and propagation of knowledge important to clinical practice, education, and the organization of health care as a core task. In addition, our leadership roles in medical education and teaching clinical skills complement the provision of an outstanding clerkship experience to medical students. We also play a leading role in supporting medical student community outreach efforts, and support for the community based Family Medicine Residency program.

The Department is also involved in service to the profession, including continuing medical education and licensing activities. Over the coming months and years, we hope to continue to expand our capabilities and activities. Faculty research interests encompass diverse topics that include child health and predictors of obesity, medical education, communication, primary care psychiatry, chronic disease management, informatics, professionalism and health literacy.

ARTICLES IN PEER-REVIEWED JOURNALS

Al-Qutob R, Nasir L. (2008). Provider Perceptions of Reproductive Health Service Quality in Jordanian Public Community Health Centers. *Health Care for Women International*, Volume 29; 5: 539-550.

Elie AA, Maroun N, Major S, Afif C, Abdo A, et al. (2008). Post-graduation migration intentions of students of Lebanese medical schools: a survey study. *BMC Public Health*, 8:191doi:10.1186/1471-2458-8-19.

Heath RL, Saliba M, Mahmassani O, Major SC, Khoury BA. (2008). Locus of control moderates the relationship between headache and depression. *J Headache Pain*, 9 (5):301-308.

Major SC, Booton C. (2008). Involvement of general practice (family medicine) in undergraduate medical education in the United Kingdom. *J Ambul Care Manage*, 31(3):269-75.

Books, Chapters, Reviews and Editorials

Hamdy,S. Nasir,L. (2008). Culture and Health. In: Nasir,L. Abdul-Haq A. (eds) *Caring for Arab Patients: A Biopsychosocial Approach*. Oxford: Radcliffe 2008.

Khoury B, Khoury M, Nasir L. (2008).

Anxiety and Somatoform Disorders in the Arab world. In: Nasir L, Abdul Haq A. (eds). *Caring for Arab Patients; A Biopsychosocial Approach*. Oxford: Radcliffe 2008.

Nasir LS, Abdul-haq AK, (Eds) (2008) *Caring for Arab Patients; a biopsychosocial approach*. 1st Edition. Radcliffe Publishing Ltd. February 2008.

Nasir L. (2008). Dysmenorrhea. In: *Conn's Current Therapy 60th* (2008) Edition. Eds: Rakel,RE Bope, ET. Saunders/Elsevier

Nasir L. (2008). Globalization, Health and Culture. In: Nasir L, Abdul Haq A (eds). *Caring for Arab Patients; A Biopsychosocial Approach*. Oxford: Radcliffe 2008.

Nasir L, Al-Qutob R. (2008). Gender and Health. In: Nasir L, Abdul Haq A. (eds). *Caring for Arab Patients; A Biopsychosocial Approach*. Oxford: Radcliffe 2008.

Nasir L. (2008). Death and Dying. In: Nasir L, Abdul Haq A, (eds). *Caring for Arab Patients; A Biopsychosocial Approach*. Oxford: Radcliffe 2008.

Nasir L, Abdul-Haq A. (2008). Approach to the patient in primary care psychiatry. In: Nasir L, AbdulHaq A.(eds). *Caring for Arab Patients; A Biopsychosocial Approach*. Oxford: Radcliffe, 2008.

Nasir,L. (2008). Substance Abuse. In: Nasir L, Abdul Haq A. (eds). *Caring for Arab Patients; A Biopsychosocial Approach*. Oxford: Radcliffe 2008.

Nasir L. (2008). Depression, self harm behavior and suicide. In: Nasir L, Abdul Haq A,(eds). *Caring for Arab Patients; A Biopsychosocial Approach*. Oxford: Radcliffe 2008.

Published Abstracts, Letters and Correspondence

Mirza DM (2008). The Language of Instruction (letter to the editor). *Medical Education*. Published Online: Dec 17 2008.

PROCEEDINGS, CONFERENCES, INVITED LECTURES, WEB SITES AND OTHERS

Mirza DM. (2008). Using a Western Curriculum in the Middle East- what are the implications for clinical skills teaching? *Asia-Pacific Medical Education conference* in Singapore, January 2008.

2008
Family Medicine

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DEPARTMENT of INTERNAL MEDICINE

DEPARTMENTAL Profile

Professor & Chair:

Prof M Ellis

Professor:

Prof E N Obineche

Prof I Galadari

Prof E E Kazzam

Prof S Gariballa

Prof A Bellou

Associate Professor:

Dr W Conca

Dr I Hassan

Dr H Saadi

Dr J Braun

Dr S Denic

Dr J Alkaabi

Dr S Al-Suwaidi

Assistant Professor:

Dr A Shehab

Dr A Al-Fazari

Dr H Galadari

Teaching Assistant:

Dr A Al-Dhanhani

Dr S Al-Karam

Dr G Al Mansouri

Dr M Al Houqani

Medical Research

Specialist

Dr S Benedict

Dr A M Abdulle

Mr J Yasin

Research Nurse

Mr A Alessa

Research Assistant

Ms M Kutty

Ms S Al Marar

Administrative Assistant

Mr H Hassan

Medical Secretary:

Ms S Ogilvie

Ms R John

Secretary

This Department has been highly active in the three fields of Teaching, Research and Clinical Duties through 2008.

The following is a list of continuing education activities organised by departmental members in 2008:

-Coordinator, 13th Annual Workshop on Diabetes Mellitus. Activity organized by the Al Ain Diabetes Research Group; March 22, 2008, Faculty of Medicine and Health Sciences, Al Ain, UAE. (Dr H Saadi)

-Member, Scientific Committee for The Fourth Pan Arab Osteoporosis Conference; March 3, 2008; Dubai, UAE. (Dr H Saadi)

-Stroke CME. May 10, 2008. Al Ain Hospital, Al Ain, UAE. (Dr J Braun)

Dr A Shehab organised the following 10 approved CME's (32 approved credit hours) in cardiology including hypertension, heart failure and myocardial infarction:

-Endocrine Medicine Rapid Review Course. 6 hours CME HAAD. Saturday, December 27, 2008. Venue: Rotana Hotel, Al Ain, UAE.

-Acute coronary syndrome in UAE. 2 hours CME HAAD. Friday, March 7, 2008. Venue: Rotana Hotel, Al Ain, UAE.

-Hypertension update. 4 hours CME HAAD. Friday, May 9, 2008. Venue: Hilton Hotel, Al Ain, UAE.

-Lipids update. 2 hour CME HAAD. Friday, June 27, 2008. Venue: Jabal Hafeet Hotel, Al Ain, UAE.

-Complications post MI and practical approach. 2 hour CME HAAD. Wednesday, November 26, 2008. Venue: Intercontinental Hotel, Al Ain, UAE.

-Heart failure. 2 hour CME HAAD. Friday, January 25, 2008.

Venue: Rotana Hotel, Al Ain, UAE.

-ECG course and workshop. 6 hour CME HAAD. Saturday, April 5, 2008. Venue: Rotana Hotel, Al Ain, UAE.

-Valve replacement update. 2 hour CME. Tuesday, December 16, 2008. Venue: Rotana Hotel, UAE.

-Emirates Cardiac Society Intercity Meeting 25 - 26 April, Venue: Hilton Hotel, RAK, UAE.

-Hypertension update. 4 hour CME HAAD. Friday, December 19, 2008. Venue: Hotel JAL, Fujairah, UAE.

The MRCP(UK) PACES Centre at Al Ain Hospital is firmly established and is providing 2 diets per year. Four examiners have been approved from the Department: Professor M Ellis, Professor S Gariballa, Professor E N Obineche and Dr A Shehab. Professor E N Obineche also examines in the Arab Boards Internal Medicine.

A Professorial Medical Unit (PMU) has been established at Al Ain Hospital under the Clinical Directorship of Professor S Gariballa. This clinical unit will provide resources for clinical care, postgraduate residency teaching and clinical research.

In relation to **Teaching Assistants**, we have five who are studying abroad. They are as follows:

- Dr A Al-Dhanhani /Teaching Assistant (Canada)
- Dr S Al-Karam/Teaching Assistant (Canada)
- Dr G Al Mansoori/Teaching Assistant (Canada)
- Dr M Al Houqani/Teaching Assistant (Canada)
- Dr S Al-Shamsi/Teaching Assistant (Canada)

Dr S Benedict (Medical Research Specialist I), Dr A M Abdulle (Medical Research Specialist II) and Mr J Yasin (Medical Research Specialist II) have been enmeshed in the research activities of various faculty within and outside the Department. Their workload increases steadily with time. Mr Awad Al-Essa (Research Nurse), is busily occupied with several research projects. Ms Mary Kutty (Research Assistant) has been funded by an external grant.

Ms Shaikha Al-Marar (Research Assistant) is actively involved with faculty research projects.

Ms Sheena Ogilvie and Ms Reena John continue to provide secretarial services and Mr Hisham Hassan vital administrative services for the Department.

The Departmental laboratory is located on the 3rd floor and research interests and publications covered in 2008 were:

GENETICS	VASOACTIVE PEPTIDES
DERMATOLOGY	DIABETES
CYTOKINES	HYPERTENSION
CANCER	OSTEOPOROSIS
INFECTIONS, INCLUDING FUNGI	CARDIOVASCULAR DISEASE
LIPIDS	CHRONIC RENAL FAILURE
PLEURAL DISORDERS	RHEUMATIC DISEASE

The Department members published 24 papers in peer-reviewed journals, 3 book chapters, reviews or editorials, 9 abstracts and 46 conference presentations and 7 clinical grants are held.

ARTICLES IN PEER-REVIEWED JOURNALS

Abdulle AM, Nagelkerke NJ, Abouchakra S, Obineche EN. (2008). Potential benefits of controlling coronary heart disease risk factors in the United Arab Emirates. *Kidney & Blood Pressure Research* 31(3); 185-188.

Abdulle AM, Nagelkerke N, Yasin J, Obineche E. (2008). Biochemical markers and lipid profiles in a multiethnic hypertensive population from the United Arab Emirates. *Journal of Nephrology and Renal Transplantation (JNRT)* 1(1); 23-31.

Al-Kaabi J, Al-Maskari F, Saadi H, Afandi B, Parkar H, Nagelkerke N. (2008). Assessment of dietary practice among diabetic patients in the United Arab Emirates. *Rev Diabet Stud* 5(2); 110-115.

Al-Maskari FN, Obineche E, El-Sadig MA. (2008). Prevalence and determinants of microalbuminuria among diabetic patients in the United Arab Emirates. *BMC Nephrol* 9; 1.

Awad MA, Denic S, El Taji H. (2008). Validation of the European Organization for research and treatment of cancer quality of life questionnaires for Arabic-speaking populations. *Annals of New York Academy of Sciences* 1138;146-54.

Barnes S, Gott M, Payne S, Parker C, Seamark D, Gariballa S, Small N. (2008). Predicting mortality among a general practice-based sample of people with heart failure. *Chronic Illn* 4(1); 5-12.

Braun JS, Bauknecht H-C. (2008). Cancer and incontinence. *The Lancet* 372; 1272.

Braun JS, Herzog KH. (2008). E2F1 mediated pneumococcal-induced brain damage. *Acta Neuropathologica* 116; 133-134.

Braun JS. (2008). Cryptococcal meningitis. *Journal of Medical*

Sciences 1; 18-21.

Bukachi F, Waldenström A, Morner S, Lindqvist P, Henein MY, Kazzam E. (2008). Age dependency in the timing of mitral annular motion in relation to ventricular filling in healthy subjects. *Umeå General Population Heart Study. Eur J Echocardiogr* 9(4); 522-529.

Denic S, Nagelkerke N, Agarwal MM. (2008). Consanguineous marriages and endemic malaria: can inbreeding increase population fitness? *Malaria Journal* 7;150.

Denic S, Nagelkerke N, Agarwal MM. (2008). Consanguineous marriages: do genetic benefits outweigh its costs in populations with alpha+-thalassemia, hemoglobin S, and malaria? *Evolution and Human Behavior* 29(5); 364-369.

Ellis M, Ramadi B, Finkelman M, Hedstrom U, Kristensen J, Ali-Zadeh H, Klingspor L. (2008). Assessment of the clinical utility of serial ,D-glucan concentrations in patients with persistent neutropenic fever. *J Med Microbiol* 57; 287-295.

Gariballa SE, Forster SJ. (2008). Dietary intake of older patients in hospital and at home: the validity of patient kept food diaries. *J Nutr Health Aging* 12(2); 102-106.

Gariballa S. (2008). Refeeding syndrome: a potentially fatal condition but remains underdiagnosed and undertreated. *Nutrition* 24(6);604-606. Epub 2008 Mar 24.

Gariballa SE. (2008). Homocysteine and Stroke. *Current Topics in Naturaceutical Research*; 6 (4): 211-218.

Mörner S, Lindqvist P, Waldenström A, Kazzam E. (2008). Right ventricular dysfunction in hypertrophic cardiomyopathy as evidenced by the myocardial performance index. *J Cardiol* 124(1); 57-63.

Obineche EN, Abdulle AM, Gillett

MPT, Sulaiman M, Al-Rokhaimi M. (2008). Leptin, lipid and lipid metabolism-related hormones in chronic renal failure in Arabia. *Nephrology (Online)* 7(3); 115-120.

Obineche EN, Saadi H, Benedict S, Pathan JY, Frampton CM, Nicholls MG. (2008). Inter-relationships between B-type natriuretic peptides and vitamin D in patients on maintenance peritoneal dialysis. *Perit Dial Int* 28(6); 617-621.

Raza H, John A, Brown E, Benedict S, Kambal A. (2008). Alterations in mitochondrial respiratory functions, redox metabolism, and apoptosis by oxidant 4-hydroxynonenal, and antioxidants curcumin and melatonin in PC12 cells. *Toxicol Applied Pharmacol* 15; 226(2);161-168.

Saadi H, Nagelkerke N, Carruthers SG, Benedict S, Abdulkhalek S, Reed R, Lukic M, Nicholls MG. (2008). Association of TCF7L2 polymorphism with diabetes mellitus, metabolic syndrome, and markers of beta cell function and insulin resistance in a population-based sample of Emirati subjects. *Diabetes Research and Clinical Practice* 80(3); 392-398.

Sajwani S, El Houni A, Gariballa S. (2008). Not just a case of thyrotoxicosis. *Emirate Medical Journal* 26(2); 129-130.

Shehab A, Elnour AA, Sadiq A, Ellahham NH. (2008). Monitoring the doctors' prescribing patterns in outpatient polyclinic setting. *Khartoum Pharmacy Journal* 11(1); 6-11.

Shehab A, Elnour AA, Struthers A. (2008). Randomised controlled double-blind cross over pilot study assessing the effect of Spironolactone, Losartan and their combination on heart rate variability (HRV) and QT dispersion in patients with chronic heart failure (CHF). *Cardiovascular Journal of South Africa* 19(6); 302-306.



Books, Chapters, Reviews and Editorials

Ellis M. (2008). Human avian influenza infection. In 'Clinical Medicine'. Online Chapter. Editors Kumar and Clark M. 7th edition. Elsevier Saunders.

Ellis M. (2008). New dosing strategies for liposomal amphotericin B in high-risk patients. Clin Microbiol Infect 14(S); 55-64.

Ellis ME. (2008). Febrile neutropenia: evolving strategies. Ann NY Acad Sci 2 1138; 329-350.



Published, Abstracts, Letters and Correspondence

Al-Sarraj T, Saadi H, Volek JS, Fernandez ML. (2008). Prevalence of the metabolic syndrome in the United Arab Emirates. The FASEB Journal. 2008;22:1083.10

Carruthers G, Saadi H. (2008). Re: Continuity of Care Literature review and Implications. Letter to the Editor. Sultan Qaboos University Medical Journal 8(2).

Denic S, Nagelkerke N, Nicholls MG. (2008). Germline genomic homozygosity and cancer risk. Journal of American Medical Association 300(2); 169-70.

Henein M, Calcuttea A, Kaba A, Maras D, Stanton M, Kelly M, Kazzam ES, Waldenstrom A, Henein MY. (2008). Atrial fibrillation (mechanistic view point). Int J Cardiol.

Obineche E, Pathan J, Obineche R, Abdulle A. (2008). Biochemical markers and lipid profiles in a multiethnic hypertensive

population from the United Arab Emirates. American Journal of Kidney Diseases 51(4); B75-B75.

Obineche EN, Saadi H, Benedict S, Pathan J, Frampton C, Nicholls M. (2008). Inter-relations between B-type natriuretic peptides & Vit D in patients on maintenance peritoneal dialysis & in women post-partum. American Journal of Kidney Diseases 51(4); A75.

Saadi H, Nagelkerke N. (2008). Correlation coefficients are not appropriate for assessing differences among populations. Letter to the Editor. J Clin Endocrinol Metab.

Saadi H, Afandi B, Houssami L, Saleh N, Mohamadiyeh M, Benedict S. (2008). Effects of isotretinoin on bone turnover markers and bone mineral density in women with acne vulgaris and vitamin D deficiency. Osteoporosis International 19(2).



PROCEEDINGS, CONFERENCES, INVITED LECTURES, Web Sites and Others

Al Abdouli F, Al Yammahi AM, Al Medhani T, Al Yammahi AA, Al Abdouli A, Al Yammahi S, Al Wedami M, Al Emadi B, Bakathir S, Al-Anee K, Shah G, Kazzam E. (2008). Pattern of Cardiovascular Diseases in Al Ain City. World Heart Failure Congress, February 2008, Al-Ain, UAE.

Alkaabi J, AlMaskari F, Saadi H, Afandi B, Parker H. (2008). Assessment of physical activity and dietary practices among diabetic patients. First International Conference on Advanced Technologies and Treatments for Diabetes (ATTD). Prague, Czech Republic.

Alkaabi JM. (2008). Knowledge, attitude and practices of diabetic Patients in Al-Ain City, United Arab Emirates. The 90th annual meeting of the Endocrine Society. San Francisco, USA.

Al Wedami M, Al Emadi B, Bakathir S, Al Abdouli F, Al Yammahi AM, Al Medhani T, Al Yammahi AA, Al Abdouli A, Al Yamahi S, Al Anee K, Shah G, Kazzam E. (2008). Heart Failure: Etiology, Risk factors and Management in Al Ain Hospital, World Heart Failure Congress, February 2008, Al Ain, UAE.

Braun JS. (2008). TLR-2 mediates CSF inflammation and neuronal damage. 3rd Al Ain International Immunology Meeting. Al Ain, UAE.

Braun JS. (2008). Stroke Conference. Sanofi Aventis Video Conference, Al Ain Hospital, Tawam Hospital and Sheikh Khalifa Medical City, UAE.

Conca W. (2008). Pathogenesis, diagnosis and management of SLE. 3rd Al Ain International Immunology Meeting. Al Ain, UAE.

Denic S. (2008). Selection of a+ thalassemia in inbreeding population. 2nd Genetics Conference. Al Ain, UAE.

Denic S, Saad S, Takala M. (2008). Prevalence of neutropenia in Arabs. 19th International Congress on Anti Cancer Treatment. Paris, France.

Ellis M. (2008). TB: Clinical orientation and UAE focus. Clinical workshop on TB. 3rd Al Ain International Immunology Meeting. Al Ain, UAE.

Gariballa S. (2008). Effects of smoking on nutritional status and response to dietary supplements. British Nutrition Society Meeting. Nottingham, UK.

Gariballa S. (2008). Nutritional and quality of life in older people. International Conference for Aging. Abu Dhabi, UAE.

Gariballa S. (2008). Effects of acute phase response on nutritional

status and clinical outcome of hospitalised patients. The 3rd Al Ain International Immunology Conference. Al Ain, UAE.

Gariballa S. (2008). Public health nutrition: Prevention and treatment of disease. Al Ain Paramedical Professional Development Conference. Al Ain, UAE.

Gariballa S. (2008). The fetal origins of adult disease hypothesis. Update on Nutrition. Dubai, UAE.

Gariballa S. (2008). Associations between smoking, nutritional status and clinical outcome following acute illness. Proceedings of the Nutrition Society 67; OCEE8.

Gariballa S. (2008). Prevalence of folate deficiency and hyperhomocystinemia in hospitalized acutely ill patients at Al Ain. International Students Conference. Bahrain.

Kazzam E. (2008). Heart failure in the Middle East; Right Ventricular Failure; Diabetes Mellitus and Heart Failure. World Heart Failure, Al Ain, UAE.

Kazzam E. (2008). Left atrial aneurysm an unusual location and detection using tran-thoracic echocardiography: Case presentation. 24th Annual International Conference on Recent Advances in Echocardiography.

Obineche EN. (2008). The cardio-renal syndrome - Nephrologists viewpoint. World Heart Failure Congress (World Heart Failure Society). Al Ain, UAE.

Saadi H. (2008). Glycemic target: is lower better? Cardiometabolic risks CMR phase II program. Organized by the Egyptian Diabetes Center in collaboration with the American Diabetes Association. Muscat, Oman.

Saadi H. (2008). Osteoporosis: A debilitating disease that can be prevented and treated. Satellite symposium at the 30th Annual

Meeting of the Egyptian Society for joint diseases and arthritis. Sharm Al Sheikh, Egypt.

Saadi H. (2008). Diabetes and hypertension. Harvard CME Symposium on "Recent advances in cardiometabolic risk management". Cairo, Egypt.

Saadi H. (2008). Osteoporosis and vitamin D deficiency in Arab Women. The fourth Pan Arab Osteoporosis Conference. Dubai, UAE.

Saadi H, Nagelkerke N. (2008). Association of TCF7L2 polymorphism with diabetes mellitus, metabolic syndrome, and markers of beta cell function and insulin resistance in a population-based sample of Emirati subjects. Commentary. The International Atherosclerosis Society (IAS); <http://www.athero.org>; May 2008.

Shehab A. (2008). Aspirin status for primary and secondary prevention. 24th Oman heart association annual conference. Oman.

Shehab A.. (2008). Acute coronary syndrome practical approach. 2nd Fujaira Cardiovascular Symposium. Fujaira, UAE.

Shehab A. (2008). Multimodality imaging in cardiology. 3rd International Congress of Cardiology and Cardiovascular Imaging.

Shehab A. (2008). Stent thrombosis. 2nd live demonstration course in Basic and Advanced Interventional Cardiology.

Prof S Gariballa [PI]. The effects of dietary supplements on cardiovascular disease risk factors and infections of subjects with type 2 diabetes mellitus.

Dr A Shehab [PI]. Improving medication adherence/compliance and concordance in family practice clinics: The leadership perspective.

HAMDAN AWARD MEDICAL RESEARCH GRANT

Prof EN Obineche [PI]. Hamdan Award to Support Medical Research (Achievement Award). 25 March 2008.

OTHERS (including international funding agencies)

Prof M Ellis [PI]. A study of bacteremia in cancer patients. Wyeth unrestricted grant.

Dr H Saadi [PI]. High prevalence of rickets and sub-clinical maternal and childhood vitamin D deficiency in the Middle East: a randomized controlled trial of prenatal vitamin D supplementation to prevent vitamin D deficiency in mothers and their infants. Co-Principle Investigator. Funded by the Thrasher Research Fund (USA) (2008-2011).

Dr H Saadi, Co-investigator. Release of rectal hormones for weight loss and improvement of type 2 diabetes mellitus; Satiogen, San Diego, CA, USA

RESEARCH GRANTS

FMHS RESEARCH GRANT

Drs S Denic [PI], S Saad, M Takala. Prevalence of neutropenia in adult Arabs from United Arab Emirates.

Standing left to right:

***Ms S Ogilvie, Mr Abubaker, Mr J Yasin, Mr H Hassan, Dr H Saadi, Dr A M Abdulle, Mr A Al-Essa,
Dr S Denic, Professor E Kazzam, Dr S Benedict, Ms R John, Dr I Hassan***

Seated left to right:

***Dr A Al Fazari, Dr J Braun, Professor S G Carruthers, Professor E N Obineche, Professor M Ellis,
Dr S Alsowaidi, Dr W Conca, Dr J Alkaabi***

Internal Medicine



[http://www.fmhs.uaeu.ac.ae/Departments/Internal Medicine](http://www.fmhs.uaeu.ac.ae/Departments/Internal%20Medicine)
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DEPARTMENT of Medical Education

RESEARCH Profile

The main research activities of the Department of Medical Education can be found in the MERGE (Medical Education Research Group) report. Research that has been completed or is in progress in the Department includes:

- Development of transferable/generic skills in undergraduate medical students (McLean, Shaban). Incoming MSC1 students are surveyed and followed up in MSC2 to check for skills development. The project is in its third year. Results for the first two cycles will be available shortly.
- Perceptions of the practice of medicine for FMHS male and female students and graduates (McLean). This project began in 2007 when most final year medical students were interviewed. Follow-up of these students into their internship has begun.
- Predictors of student success in the FMHS. By looking at a number of variables, such as high school grades, interview scores, NBME examination results, it may be possible to find predictors of academic success (Shaban, McLean). This work is ongoing.
- Emirati patients' physician preference and attitudes towards students in the clinical encounter. This work commenced in July 2008 as a summer project (4 Medical Science students). These students interviewed female Emirati patients. Two male students will continue the study with male Emirati patients.
- Faculty and student perceptions of where the CanMEDS competencies are being met. A group of Medical Science students undertook this research during the summer and the first semester of the 2008/2009 academic year.
- Mapping medical school curricula (Shaban, McLean).

Acting Chair:

Dr Beverly Raasch

Professor:

Prof Michelle McLean

Assistant Professor:

Dr Sami Shaban

*Medical Communication
and Study Skills Lecturer:*

Ms Geraldine Kershaw

Mr David Christie

Administrative Assistant:

Mr CP Nair

Mr Mohammad Nazimuddin

Ms N Seifelnasr

Secretary:

Ms Soni Lal

Office Assistant:

Mr T Usman

MEDIA CENTER

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Photographer:

Mr Ashok Prasad

Reprographic Technician:

Mr Madhatil Aboobacker

SKILLS AND TEACHING LABORATORIES

Laboratory Supervisor:

Mr Kunnath Unnikrishnan

Mr Athiq Wahab

Laboratory Assistant:

Mr Shanmugam Pandian

Mr Babuhan Abubakkar

LEARNING RESOURCE CENTER

Medical Resource Specialist:

Mr Ahmad Fathy

Ms Widad El Gaili

- Development of a trauma registry (Abu-Zidan, Shaban).
- Development of a residency management website which includes resident personal information, rotations, assessments, evaluations, and a logbook (Shaban, Safi).

Technical support

The Department of Medical Education provides technical assistance for research and researchers through the Media Center, an in-house production unit. The Center offers the graphics, photography and audiovisual services. Faculty members and students make use of these services for journal submissions, poster presentations at professional conferences, seminars, workshops and conferences, student research activities and other Faculty reports.

The Graphics section assists faculty and students with the preparation of scientific posters. The 100 or more posters generated each year are electronically archived and accessible to FMHS members. This section also provides support for PowerPoint presentations and image editing on a daily basis, as well as producing artwork, leaflets and brochures to support student and staff professional activities.

During 2008 academic year, the Audio-Visual section in conjunction with the photography section serviced all research related activities organized by the FMHS. A photographic record of these events is published on a regular basis on the FMHS website. The photography section also produces a significant number of laboratory specimen photographs and is responsible for digitizing radiology material for journal publication.

The Audio-Visual section provides complete audio-visual equipment and support for auditoria, theaters, classroom and other units such as surgical skills and teaching laboratories and other activities. Video filming, editing and duplication, video streaming production and audio recording, among others for research presentations are also services provided by this section.

Articles in Peer-Reviewed Journals

Barss P, Grivna M, Al Maskari F, Kershaw GE. (2008). Strengthening public health medicine training for medical students: development and evaluation of a lifestyle curriculum. *Medical Teacher* 30: e196 – e218.

McLean M, Cilliers FJ, van Wyk JM. (2008). AMEE Guide 36. Faculty development, yesterday, today and tomorrow. *Medical Teacher* 30: 555-584.



PROCEEDINGS, CONFERENCES, INVITED LECTURES, Web Sites AND OTHERS

Kershaw GE. (2008). Why do students plagiarise? TESOL Arabia 14th Annual Conference Dubai, UAE.

McLean M, Al Fazari A. (2008). Preparing consultants for supervising and assessing in clinical teaching units in Internal Medicine. 13th Ozzawa Conference, Melbourne, 5-8 March 2008.

McLean M, Al Kaabi J. (2008). Improving internal medicine residents' success for international board examinations: use of a 'mock' examination. 13th Ozzawa Conference, Melbourne, 5-8 March 2008. Poster presentation.

McLean M. (2008). Innovations in medical education: yesterday, today and tomorrow. University of Monash, Churchill, Australia.

McLean M, Shaban S. (2008). Developing generic skills in medical students: How do we do this? International Medical Education Conference, Kuala Lumpur.

McLean M. (2008). Trends in Medical Education: Past, Present and Future. First Saudi International Conference on Medical Education, Riyadh, Saudi Arabia.

McLean M. (2008). Student role in curriculum development. First Saudi International Conference on Medical Education, Riyadh, Saudi Arabia.

McLean M, Higgins-Opitz SB, van Wyk JM, Moodley K, Soornarain S. (2008). Male and female students and graduates perceptions of the practice of medicine. AMEE Conference, Prague, Czech Republic.

Shaban S, McLean M. (2008). Predictors of medical school performance. Annual UAEU Research Day, April 2008.

Shaban S, Torab F. (2008). Trainee Opinions on Laparoscopy Training using the LapSim Virtual Reality Simulator versus the Traditional Box Trainer. Proceedings of the American Medical Informatics Association 2008 Annual Symposium. Washington DC, USA, Nov 2008.



Standing left to right: **Mr A Wahab, Mr K Unnikrishnan, Mr M Nazimuddin, Mr M Aboobacker, Dr Sami Shaban, Mr CP Nair, Mr K Pandian, Mr M Yassin, Mr B Abubakkar, Mr T Usman, Mr A Prasad**

Seated left to right: **Ms Nasa Seifelnasr, Ms Ivanna Lizarriturri, Prof Michelle Mc Lean, Dr Beverly Rasch, Ms G Kershaw, Ms S Lal**

Medical Education



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DEPARTMENT of Medical Microbiology & Immunology

RESEARCH PROFILE

Professor & Chair:
Prof M L Lukic
Professor:
Prof S Dissanayake
Prof T Pal
Prof BK al-Ramadi
Prof T A Rizvi
Associate Professor:
Dr G Khan
Assistant Professor:
Dr Ahmed Al Qahtani
Dr M al-Shamsi
Dr Agnes Sonnevend
Medical Research Specialist:
Ms Akela Al Ghazawi
Mr A Al-Haj
Mr H S El-Hasasna
Ms M Ibrahim
Mr M K Jahabar
Mr A Shahin
Dr E Zilahi
Medical Research Assistant:
Ms G Bashir
Secretary
Ms G K Dawood
Ms N J S Al-Dhafri
Office Assistant:
Mr M H Majeed

Department of Medical Microbiology and Immunology was understaffed and the arrival of Professor Tibor Pal, Drs Gulfaraz Khan and Agnes Maria Sonnevend significantly enhanced research activities and postgraduate teaching and supervision. The department at present has six graduate students working in departmental research laboratories. Development of National researchers and faculty remain one of the main focuses of the department. Dr Qahtani is in his final stage of his postdoctoral training at the University of California which has also resulted in a publication in the prestigious journal Nature Immunology.

Under the leadership of Professor al-Ramadi, the department was involved in organization of the 3rd Al Ain International Immunology Meeting. International exposure of the department was enhanced by publications in major journals (most of them published at the beginning of 2009 rather than in 2008), collaboration with major research universities (University of Cambridge, Harvard Medical School, University of Glasgow, etc) and invited editorship of the important journals in our field of research.

Research activities and achievements of the departmental laboratories were as follows:

Professor Basel al-Ramadi - A major focus of research in Professor al-Ramadi's laboratory has been on identifying means by which the innate immune response can be used to boost anti-cancer immunity. They have demonstrated that an attenuated strain of *Salmonella typhimurium*, which has been genetically engineered to express interleukin-2 (IL-2), was

effective in inhibiting the growth of malignant melanoma. They have also shown that this form of immunotherapy is active when given orally, which is of significant benefit as it decreases the toxicity often associated with systemic cytokine therapies. The exact mechanism(s) by which recombinant *Salmonella* strains inhibit tumor growth are not yet fully known. However, evidence to date indicates that the process is independent of T lymphocytes but is dependent on Toll-like receptors (TLRs), implying a critical role for the innate immune response in the anti-tumor effect. A report describing the experimental model system and findings was published recently in *Clinical Immunology* 130:89-97, 2009 (Figure 1).

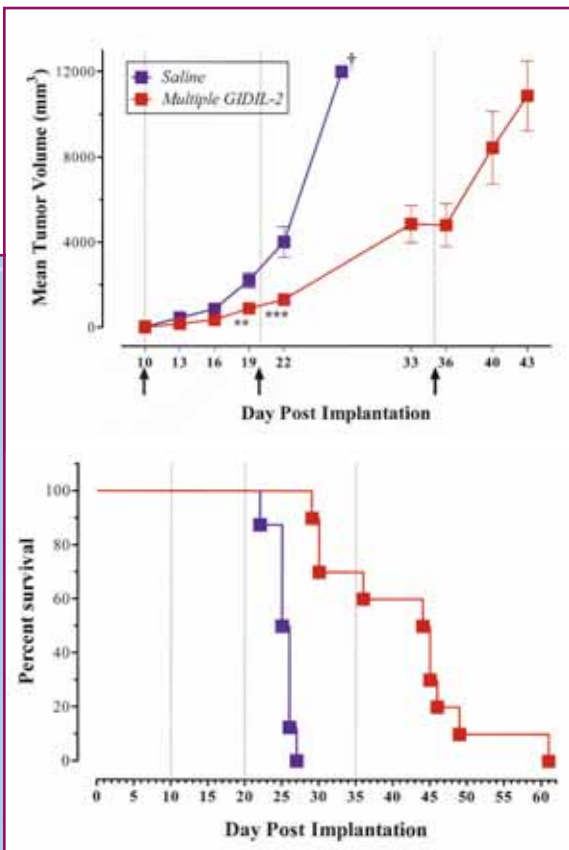


Figure 1: Treatment of B16 melanoma-bearing mice with multiple low doses of IL2-expressing *Salmonella typhimurium* (strain GIDIL2) prolongs host survival and inhibits tumor growth. Tumor-bearing mice were given three i.p. injections at the indicated days (arrows) of either saline or low doses (103-104 per mouse) of the GIDIL2 strain. Tumor volume (A) and animal survival (B) were then followed over the next 60 days. Each data point represents the mean $\pm$ SEM of 8–10 mice per group. Asterisks denote statistically significant differences from saline control group (***, $p < 0.001$; **, $p < 0.01$).

Professor Senarath Dissanayake - Dr. Dissanayake's research interests are in parasite glycan immunobiology and tuberculosis. Current emphasis in glycan immunobiology is on molecular characterization of parasite glycans with respect to upregulation of the transcription factor NF- κ B and signaling effects and mechanisms leading to IFN- γ and IL-6 expression (Figure 2). With respect to IFN- γ , one specific area of research is negative regulation of TLR signaling. Long-term objective is development of synthetic immunoadjuvants with defined Th-1 and Th-2 immunomodulatory properties. Based on the previous finding that terminal, -(1-4) galactose residues on GlcNAc backbones is an epitope regulating IFN- γ (a Th-1 cytokine), a panel of synthetic glycans is being investigated for further development as adjuvants. In tuberculosis research, epidemiological studies are being carried out to determine the source(s) of infection, patterns of transmission and the possible causes of likely re-activation in long-term residents of UAE.

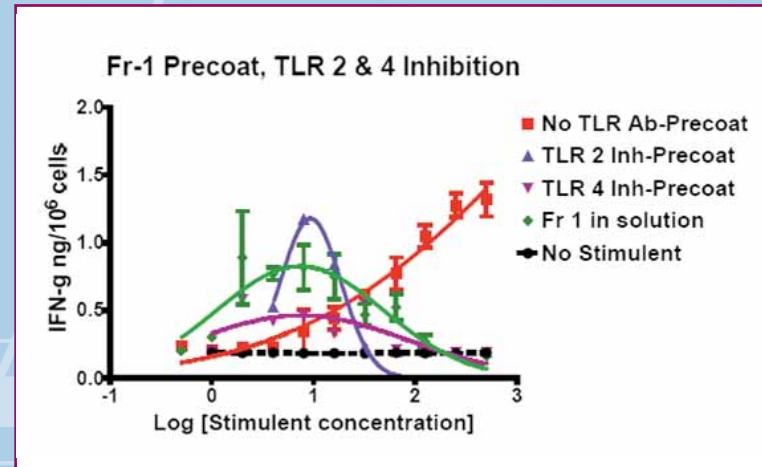


Figure 2: *Taenia crassiceps* glycans were precoated on to 96 well microtitre plates and 2 million mouse spleen cells were added to each well. An antibody to mouse TLR2 was added (blue line, triangles). At lower concentrations of antibody (minimal cross linking), IFN- γ synthesis was stimulated while at higher concentrations of anti-TLR antibody, IFN- γ synthesis was inhibited. This effect was more specific to TLR2, compared to TLR4 (violet). Microtitre plate coated *Taenia* glycans were IFN- γ stimulatory over a 100 fold concentration (green) less than when added in solution (red).

Professor Miodrag Lukic - The main focus of Professor Lukic's laboratory in 2008 was the analysis of the role of galectin-3 in the induction of organ-specific T cell mediated autoimmunity. In the two experimental models, low dose streptozotocin induced diabetes and MOG35-55 peptide induced experimental allergic encephalomyelitis. They have shown that Gal-3^{-/-} mice exhibit significant resistance to the induction of disease (Clinical Immunology 130:83-88, 2009). Molecular and cellular analysis of this resistance demonstrated that galectin-3 preferentially limit IL-10 synthesis by dendritic cells which in turn bases the production of IL-17 and IFN- γ and inhibit development of Th-2 and regulatory cells (J. of Immunology, 182: 1167-1173, 2009) (Figure 3).

The other line of research include the dissection of the role of Th-1 and Th-17 cells and the effect of attenuation of Th-2 signaling in induction of experimental diabetes (Molecular Immunology, in press).

Professor Lukic was mentor of two graduate students in the FMHS Graduate Program. He has co-edited with Professor Ramadi a thematic issue of Clinical Immunology and was Scientific Chair of the 2nd EFIS Meeting on Immunoregulation entitled "Chronic Inflammation at the Interface of Innate and Acquired Immunity".

Professor Tahir Rizvi - The focus of Professor Rizvi's research concerns the basic steps in retroviral replication with the ultimate goal of developing improved retroviral vector systems for human gene therapy. Specifically Prof. Rizvi's laboratory is attempting to unravel how retroviruses/lentiviruses package their genomic RNAs into a virus particle and what are some of the underlying differences in RNA packaging among retroviruses/lentiviruses. Over the years, these studies have included a number of retroviruses/lentiviruses including HIV, SIV, FIV, and MPMV. These studies have been further expanded to include analyses of cross- and co-

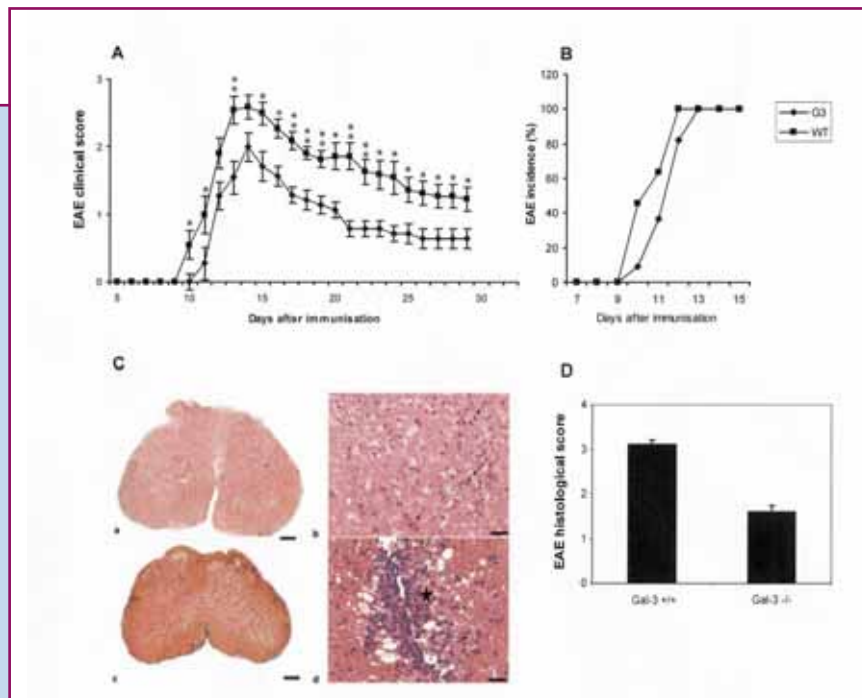


FIGURE 3: Gal-3^{-/-} mice developed less severe EAE than did WT mice. Mice were immunized with MOG35-55 peptide and CFA. A, Clinical scores show that Gal-3^{-/-} mice had a reduced EAE severity. However, all mice in both groups developed EAE (B). Results are mean clinical scores $\pm$ SEM (n = 11/group). *, p < 0.05 and **, p < 0.01, representative of four experiments. C, Pathology of spinal cord sections of WT (a and b) and Gal-3^{-/-} mice (c and d) were examined 18 days after immunization using H&E staining at low (a and c) and high magnification (b and d). WT mice exhibited typical perivascular and subpial infiltrates of different sizes, while Gal-3^{-/-} developed only single cell and rare small subpial mononuclear cell infiltrates. D, Semiquantitative assessment of the histological sections from the spinal cord of WT and Gal-3^{-/-} mice. Ten noncontiguous sections per spinal cord were scored. ***, p < 0.001 (n = 3) - (J. Immunol, 182: 1167, 2009).

packaging among retroviruses/lentiviruses. Over the years, Prof. Rizvi has been able to successfully compete for and acquire both intramural and extramural grant support for his work on retroviruses. Currently Prof. Rizvi holds a prestigious Wellcome Trust Grant in collaboration with Professor Andrew Lever of Addenbrooke's Hospital, University of Cambridge, UK. Prof. Rizvi has been very active in supervising and mentoring both the graduate and undergraduate student. His current studies on RNA packaging have been published in journals of international repute.

Professor Tibor Pal - Since 2008 Professor Pal's laboratory has been engaged in research on antibiotic resistant Gram negative bacteria causing mostly nosocomial infections. The model organism is an opportunistic pathogen, *Acinetobacter baumannii* responsible for an alarmingly increasing number of urinary tract, blood stream, wound

in this country investigating strains collected from five different hospitals (Figure 4). In these studies molecular based typing methods, such as various PCR-based techniques and macro-restriction analysis are being used. The other project aims to reveal the mechanisms of antibiotic resistance in these strains and the regulation how these genes, mostly beta lactamases of various spectra, are expressed. It is anticipated that the results will aid to design and implement better strategies to control the spread of this emerging pathogen.

Dr Gulfaraz Khan joined the department in November 2008. His main research interest is in oncogenic viruses and viral tumour biology, in particular, Epstein-Barr virus (EBV) and its association with human malignancies of epithelial and lymphoid origin. The current projects being pursued in Dr Khan's laboratory are:

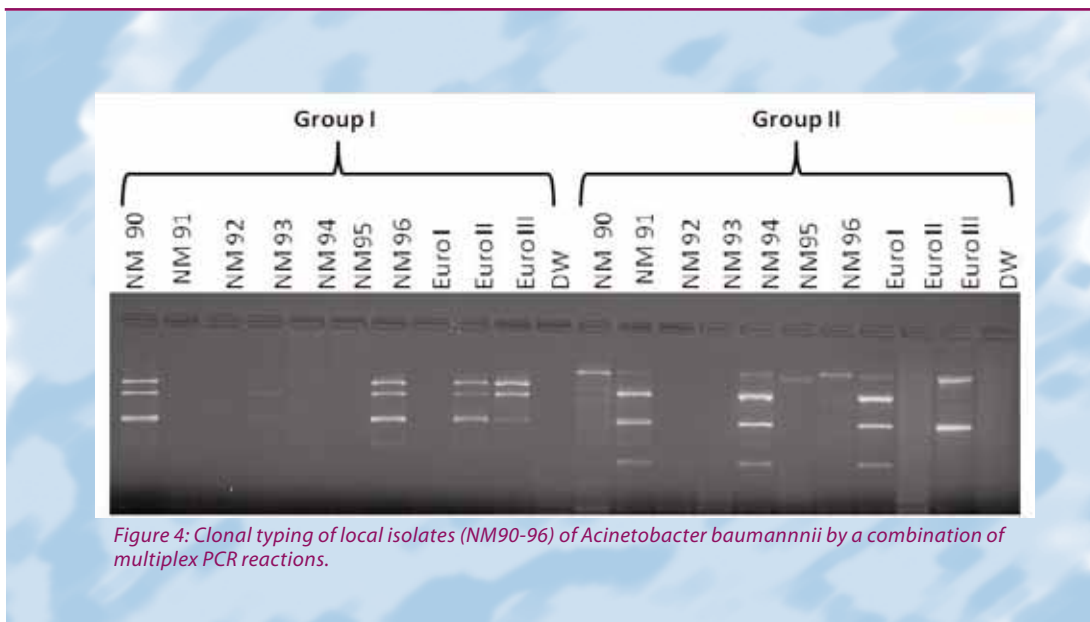


Figure 4: Clonal typing of local isolates (NM90-96) of *Acinetobacter baumannii* by a combination of multiplex PCR reactions.

and pulmonary infections with high mortality. It is a highly clonal organism; the strains causing outbreaks worldwide represent a few genetic lineages only. The outbreak clones are multidrug resistant, often resistant to drugs, such as carbapenems, also considered as last reserves for serious Gram negative infections. In one of our projects we study the clonal distribution of the isolates

(1) The role EBV plays in the pathogenesis of breast cancer and Hodgkin lymphoma.
(2) The mechanisms by which the two abundantly expressed non-protein-encoding EBV RNA molecules (EBER-1 and EBER-2) inhibit apoptosis and promote cell transformation. We have developed a highly plausible model which we are currently testing (Figure 5).

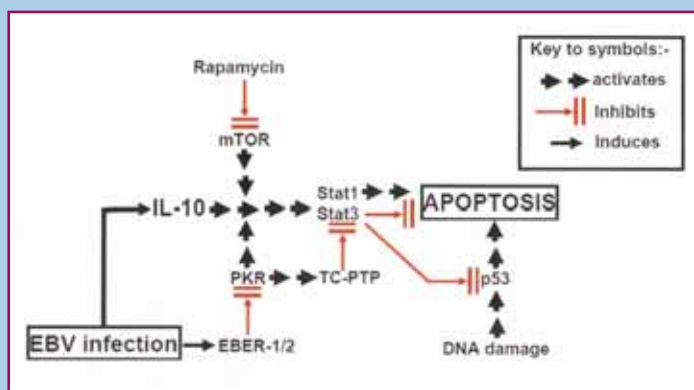


Figure 5: Proposed model for the regulation of apoptosis by the EBERs and PKR. EBV infection results in two important phenomena (amongst many others), viz. high level expression of EBERs -1 and -2 and induction of IL-10. IL-10 activates Stat1, which promotes apoptosis, and Stat3, which inhibits it. The balance between these two opposing activities falls in favour of cell survival. The phosphorylation-dependent activation of the Stats requires PKR activity, although PKR can also cause Stat dephosphorylation via the protein phosphatase TC-PTP. High level expression of the EBERs is suggested to inhibit preferentially the activation of Stat1 and/or the inactivation of Stat3, through the ability of the viral RNAs to prevent PKR activation, favouring the inhibition of apoptosis. Blockade of the mTOR pathway by rapamycin is proposed to favour apoptosis through inhibition of the anti-apoptotic effects of IL-10.

Dr Mariam Al-Shamsi: Dr Al-Shamsi's research interest and activity include:

1. Understanding the role of interleukin-27 (IL-27) anti-inflammatory role of IL-27 during the effector phase in the model of MLD-STZ induced diabetes. So far, our preliminary data shows enhanced diabetes induction in C57BL/6 male mice as presented by elevated blood glucose levels in the experimental mouse groups treated with exogenous recombinant IL-27 as compared to the control group (Figure 6). Our theory based on evidence that IL-27 inhibits autoimmunity by immunoregulating the secretion of the potent pro-inflammatory IL-17 by TH-17 in EAE. In addition, reports in EAE suggested that immunoregulatory role of IL-27 is controlled by time of administration.

2. Studying the role of B lymphocyte induced maturation protein-1 (Blimp-1) in the possible

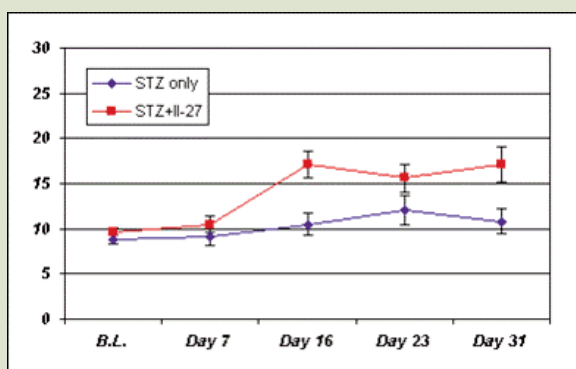
suppression of the development and pathogenesis of Type 1 diabetes either through regulation of IL-10 production from IL-10 producing cells or through regulation of macrophages activation and function.

Dr Agnes Sonnevend:

Dr Sonnevend's laboratory has been interested in the molecular epidemiology of various, mostly antibiotic resistant pathogens. They actively took part in the development of one of the first Multi Locus Sequence Typing system for *Campylobacter jejuni*. Currently, in cooperation with a Hungarian group they are carrying out detailed molecular analysis on human isolates to reveal the role of different topoisomerase mutation in the development of rapidly increasing fluoroquinolone resistance.

When joining the FMHS last year, Dr Sonnevend started investigating the incidence of Panton-Valentine Leukocidin (PVL)-producing *Staphylococcus aureus* (SA) and has found it high in methicillin sensitive SA (MSSA) and methicillin-resistant *S. aureus* (MRSA), as well. Currently the laboratory carries out molecular genetic investigations to find the possible link between the PVL production in the two groups i.e. the antibiotic sensitive and resistant groups of strains. Also, they are investigating the possible role of biofilm formation in association of PVL production in methicillin-sensitive as well as methicillin-resistant *S. aureus*.

Beyond that is cooperation with Prof. Michael Conlon, Department of Biochemistry, to study the effect of various peptides on different microorganisms.



ARTICLES IN PEER-REVIEWED JOURNALS

al-Ramadi BK, Fernandez-Cabezudo MJ, El-Hasasna H, Al-Salam S, Attoub S, Xu D, Chouaib S. (2008). Attenuated bacteria as effectors in cancer immunotherapy. *Annals New York Academy of Sciences*. 1138:351-357.

Ellis M, al-Ramadi B, Finkelman F, Hedstrom U, Kristensen J, Alizadeh H, Klingspor L. (2008). Assessment of the clinical utility of serial α -D glucan concentrations in patients with persistent neutropenic fever. *Journal of Medical Microbiology* 57: 287-295.

Fernandez-Cabezudo MJ, Azimullah S, Nurulain SM, Mechkarska M, Lorke DE, Petroianu GA, al-Ramadi BK. (2008). The organophosphate Paraoxon has no demonstrable effect on the murine immune system following subchronic low dose exposure. *Int. J. Immunopathology & Pharmacology* 21:891-901.

Kenyon JC, Ghazawi A, Cheung WKS, Phillip PS, Rizvi TA, Lever AML. (2008). The secondary structure of the 5' end of the FIV genome reveals a long range interaction between R/U5 and gag sequence, and a large, stable stem loop. *RNA*, 14: 2597-2608, 2008.

Nagy G, Pál T. (2008). Lipopolysaccharide: a tool and target in enterobacterial vaccine development. *Biological Chemistry* 389:513-520.

Nagy G, EmCedy L, Pál T. (2008). Strategies for the development of vaccines conferring broad-spectrum protection. *Int. J. Med. Microbiol*, 298:379-395.

Nagy G, Palkovics T, Otto A, Kusch H, Kocsis B, Dobrindt U, Engelmann S, Hecker M, Emödy L, Pál T, Hacker J. (2008). "Gently Rough": The Vaccine Potential of a *Salmonella enterica* Regulatory Lipopolysaccharide Mutant. *J Infect Dis*. 198:1699-1706

Rotimi VO, Jamal W, Pál T, Sonnevend A, Dimitrov TS, Albert MJ. (2008). Emergence of multidrug-resistant *Salmonella* spp. and isolates with reduced susceptibility to ciprofloxacin in Kuwait and the United Arab Emirates. *Diagn Microbiol Infect Dis*. 60:71-7.

Rotimi VO, Jamal W, Pál T, Sonnevend A, Dimitrov TS, Albert MJ. (2008). Emergence of CTX-M-15 type ESBL producing *Salmonella* spp. in Kuwait and the United Arab Emirates. *J Med Microbiol* 57:881-886.

Saadi H, Nagelkerke N, Carruthers SG, Benedict S, Abdulkhalik S, Reed R, Lukic, M Nicholls MG. (2008). Association of TCF7L2 polymorphism with diabetes mellitus, metabolic syndrome, and markers of beta cell function and insulin resistance in a population-based sample of Emirati subjects. *Diabetes Research and Clinical Practice* 80: 392 – 398.

Books, Chapters, Reviews and Editorials

al-Ramadi B, Hayday A, Schwaeble W. (2008). Immunology in the Arabian desert. *Nature Immunology* 9:699-703.

PROCEEDINGS, CONFERENCES, INVITED LECTURES, WEB SITES AND OTHERS

Al Dhaheri N, Al Shamsi N, Al Awadi F, Rizvi TA. (2008). Cross Packaging of Mouse Mammary Tumor Virus (MMTV) RNA by Mason-Pfizer Monkey Virus (MPMV): Implications

for the Use of MMTV Vectors in Human Gene Therapy. Presented at the Fifth Scientific Conference for GCC Medical Students, Bahrain.

al-Ramadi B. (2008). Immunotherapy of Cancer. 5th Dubai International Conference for Medical Sciences, Dubai, UAE.

al-Ramadi B. (2008). Tumor Immunotherapy Using Cytokine-Expressing Bacteria. 3rd Al Ain International Immunology Meeting, Al Ain, UAE.

Al Dhaheri N, Al Shamsi N, Al Awadi F, Rizvi TA. (2008). Reciprocal Packaging of Mouse Mammary Tumor Virus (MMTV) by Heterologous Mason-Pfizer Monkey Virus (MPMV) Proteins. Presented at the Ninth UAE University Annual Research Conference, Al Ain.

El-Hasasna H, Fernandez-Cabezudo MJ, Al-Salam S, Bashir G, Attoub S, Chouaib S, al-Ramadi BK. (2008). The anti-tumor activity of systemically-administered IL2-expressing *Salmonella* correlates with decreased angiogenesis and enhanced tumor apoptosis. The 3rd Al Ain International Immunology Meeting, Al Ain, United Arab Emirates.

El-Hasasna H, Fernandez-Cabezudo MJ, El-Wasila M, Al-Salam S, Bashir G, Chouaib S, al-Ramadi BK. (2008). Oral administration of TNF- α -expressing *Salmonella* inhibits melanoma cell growth and prolongs host survival independent of intra-tumoral bacterial accumulation. The 3rd Al Ain International Immunology Meeting, Al Ain, United Arab Emirates.

Fernandez-Cabezudo MJ, Ullah A, Nurulain SM, al-Ramadi BK, Petroianu, GA. (2008). Assessment of immunologic parameters following exposure to organophosphate-containing pesticides. The 3rd Al Ain International Immunology Meeting, Al Ain, United Arab Emirates.

Fernandez-Cabezudo MJ, Mechkarska M, al-Ramadi BK. (2008). Modulation of macrophages pro-inflammatory functions by cytokine-expressing bacteria. *Frontiers in*

Immunology Research International Meeting. Florence, Italy.
Khan G. (2008). Hodgkin Lymphoma and Cervical Lymphadenopathy. Pak J Med Sci. 24: 348-350.

Kenyon JC, Ghazawi A, Rizvi TA, Lever AML. (2008). The FIV Packaging Determinants: A Structure/Function Analysis. RNA Meeting, Berlin.

Kenyon JC, Ghazawi A, Rizvi TA, Lever AML. (2008). The FIV Packaging Determinants: A Structure/Function Analysis. Society for General Microbiology Meeting, Edinburgh.

Mechkarska M, al-Ramadi BK, and Fernandez-Cabezudo, MJ. (2008). Invasion-independent modulation of macrophage activation by bacteria-expressed cytokines. The 3rd Al Ain International Immunology Meeting, Al Ain, United Arab Emirates.

Ojali SM, Ullah A, Bashir G, El-Hasasna H, Fernandez-Cabezudo MJ, al-Ramadi BK. (2008). Enhancement of immune responsiveness by attenuated interferon gamma-expressing Salmonella vaccine. The 3rd Al Ain International Immunology Meeting, Al Ain, United Arab Emirates.

Ullah A, El-Hasasna H, Mechkarska M, R. Flavell, Fernandez-Cabezudo MJ, al-Ramadi BK. (2008). Role of MyD88 expression and TLR signaling in immunity to Salmonella infection. The 3rd Al Ain International Immunology Meeting, Al Ain, United Arab Emirates.

RESEARCH GRANTS

FMHS New Research Grant

Prof. B. K. al-Ramadi [PI].
The role of Toll-like receptors in host defence against microbial infections. [2006-2008]

Prof. T Pal [PI].
Geno-, and phenotyping of atypical Enteropathogenic Escherichia coli isolated in the UAE

[2008].

Prof. TA Rizvi [PI].
Role of the Intervening Sequences between the Major Packaging Determinants of Mason-Pfizer Monkey Virus (MPMV) in RNA Packaging and Propagation [2007-2008]

Dr A Sonnevend [PI].
Incidence and characteristics of Panton-Valentine Leukocidine positive Staphylococcus aureus in Al Ain [2008-2009].

Dr A Sonnevend [PI].
Prevalence of different pheno- and genotypes of macrolide-lincosamide-streptogramin B resistance among Staphylococcus aureus clinical isolates in Al Ain.[Seed Grant]

Dr G Khan [PI]. Establishment of a sensitive protocol for the detection of EBV in paraffin-embedded material for investigating the role of the virus in the pathogenesis of EBV-associated Hodgkin lymphoma. [Seed Grant]

UAEU individual Grant 2008

Prof TA. Rizvi [PI].
Role of FIV Gag stem loop structure in RNA packaging and propagation: Implications for the design of FIV-based vectors for human gene therapy.

Prof ML Lukic [PI].
Galectin-3 in Autoimmune Inflammation in the Central Nervous Systems.

UAEU Interdisciplinary Grant 2008

Prof ML Lukic [PI].
Galectin-3 in Autoimmune Inflammation in the Central Nervous Systems.

Hamdan Award Medical Research Grant 2008

Prof ML Lukic [PI].
Roles of Th-1 and Th-17 cells in the pathogenesis of diabetes: an analysis in multiple low dose

streptozotocin induced diabetes and spontaneous diabetes in NOD mice.

Terry Fox Cancer Research Grant 2008

Prof BK al-Ramadi [PI].
Cytokine-expressing Salmonella strains as effective biological therapy against cancer: analysis of the mechanisms underlying the inhibition of tumor growth.

Others

Arab Science & Technology Foundation, Sharjah, UAE.

Dr H El-Taji & Prof BK al-Ramadi [PIs].
Evaluation of the effect of honey alone or in combination with standard chemotherapy on inhibition of proliferation and viability of estrogen receptor-negative breast cancer cell line.

Wellcome Trust Collaborative Project Grant

Prof TA Rizvi and Dr A Lever [PIs].
Structure and Function Analysis of RNA Packaging in the Lentivirus FIV.

Standing left to right: **Jahabar Ali, Allen Shahin, Ahmed El-Haj, Ahmed Al-Hakim, Tibor Pal, Basel al-Ramadi, Tahir Rizvi, Hashik Majeed**
Seated left to right: **Professor M L Lukic (Chairman), Pretty Susan Philip, Nawal Juma, Maureen Dawood, Erika Zilahi, Preethi Jayanth, Senarath Dissanayake,**

Microbiology



<http://www.fmhs.uaeu.ac./Department of Microbiology/Immunology>
Tel: 7672000 / Fax: 7671966



DEPARTMENT of OBSTETRICS & GYNAECOLOGY

RESEARCH Profile

The Research interests in the department are in Obstetrics, Fetal Medicine, and Minimal Access Gynaecology Surgery, Women's Health Education and Awareness.

Obstetrics

a) Pathophysiology of Pregnancy

Professor M. Ezimokhai is interested in Pathophysiology of Pregnancy and medical disorder in Pregnancy. Expertise is in working with vascular and uterine smooth muscles.

b) Fetal Medicine

Dr. H. Mirghani's major area of research interest is

- Fetal response to maternal fasting and maternal blood glucose
- Research interest in Fetal changes in GDM.
- Interest in ultrasound training and assessment. We have demonstrated for the first time the use of cumulative sum (CUSUM) analysis in assessing trainees' proficiency at fetal biometry measurements.
- Fetal anomalies

c) Minimal Access Gynaecology Surgery, Women's Health Education and Awareness,

Dr. S. George is interested in

- women's Health Education and awareness.
- Special interest in Endometriosis, Polycystic Ovary Syndrome and infertility,
- Contraception and Urogynecology,
- All Gynecologic laparoscopic and hysteroscopic surgeries.

Professor & Chair
Prof Mutairu Ezimokhai
Associate Professor:
Dr Hisham Mirghani
Assistant Professor:
Dr Sami J George
Teaching Assistant:
Dr Munira Mohammed
Medical Research
Specialist:
Dr Nawal Osman
Research Nurse:
Mrs Flora D Lone
Medical Secretary:
Ms Kamala Manickam
Secretary:
Mrs Jiji George

ARTICLES IN PEER-REVIEWED JOURNALS

Hamdan MA, Almalik MH, Mirghani HM. (2008). Early administration of enzyme replacement therapy for Pompe disease: Short-term follow up results. *J Inherit Metab Dis*;Dec 12. (Epub ahead of print).

Lammers WJ, Mirghani H, Stephen B, Dhanasekaran S, Wahab A, Al Sultan MA, Abazer F. (2008). Patterns of electrical propagation in the intact pregnant guinea pig uterus. *Am J Physiol*, March;294(3): R919-R928.



PROCEEDINGS, CONFERENCES, INVITED LECTURES, WEB SITES AND OTHERS

Mirghani H, Bekdache G, Begum M, Khan F. (2008). Fetal body measurement in gestational diabetes. 18th World Congress on Ultrasound in Obstetrics & Gynecology. Chicago, USA (Poster), August 24th – 28th 2008.

Mirghani H. (2008). Management of IUGR. Fetal Medicine: A multidisciplinary approach. International meeting for World Association of Perinatal Medicine, Khartoum, Sudan, 14-16 November 2008.

George S. (2008). Pelvic floor dysfunction. Role of Laparoscopy in Gynaecology. Arab Health Congress organized by Dubai International Convention and Exhibition, Dubai, UAE.

George S. (2008). Expert Meeting, Mirena IUD, Rome, Italy.



2008
Obs & Gyn

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DEPARTMENT of PAEDIATRICS

RESEARCH PROFILE

Genetics/Birth Defects

(including Neuro-Genetics)

The department has a strong research interest in the area of birth defect/dysmorphology and brain malformations including nervous system dysgenesis. Several disorders have been studied at the clinical and molecular level.

For example, familial and sporadic forms of cerebral dysgenesis were studied and a new type of agyria-pachygyria associated with agenesis of corpus callosum was characterized, a severe form of a syndrome of myotonia and bone dysplasia [Stüve-Wiedemann Syndrome (SWS)] was identified to be common in the population of the UAE. Founder mutation in the Leukemia inhibitory factor receptor (LIFR) was found in all families affected with SWS in this population. A birth defect registry for Al Ain Medical District was established by the department, which has gained membership of the International Clearing House for Birth Defects. Several studies from this register were published identifying the incidence and pattern of the various types of birth defects in this population together with establishing risk factors involved in their etiology.

In addition, the group has been investigating the reasons why some anti-epileptic drugs (vigabatrin, lamotrigine) ingested by women during pregnancy cause neural tube and other defects. Departmental researches have already established that these drugs are teratogenic. It was established that methionine was 5 times lower in embryo of treated pregnant mice than in non-treated controls. Studies are ongoing to determine the impact of folic acid and vitamin B12 supplementation on the frequency of occurrence of anomalies in animal models.

Aflatoxins are commonly found in nuts, grains and have been found to be increased in pregnant women and their offspring. Study is ongoing to determine teratogenic effects of aflatoxins in mice.

Professor & Chair:

Prof P Sasidharan

Professor:

Prof Y M Abdulrazzaq

Prof A Souid

Prof L Al-Gazali

Prof S A Uduman

Associate Professor:

Dr E Aburawi

Dr S Bharwani

Dr H Narchi

Assistant Professor:

Dr S Al-Hammadi

Dr F Al-Jasmi

Dr R Al- Mahmoud

Dr M Al-Samri

Dr A Al-Suwaidi

Dr G Balhaj

Research Medical

Specialist:

Mr T Pramathan

Mr J Kochiyil

Research Assistant:

Ms A Al-Kendi

Medical Secretary:

Ms R Clemente

Secretary:

Ms M Al-Badwawi

The department is also interested in mapping recessive genetic disorders using the concept of homozygosity mapping, particularly disorders which are common or unique to this population. For example, a gene for Joubert syndrome, which seems to be common in Arabs, was mapped to chromosome 9q34.3 and genetic heterogeneity was established. Subsequently other genes for Joubert Syndrome were mapped and mutations were identified in families from UAE. Another new type of epiphyseal dysplasia was described in a family from UAE and a gene was mapped to chromosome 15q26. Several other disorders are currently being investigated using the same concept.

Metabolic disorders are common in the UAE. The department is active in establishing the prevalence of different metabolic disorders in the UAE population.

An ongoing study aims to determine prevalence of alcaptonuria within UAE population.

Perinatal nutrition and nutritional disorders

The department is involved in studies on micronutrients abnormalities in pregnancy and the effect on the fetus/newborn. The preliminary results suggest that micronutrient deficiency is common in pregnancy and outcome studies are in progress.

The department has been active through the years in experiments involving amino acids levels at different ages in the UAE population and showed that some amino acids were abnormally high in newborn infants using the then available parenteral amino acid solution. This led to a change in the solutions used in the Medical District.

The group working on reproductive toxicology has established that aflatoxin (a fungus toxin) contamination of foods is very common, and that aflatoxins have been detected in blood of pregnant women and their offspring in larger amounts than is acceptable. Measurement of aflatoxin in breast milk of lactating mothers is in progress. The results will give a much clearer picture of exposure of infants to aflatoxins.

Vitamin D status among pediatric population in UAE

This population based study will reveal the

status of Vitamin D levels among adolescents and female pediatric patients in UAE. Since Vit. D has a pluripotent role in the body and has been found to be deficient among women and newborns in UAE (from previous studies from our department), this important project will provide information which will lead to interventional studies in the future.

Role of Vitamin D in Lung Development

Since the majority of alveolar development occurs postnatally, the interaction between Vit. D and factors responsible for alveolarization, particularly VEGF will be studied. Thus the role of Vit. D in the epithelial and mesenchymal interactions during early lung development will be investigated. This study has significant clinical implications in Pediatrics as abnormal lung development and airway reactivity frequently lead to significant morbidity in later life. We have observed a very high incidence of asthma among the pediatric population in Al Ain.

Other areas of research

Other areas of research include clinical and immunological aspects of hepatitis C, seroepidemiology and neonatal screening of CMV and other congenital infections. Clinical research in neurology includes profile of epilepsy and drug therapy of epilepsy in the UAE as well as brain imaging and epidemiology of cerebral palsy.

Other activities of the department include establishing normal growth charts for children from the UAE from ages 0-18 years, and the size at birth of infants born to UAE nationals. These growth charts will provide the first standards for assessing intrauterine and postnatal physical growth of UAE newly born infants and children. The role of food allergy and airway reactivity is another area of interest in our department. This is being investigated in a population based approach.

Factors responsible for inflammatory bowel disease in the pediatric population is an area of interest and studies on animal models are being initiated now.

Outcomes of prematurity, especially in the very-low birthweight and extremely low birthweight groups in the local population.

ARTICLES IN PEER-REVIEWED JOURNALS

- Abdulrazzaq YM, Al Kendi A, Nagelkerke N (2008). Child Care Practice in the United Arab Emirates: The ESACCIPS study. *Acta Paediatrica*; 97: 590–595.
- Abdulrazzaq YM, Moussa M, Nagelkerke N (2008). National Growth Charts for the United Arab Emirates. *Journal of Epidemiology*; 18(6):295-303.
- Abdulrazzaq YM, Osman N, Kosanovic M, Adem A (2008). Trace element content in plasma and breast milk of well nourished women. *J Environ Sci Health* 2008; A43 (5):329-334.
- Al-Gazali L, Hertecant J, Algawi K, El Terafi H (2008). A new autosomal recessive syndrome of ocular colobomas, Ichthyosis, brain malformations and endocrine abnormalities in an inbred emirati family. *Am J Med Genet Part A*, 146A:813-819.
- Amirlak I, Al Dhaheri W, Narchi H (2008). Dilated cardiomyopathy secondary to nutritional rickets. *Ann Trop Paediatr.*, 28:227–230.
- Amirlak I, Narchi H (2008). Isolated orbital pseudotumor as the presenting sign of systemic lupus erythematosus. *J Pediatr Ophthalmol Strabismus*, 45(1):51-54.
- Brancati F, Travaglini L, Zablocka D, Boltshauser E, Accorsi P, Montagna G, Silhavy JL, Barrano G, Bertini E, Emma F, Rigoli L, International JSRD Study Group, Dallapiccola B, Gleeson JG, Valente EM (2008). RPGRIP1L mutations are mainly associated with the cerebello-renal phenotype of joubert syndrome – related disorders. *Clin Genet.*, 74(2):164-170.
- Cantegrel V, Silhavy JL, Bielas SL, Swistun D, Marsh SE, Bertrand JY, Attie-Bitach T, Holden KR, Dobyns WB, Traver D, Al-Gazali L, Ali BR, Linder TH, Caspary T, Otto EA, Hildebrandt F, Gooding C, Johnson CA, Bennett C, The International Joubert Syndrome Related Disorders (JSRD) Study Group, Valente EM, Woods CG, Gleeson JG (2008). Mutations in the cilia gene ARL13B lead to Joubert syndrome and related disorders. *Am J Hum Genet.*, 83(2):170-179.
- Dawodu A, Bener A, Koutouby GA, Varady E, Abdulrazzaq Y (2008). Size at birth in a rapidly developing economy: Intrauterine growth pattern of UAE infants born to healthy mothers. *Annals of Human Biology*; 35(6): 615 – 623.
- Hatchette T, Tipples G, Peters G, Alsuwaidi A, Zhou J, Mailman T (2008). Foscarnet Salvage Therapy for Acyclovir-Resistant Varicella Zoster: Report of a Novel Thymidine Kinase Mutation and Review of the Literature. *Pediatric Infectious Diseases Journal*; 27(1).
- Khetyar M, Tinworth L, Syrris P, Abushaban L, Abdulazzaq Y, Silengo M, Carvalho J, Carter N (2008). NKX2.5/NKX2.6 Mutations are not a Common Cause of Isolated Type 1 Truncus Arteriosus in a Small Cohort of Multiethnic Cases. *Genet Test*; 12(4):467-469.
- Kosanovic M, Adem A, Jokanovic M, Abdulrazzaq YM (2008). Simultaneous determination of cadmium, mercury, lead, arsenic, copper and zinc in human breast milk by ICP-MS/microwave digestion. *Analytical Letters*; 41(3):406 – 416.
- Murthy SK, Malhotra AK, Jacob PS, Naveed S, Al-Rowaished EEM, Mani S, Padariyakam S, Pramathan R, Lyndell S, Nath R, Ridha A, Al-Ali MT, Al-Gazali L (2008). Anaploid supernumerary marker chromosome characterized by array-CGH and FISH as inv dup (3)(qter-q26.1::q26.1-qter) in a child with dysmorphic features and streaky pigmentation. *Molecular Cytogenetics*, 1(1):19.
- Narchi H, Al Marah M (2008). Does vesicoureteral reflux increase antibiotic resistance in pediatric urinary tract infections. *MAM. Paediatrics me*; 13 (4): 91-94.
- Narchi H, Al-Hamdani M (2008). First and recurrent pediatric urinary tract infections: do they have different antibiotic susceptibilities?" *J Chemother*, 20(4):472-7.
- Narchi H, Basak R (2008). Bacterial tracheitis- Not always primary. *Turk J Pediatr*, 50: 409-411.
- Narchi H, Donovan R (2008). Renal power doppler ultrasound does not predict renal scarring after urinary tract infection. *Scot Med J*, 53(4):7-10.
- Narchi H (2008). Assessment and management of non-nephrotic range proteinuria in children. *Sri Lanka Journal of Child Health*; 37: 85-92.
- Padmanabhan R, Abdulrazzaq YM, Bastaki SMA, Shafiullah MM (2008). Intrauterine Growth Restriction and Skeletal Variations in Mouse Fetuses Induced by Vigabatrin Administered at Preimplantation Stages of Development. *Congenit Anom*; 48(1):29-39.
- Rauch A, Theil CT, Schindler D, Wick U, Crow YJ, Ekici AB, van Essen AJ, Goecke TO, Al-Gazali L, Chrzanowska KH, Zweier C, Brunner HG, Becker K, Curry CJ, Dallapiccola B, Devriendt K, Dorfler A, Kinning E, Megarbane A, Meinecke P, Semple RK, Spranger S, Toutain A, Trembath RC, VoB E, Wilson L, Hennekam R, de Zegher F, Dorr HG, Reis A (2008). "Mutations in the pericentrin (PCNT) gene cause primordial dwarfism." *Science*, 319(5864):816-819.
- Sasidharan P (2008). Evaluation of Newborn Cyanosis. *BMJ Monograph*, July 2008.
- Sugimoto N, Rui T, Yang M, Bharwani S, Handa O, Yoshida N, Yoshikawa T, Kvietys PR (2008). Points of control exerted along the macrophage-endothelial cell-polymorphonuclear neutrophil axis by PECAM-1 in the innate immune response of acute colonic inflammation. *J Immunol*; 181(3):2145-54.
- Suryadevara M, Schurman SJ, Landas SK, Philip A, Gerlach CB,

Tavares T, Souid A-K (2008). Systemic calciphylaxis. *Pediatric Blood and Cancer*; 51:548-550.

Tao Z, Goodisman J, Souid A-K (2008). Oxygen measurement via phosphorescence: reaction of sodium dithionite with dissolved oxygen. *The Journal of Physical Chemistry A*; 112:1511-1518.

Tao Z, Jones E, Goodisman J, Souid A-K (2008). Quantitative measure of cytotoxicity of anticancer drugs and other agents. *Analytical Biochemistry*; 381:43-52.

Tao Z, Morrow MP, Asefa T, Sharma KK, Duncan C, Anan A, Penefsky HS, Goodisman J, Souid A-K (2008). Mesoporous silica nanoparticles inhibit cellular respiration. *Nano Letter*; 8:1517-1526.

van Haelst MM, Maiburg M, Baujat G, Jadeja S, Monti E, Bland E, Pearce K, Fraser Syndrome Collaboration Group, Hennekam RC, Scambler PJ. (2008). Molecular study of 33 families with Fraser syndrome new data and mutation review. *Am J Med Genet*, 146A(17):2252-2257.

Books, Chapters, Reviews and Editorials

Bou Aram B, Souid A-K (2008). Hemolytic uremic syndrome. In: Baren JM, Rothrock SG, Brennan JA, Brown L, eds: *Pediatric Emergency Medicine*. 1st ed. Saunders (Elsevier); 927-930.

Hingre B, Reiners CH, Souid A-K (2008). Newborn evaluation. In: Ebell MH, Editor: *Evidence At Hand* (John Wiley & Sons).

Ross AM, Bharwani S, Gastrointestinal Disorders. In: Alario AJ, ed., *Practical Guide to the Care of the Pediatric Patient*: Mosby Elsevier, Inc., 2nd Edition August; 433-469.

Sadowitz PD, Souid A-K (2008). Acute childhood immune thrombocytopenic purpura and other platelet disorders. In: Baren JM, Rothrock SG, Brennan JA, Brown L, eds: *Pediatric Emergency Medicine*. 1st ed. Saunders (Elsevier); 912-916.

Sadowitz PD, Souid A-K (2008). Cancer and cancer-related complications in children. In: Baren JM, Rothrock SG, Brennan JA, Brown L, eds: *Pediatric Emergency Medicine*. 1st ed. Saunders (Elsevier); 905-911.

Souid A-K, Rosales LG, Bou Aram B (2008). Utilizing blood bank resources, transfusion reactions and complications. In: Baren JM, Rothrock SG, Brennan JA, Brown L, eds: *Pediatric Emergency Medicine*. 1st ed. Saunders (Elsevier); 931-935.

Souid A-K (2008). Disorders of coagulation. In: Baren JM, Rothrock SG, Brennan JA, Brown L, eds: *Pediatric Emergency Medicine*. 1st ed. Saunders (Elsevier); 917-926.

Published Abstracts, Letters, Correspondence

Narchi H, Skinner A, Williams B (2008). Small for gestational age neonates- Are we missing some by only using standard population growth standards- and does it matter? Abstracts of the XXI European Congress on Perinatal Medicine, 2008. In: the *Journal of Maternal-Fetal and Neonatal Medicine*; 21(1): 52-53.

PROCEEDINGS, CONFERENCES, INVITED LECTURES, Web Sites AND Others.

Abdulrazzaq YM. (2008). Alkaptonuria in the UAE: XXI European Congress of Perinatal Medicine Istanbul, Turkey, September 10 - 13, 2008.

Abdulrazzaq YM. (2008). Breast feeding in Premature infants, The 5th Arab Neonatal Forum Conference, Bahrain, 15-17 January 2008.

Abdulrazzaq YM. (2008). Ghostwriting- a bane or a boon? The Fourth Regional Conference on Medical Journals in the Eastern Mediterranean Region, Kingdom of Bahrain, 5-7 November 2008.

Abdulrazzaq YM. (2008). Neonatal database, comparison with that of Vermont Oxford Network, 10th anniversary of the National Collaboration Perinatal Neonatal Network, Beirut, Lebanon, 20-22 November 2008.

Abdulrazzaq YM. (2008). R58fs mutation in HGO gene in a family in the UAE. 2nd Al-Ain International Genetics Conference, Al Ain, UAE, 28-30 October 2008.

Abdulrazzaq YM. (2008). Random Sample Screening and Genotyping Confirming an Old Mutation of an Old Disease. 2nd Congress of the European Academy of Paediatrics-EAP, Nice, France, 24-28 October 2008.

Abdulrazzaq YM. (2008). Feeding in Premature infants, 1st RAK PanArab congress in pediatric gastroenterology, Hepatology and Nutrition, Ras Al Khaima, 11-13 March 2008.

Abdulrazzaq YM. (2008). Late preterm infants and their complications, 10th anniversary of the National Collaboration Perinatal Neonatal Network, Beirut, Lebanon, 20-22 November 2008.

- Al-Awadhi AM, Al-Suwaidi SS, Hume AN, Buttgerit John, Bader A, Al-Gazali L, Ali BR (2008). Defective Cellular Trafficking of NPR-B is the Major Mechanism Underlying Anomeromelic Dysplasia Maroutex Type. International Genetic Conference, Al Ain, Oct. 27-30, 2008.
- Al-Gazali L. (2008). Autosomal Recessive Disorders: The UAE Perspective. International Genetic Conference, Al Ain, Oct. 27-30, 2008.
- Al-Gazali L. (2008). Autosomal Recessive Disorders: an overview from the UAE. French Academy of Science, March 2008.
- Al-Gazali L, Akawi NA, Shather B, Kaplan N, Algawi K, Ali BR. (2008). Anterior Segment Anomalies of the eye Growth Retardation Associated with Hypoplastic Pituitary Gland and Endocrine Abnormalities: Jung Syndrome or a New Syndrome? International Genetic Conference, Al Ain, Oct. 27-30, 2008.
- Al-Hammadi S (2008). Prevalence of Food Allergy Among Children of Al Ain City, UAE. The 9th ARC, UAE University, Al Ain City, UAE.
- Al-Hammadi S (2008). Food Allergy (2008). The 2nd Annual Pediatric Conference of Tawam-Johns Hopkins Medicine, Al Ain City.
- Al-Hammadi S (2008). Bronchial Asthma in Children. The 3rd Yemeni-Saudi Conference of Clinical Immunology and Allergology, Sana'a, Yemen.
- Al-Hammadi S (2008). Natural History of Atopic Diseases (Allergic March). The 3rd Yemeni-Saudi Conference of Clinical Immunology and Allergology, Sana'a, Yemen.
- Al Harbi S, Alsuwaidi A, Casseele P, Aranetta R. (2008). Adenovirus Lower respiratory tract infections in children: 15 years Manitoba experience. 85th annual conference of the Canadian Pediatric Society, June 2008, Victoria, BC, Canada.
- John A, Hertecant J, Al-Gazali L, Karuvantherida NS, Ali BR. (2008). A novel Mutation in ARG1 gene is Responsible for Arginase Deficiency in an Asian family from UAE. International Genetic Conference, Al Ain, Oct. 27-30, 2008.
- Langer RD, Al-Gazali L, Raupp P, Varady E. (2008). Radiographic findings in Newborns and Survivors with Stuve-Wiedemann Syndrome. International Genetic Conference, Al Ain, Oct. 27-30, 2008.
- Narchi H. (2008). Constipation and defecation disorders in childhood. 11th Annual Congress of the Sri Lanka College of Paediatricians. Kandy, Sri Lanka, June 2008.
- Narchi H. (2008). Non-nephrotic range proteinuria. 11th Annual Congress of the Sri Lanka College of Paediatricians. Kandy, Sri Lanka, June 2008.
- Narchi H. (2008). Recent advances in the diagnosis of tuberculosis. 11th Annual Congress of the Sri Lanka College of Paediatricians. Kandy, Sri Lanka, June 2008.
- Narchi H. (2008). Large for gestational age neonates- are we diagnosing them all by using standard population growth standards? 2nd Congress of the European Academy of Paediatrics (EAP). Nice, France, October 2008.
- Narchi H. (2008). Which red blood cell indices better indicate iron deficiency in a population with a high prevalence of alpha thalassaemia? 2nd Congress of the European Academy of Paediatrics (EAP). Nice, France, October 2008.
- Narchi H. (2008). Third trimester antenatal ultrasound scan and foetal urinary tract anomalies. 9th Annual Research Conference, United Arab Emirates University, Al Ain, UAE, April 2008.
- Narchi H. (2008). Renal scarring after UTI and renal power ultrasound. 9th Annual Research Conference, United Arab Emirates University, Al Ain, UAE, April 2008.
- Narchi H. (2008). Changes in antibiotic resistance of uropathogens. 9th Annual Research Conference, United Arab Emirates University, Al Ain, UAE, April 2008.
- Narchi H. (2008). Small for gestational age neonates- are we missing some by only using standard population growth standards and does it matter? XXI European Congress of Perinatal Medicine. Istanbul, Turkey. September 2008.
- Pober BR, Noonan KM, Al-Gazali L, Bieth E, Chassning C, Clark R, Coletti C, Devriendt K, Donnai D, Furey A, Golabi M, Graham JM, Holder S, Hofer H, Norner M, Kantarei S, Lacassie Y, Longoni M, Mcpherson E, Prescott K, Ragee N, Russel M, Scott DA, Teebi A, Toriello H, van der Crabben SN, Yates L, Donahoe PK (2008). Findings amongst LRP2 Mutation Positive versus LRP2 Mutation Negative Cases Referred for the Diagnosis of Donnai-Barrow Syndrome. Manchester Birth Defect Conference, Manchester, UK, Oct. 2008.
- Sasidharan P (2008). Role of Antenatal Steroids in women at 32-34 wks of gestation: neonatal outcome. Annual meeting of the PAS at Honolulu, May, 2008.
- Sasidharan P, Al Haqani N. (2008). Impact of the introduction of a Private Health Care Insurance on Pediatric Health care Delivery in a developing country. Annual PAS meeting at Honolulu, May 2008.
- Sasidharan P, Saleh L, Salman N. (2008). Role of Palivizumab administration when there is an RSV outbreak in the NICU: short term neonatal outcome in a developing country. Annual PAS meeting at Honolulu, May 2008.
- Uduman S, Sasidharan P. (2008). Role of adult contacts in pediatric tuberculosis in UAE. Annual PAS meeting at Honolulu, May, 2008.

Uduman S, Sasidharan P. (2008). Off- season RSV outbreak in a tertiary care NICU in UAE. Annual meeting of PAS at Honolulu, May 2008.



RESEARCH GRANTS

Sheikh Hamdan Award for Medical Sciences

Abdulrazzaq YM, Padmanahan R, Bastaki S, et al (2008). Reproductive Toxicologic Studies on Lamotrigine (LTG) in the Mouse: Effect of Folate Supplementation.



Standing left to right: **Dr. A. Al Suwaidi; Dr. S. Al Hammadi; Ms. Rose Clemente; Dr. S. Bharwani; Prof. A. Souid; Dr. H. Narchi; Mr. J. Kochiyil; Mr. T. Pramathan; Dr. M. T. Al Samri; Mr. Jamal CK**

Seated left to right: **Dr. F. Al Jasmi; Prof. L. Al Gazali; Prof. S. A. Uduman; Prof. P. Sasidharan; Prof. Y.M. Abdulrazzaq; Dr. E. Aburawi**

Pediatrics



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DEPARTMENT of Pathology

RESEARCH Profile

*Associate Professor &
Acting Chair:*

Dr A Castella

Professor:

Prof MM Agarwal

Associate Professor:

Dr Bassam Ali

Dr SM Chong

Assistant Professor:

Dr S Al Salam

Teaching Assistant:

Dr A Al Bawardi

Dr S Al Marzooqi

Medical Research

Specialist:

Ms A Mathew

Ms M Sudhadevi

Medical Secretary:

Ms K Al Ghanem

Research Assistant:

Ms N Akawi

Mr N Karavantevide

Pathology is a wide-ranging discipline of laboratory medicine. It covers several research fields, including histopathology, cytology, laboratory hematology, clinical chemistry, genetics and molecular biology.

Hematopathology: (Dr. Antonio Castella)

Lymphomas are malignant monoclonal disorders of the lymphatic system, which show diverse clinical features, pathology and outcome. The pathological classifications are controversial, especially with regard to non-Hodgkin's lymphomas (NHL). In recent years new classifications have been proposed which are based on modern concepts of lymphocyte function. The latest classifications of lymphomas (REAL and WHO) are an attempt to resolve the lack of uniformity in the reporting of malignant lymphomas by defining the different types according to morphology and immunology as well as cytogenetics.

Although lymphomas show a worldwide distribution, geographical variations in their histopathologic pattern, especially NHL, are well recognized. However, in the Middle East, and specifically in the Gulf countries, there was a paucity of data concerning the patterns of histopathologic subtypes of lymphomas.

The Pathology Department undertook a project, in collaboration with Tawam and Al Ain Hospitals, to study the pattern of lymphomas in the UAE.

The aim of this study was to analyze the distribution of the various pathologic types of lymphoma in the native Arab population of the UAE. More than 200 National patients with lymphoma were studied. The cases were examined morphologically and immunohistochemically with an extensive panel of monoclonal antibodies, and are classified according to the revised European-American classification of lymphoid neoplasms (REAL). The results were compared with the distribution of lymphomas in other Asian and Western countries.

In addition, a second project studied the differences of the distribution pattern of NHL between native UAE cases and a similar number of cases diagnosed in expatriates living in the UAE. No differences are found between the two population groups suggesting that environmental factors may play a role in the developing of NHL in the UAE.

The results of some of this work have already been published in peer-reviewed journals and presented in International pathology and oncology conferences.

The expression of EBV in Hodgkin lymphoma among UAE nationals was studied in collaboration with Dr. Suhail Al-Salam (PI), by immunohistochemistry for the latent membrane

protein- I and in situ hybridization for EBV encoded RNA (EBER). EBV was seen in 17 of 45 (38%) cases of HL and was predominately seen in the MC subtype followed by NS, LD and LR subtypes, respectively.

Clinical chemistry: (Prof. Mukesh M. Agarwal)

In the UAE, the prevalence of diabetes mellitus (DM) is the second highest in the world. This remains a major epidemiological challenge for the country. Multiple studies agree that aggressive life-style changes (after delivery) in women with gestational diabetes (GDM) can delay and even prevent the onset of Type 2 DM. Much of our research efforts are directed to GDM. How to screen a large population in a cost-effective manner? We are continually studying the value of various simple screening tests for GDM, which have a high degree of sensitivity. Ultimately, not missing any pregnant woman with GDM will help us to start prevention for DM, after childbirth. This will help our main objective: to decrease the epidemic of Type 2 DM in the UAE.

Histopathology/lymph node and bone marrow pathology: (Dr. S. M. Chong)

The incidence of malignant lymphomas is increasing worldwide. Curiously, however, there are pronounced differences in the incidence of the different types of lymphoma in different parts of the world.

A pilot study has been performed of the differences between lymphoma in the UAE and in Singapore and the findings presented at the 23rd World Congress of Pathology and Laboratory Medicine in Istanbul in May 2005.

In collaboration with Dr. Suhail Al-Salam from the Department and Dr YC Lim of the Department of Pathology of the National University of Singapore, I am studying the role of leukotriene B4 in malignant lymphoma growth and survival; the role of lipid mediators, LTB4 and LXA4 as inflammatory and immune modulators in Hodgkin lymphoma; and the expression of CD137 on Hodgkin and Non-Hodgkin lymphoma Cells. Dr. Lim and I are also continuing our previous studies on lymphoma cell interactions with endothelial adhesion molecules under flow.

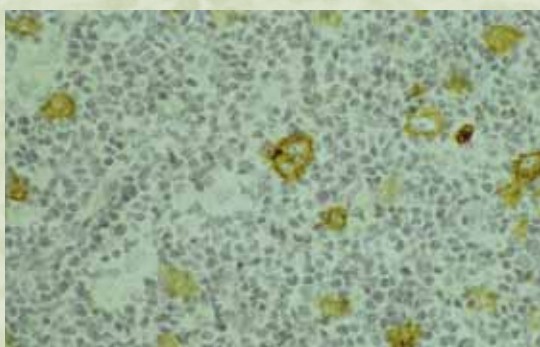
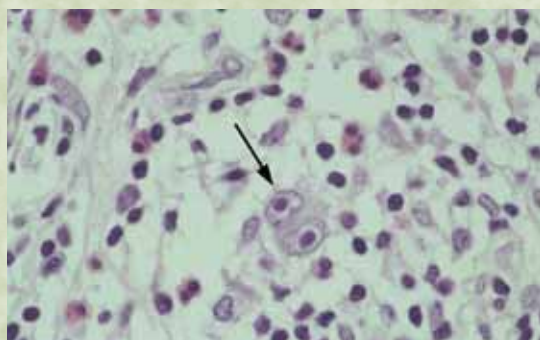


Figure: above, classic binucleated Reed-Sternberg cell in a case of Hodgkin's disease (arrow) (H & E x 40), below, immunohistochemistry with CD30 antibodies highlights the Reed-Sternberg cells (dark brown color).

Histopathology/Lymphoma/Breast Pathology/CNS pathology/Renal Pathology/ Molecular Pathology (Dr. Suhail Al-Salam)

1. Expression of EBV in Hodgkin Lymphoma among UAE nationals

The epidemiology of Hodgkin's lymphoma (HL) shows wide geographic variation in histological subtypes and in its association with the Epstein-Barr virus (EBV). The proportion of EBV positive HL is low in industrialized countries, high in non-industrialized countries and intermediate in early-industrialized countries. Reports from the Arabian Gulf and Middle East are few. The

aim of our study was to determine the epidemiology of HL in The population of United Arab Emirates (UAE) nationals, an early industrialized country in the Arabian Gulf, and to delineate the extent of its association with EBV. We review the cases of HL for the period 1988 through 2004 for histological classification and demographic data. All Cases diagnosed as Hodgkin's lymphoma were examined for the presence of EBV using immunohistochemistry (IHC) for the latent membrane protein I (LMP1) and in-situ hybridization (ISH) for EBV encoded RNA (EBER) to determine the prevalence of EBV in Hodgkin cells and its possible role in the

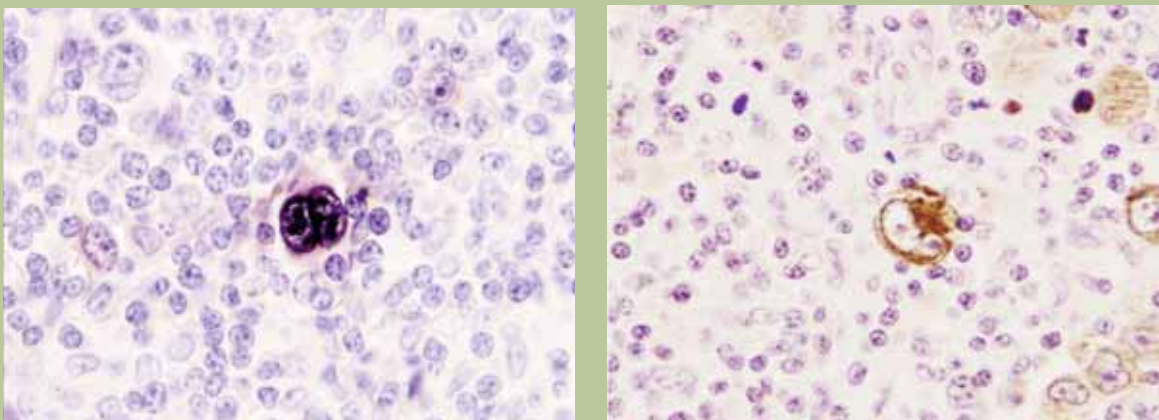


Figure: (A) Hodgkin lymphoma with classical Reed–Sternberg cell showing dark-purple nuclear staining for EBER, in situ hybridization, X400. (B) Classical Reed–Sternberg cell showing membranous, cytoplasmic and Golgi immunoreactivity to LMP-1, streptavidin–biotin, X400

pathogenesis of Hodgkin's lymphoma. EBV was seen in 17 of 45 (38%) cases of HL and was predominately seen in the MC subtype followed by NS, LD and LR subtypes, respectively.

2. Types of mutations in BRCA 1 and BRCA 2 genes in breast carcinoma among United Arab Emirates nationals and their correlation with P53, Ki 67, bcl2, nm2, c-erb-B2, estrogen receptors and progesterone receptors expression.

Breast carcinoma is the most common malignant tumor and the leading cause of cancer death in women all over the world. It is the commonest cancer among UAE population

and the most common cancer among females. The age specific incidence ratio for females in UAE was 19.4 per 100,000 population. It is currently estimated that 5–10% of all breast cancers are hereditary and attributable to mutations in several high penetrance susceptibility genes, of which only two have been identified BRCA1 and BRCA2. Earlier estimates suggested that BRCA1 and BRCA2 mutations were responsible for 75% of site-specific breast cancer families and the majority of breast and ovarian cancer families. The aim of this study is to identify the types of mutations in BRCA 1 and BRCA 2 genes in breast carcinoma

among United Arab Emirates nationals and their correlation with the expression P53, Ki 67, bcl2, nm2, c-erb-B2, estrogen receptors and progesterone receptors.

3. Role of Trefoil Factor Peptides in the Development and Progression of Glioma.

Gliomas are the most common primary central nervous system tumors. They are the second most common cancer among children in UAE. They are graded into four grades from grade 1 which is the most benign to grade 4 which is the most malignant. They are characterized by progression from low grade to high grade within the same tumor. This progression is not well understood. Furthermore, the pathogenesis of glioma is obscure. Several studies have shown the transforming potential of TFF peptides which is illustrated in tissues involved in cancer progression, while other studies have shown tumor suppressor action of TFF peptides. How can the apparent contradiction between the tumor-promoting and tumor-suppressing functions of TFF peptides be resolved? We hope that this project will answer some of these queries. There is nearly no published data concerning the expression of TFFs in human gliomas. In addition there were no previous reports concerning the role of trefoil factors in the pathogenesis or progression of glioma. Our preliminary study on few cases of gliomas using immunohistochemical stains have shown expression of TFF 3 in gliomas with difference in the expression between low grade and high grade gliomas.

4. Role of Galectin 1, 3, 4, 7 and 10 in the development and progression of uterine cervical carcinoma

Uterine cervical cancer is the second most common cancer in women worldwide, and the fifth most common cancer among females in UAE. Although high-risk human papillomaviruses (HPVs) are associated with cervical carcinoma, HPV infection alone is insufficient for the malignant transformation. Hence other molecular alterations are required for the development of cervical carcinoma and galectins may play an important role in these processes. The main purpose of this proposal is to study the expression of galectin-1, 3, 4, 7 and 10 in the neoplastic cells of different types, grades and stages of human uterine cervical

carcinomas. We expect that our suggested studies will clarify and elucidate the role of galectin 1, 3, 4, 7 and 10 in the pathogenesis and progression of human uterine cervical carcinoma. In this project, we will verify this hypothesis by extending our experiments on peritumoral stromal mononuclear cells as well as non-neoplastic and dysplastic uterine cervical tissues.

5. Expression of estrogen receptors alpha and beta and progesterone receptors in thyroid carcinoma among UAE Nationals

Thyroid carcinoma (TC) is the sixth most common cancer among the United Arab Emirates (UAE) nationals and the second among UAE national females. The striking gender differences in the incidence of differentiated thyroid cancer, particularly for papillary thyroid carcinoma (PTC), suggests a possible influence of hormone related factors because the higher overall incidence of female PTC is established through a sharp increase during the fertile years of life. We found a high preponderance of differentiated thyroid carcinoma among UAE female nationals during the child – bearing age, which was much higher than expatriates and other studies else where. We think that this finding suggests a possible hormonal influence and needs to be thoroughly investigated. We will review the cases of thyroid carcinoma which were diagnosed in the Pathology Department at Tawam Hospital for the period 1988 through 2007 for histological classification and demographic data. All cases diagnosed as thyroid carcinoma will be examined for the expression of estrogen receptors alpha and beta, progesterone receptors, EGFR, c-erb-B2, c-kit, cyclin D1, bcl- xL and p53 using immunohistochemistry (IHC) as well as fluorescent in situ hybridization (FISH) for EGFR, c-erb-B2 and cyclin D1 to determine the frequency of expression of estrogen and progesterone receptors in relation to the expression of EGFR, c-erb-B2, c-kit, cyclin D1, bcl-xL and p53 in different types of thyroid carcinoma among UAE nationals and in comparison with their expression among expatriates. This study will enable us to understand the role of sex steroid hormones and various growth factors in the development of thyroid carcinoma among UAE nationals.

The Genetic and Molecular Basis of Diseases prevalent in UAE (Dr. Bassam R. Ali)
Current Research Focus:

1. Identification of the molecular defects underlying single gene disorders in UAE and Arab populations. Recessive disorders are highly prevalent in Arab populations including UAE mainly due to high levels of consanguinity and lack of prenatal and/or pre-conception diagnosis. We are developing a molecular genetics research laboratory to look at the molecular defects causing recessive disorders found in the UAE population with emphasis on mental retardation phenotypes, metabolic and dysmorphology disorders. We are collaborating with major research groups at Harvard Medical School, University of California in San Diego and Cambridge University.

2. The cellular mechanisms of human monogenic disorders. We are interested in protein trafficking and quality control within eukaryotic cells. The protein quality control at the endoplasmic reticulum level is responsible for the development of several human genetic diseases including cystic fibrosis and emphysema. We recently elucidated the cellular mechanisms underlying Robinow syndrome and Acromesomelic Dysplasia type Maroteaux, recessive disorders that have been found in several parts of the Middle East including Oman and Saudi Arabia. We are currently looking to establish the mechanisms underlying Familial Hypercholesterolemia, Hereditary Hemorrhagic Telangiectasia and other ER-associated degradation diseases. In addition, we are exploring ways of manipulation of ER quality control for potential therapy of such diseases.

3. Pharmacogenetics. With Dr. S. Bastaki and Prof. Y. Abdulrazzaq, we started establishing the alleles for CYP2D6 gene and other drug metabolizing enzymes prevalent in UAE population.

Departmental Undertaking:

Drs Alia Al Bawardi and Saeeda Al Marzooqi (resident trainees) are completing their training in Pathology at McGill University, Montreal, Canada.

Articles in Peer-Reviewed Journals

Agarwal MM, Dhath GS, Safraou MF. (2008). Gestational diabetes: using a portable glucometer to simplify the approach to screening. *Gynecologic and Obstetric Investigation*, 66:178-183.

Al-Dhaheri WS, Hassouna I, Al-Salam S, Karam SM. (2008). Characterization of breast cancer progression in the rat. *Ann NY Acad Sci*, 1138:121-31.

Al-Ramadi BK, Fernandez-Cabezudo MJ, El-Hasasna H, Al-Salam S, Attoub S, Xu D, Chouaib S. (2008). Attenuated bacteria as effectors in cancer immunotherapy. *Ann NY Acad Sci*, 1138:351-7.

Al-Salam S, Alashari M. (2008). Expression of Galectin-3, CD138, P16 INK4a and TTF-1 in Mucinous Bronchioloalveolar adenocarcinoma following Hodgkin's lymphoma. *Applied Immunohistochemistry & Molecular Morphology*. [ePub 2008]

Al-Salam S, John A, Daoud S, Chong SM, Castella A. (2008). Expression of Epstein-Barr virus in Hodgkin lymphoma in a population of United Arab Emirates nationals. *Leuk Lymphoma*, 49(9):1769-77.

Al-Salam S, Algawi K, Alashari M. (2008). Malignant Non-Teratoid Medulloepithelioma of ciliary body with Retinoblastic differentiation - A case report and review of literature. *Neuropathology*, 28(5):551-6.

Al-Salam S, Nowotny N, Sohail M R, Kolodziejek J, Berger T G. (2008). Ecthyma contagiosum (orf) – report of a human case from the United Arab Emirates and review of the literature. *Cutan Pathol*, 35(6):603-7.

Al-Salam S, Al Ashari M, Ghazal-Aswad S. (2008). Expression of

Insulin-like growth factor-1 receptors, Wilm's tumor-1 protein, c-kit and p16 in Primary Fallopian tube carcinoma in diabetic patients. *Arch Gynecol Obstet*, 277(5):449-55.

Al-Zaher N, Al-Salam S, El Teraifi H. (2008). Thyroid carcinoma in the United Arab Emirates: Perspectives and experience of a tertiary care hospital. *Hematol Oncol Stem Cell Ther*, 1(1): 14-21.

Attoub S, Gaben AM, Al-Salam S, Al Sultan MA, John A, Nicholls MG, Mester J, Petroianu G. (2008). Captopril as a potential inhibitor of lung tumor growth and metastasis. *Ann N Y Acad Sci*, 1138:65-72.

Cantagrel V, Silhavy JL, Bielas SL, Swistun D, Marsh SE, Bertrand JY, Audollent S, Attié-Bitach T, Holden KR, Dobyns WB, Traver D, Al-Gazali L, Ali BR, Lindner TH, Caspary T, Otto EA, Hildebrandt F, Glass IA, Logan CV, Johnson CA, Bennett C, Brancati F; International Joubert Syndrome Related Disorders Study Group, Valente EM, Woods C G, Gleeson JG (2008). Mutations in the cilia gene ARL13B lead to the classical form of Joubert syndrome. *Am. J. Hum. Genet.*, 83, 170-179.

Denic S, Nagelkerke N, Agarwal MM. (2008). Consanguineous marriages and endemic malaria: can inbreeding increase population fitness? *Malaria Journal*, 7:150.

Denic S, Nagelkerke N, Agarwal MM. (2008). Consanguineous marriages: do genetic benefits outweigh its costs in populations with a+ thalassemia, hemoglobin S, and malaria? *Evolution and Human Behavior* 29: 364-369.

Faour I, Al-Salam S, El-Terifi H, El Taji H. (2008). The use of a vacuum-assisted biopsy device (Mammotome) in the early detection of breast cancer in

the United Arab Emirates. *Ann N Y Acad Sci*, 1138:108-13.



PROCEEDINGS, CONFERENCES, INVITED LECTURES, WEB SITES AND OTHERS

Abdulrazzaq YM, Ibrahim A, Al-Khayat A, Nagelkerke N, Ali BR. (2008). R58fs mutation in HGO gene in a family with alkaptonuria in the UAE. The 2nd Al-Ain International Genetics Conference, Al Ain, UAE.

Agarwal MM. (2008). Gestational diabetes: using the portable glucometer to simplify the approach to screening. The Eighth Annual Research Conference at UAE University, Al Ain, UAE.

Al Awadhi AM, Al-Suwaidi S, John A, Hume AN, Al Gazali L, Bader M, Ali BR. (2008). Defective cellular trafficking of NPR-B is the major mechanism underlying Acromesomelic Dysplasia type Maroteaux. The 2nd Al Ain International Genetics Conference, Al Ain, UAE.

Al-Gazali L, Akawi NA, Shather B, Kaplan W, Algawi K, Ali BR. (2008). Anterior segment anomalies of the eye, growth retardation associated with hypoplastic pituitary gland and endocrine abnormalities: Jung Syndrome or a new syndrome? The 2nd Al Ain International Genetics Conference, Al Ain, UAE.

Ali BR. (2008). Cellular organelle disease genomics: retention of mutated proteins in the endoplasmic reticulum is a common mechanism for numerous monogenic diseases. The 4th EMBO Conference: From Functional Genomics to System Biology, Heidelberg, Germany.

Ali BR, Al-Mazrooei SS, Saadi H, Benedict S, Kazzam E, Khazanehdari KA. (2008). The Genetic Basis of Familial Hypercholesterolemia in the United Arab Emirates Arab Populations. Proceedings of the 9th UAE University Conference, 23-25th April 2008, Al Ain, UAE.

Ali BR. (2008). Retention of mutated proteins in the endoplasmic reticulum is a common mechanism for numerous monogenic diseases. The 2nd Al Ain International Genetics Conference, Al Ain, UAE.

Al-Mazrooei SS, Karuvantevida NS, John A, Akawi NA, Saadi H, Khazanehdari KA, Habshi ZH, Ali BR. (2008). The genetic basis of familial hypercholesterolemia in the United Arab Emirates population. The 2nd Al Ain International Genetics Conference, Al Ain, UAE.

Al-Zaher N, Al-Salam S (2008). Thyroid Nodules and Malignancies, the Road from the Needle Aspiration to Treatment Completion. The Sixth Annual Middle East Update in Otolaryngology - Head and Neck Surgery, 1-3 April 2008.

Attoub S, Al-Salam S, John A, Manjush S, Al Sultan M, Al Safi M, Raza H, Adem A. (2008). Thymoquinone induces human cancer cell death and tumor growth inhibition. 9th UAE University research conference. 23-25th April 2008, Al Ain, UAE.

John A, Hertecant J, Al-Gazali L, Karuvantevida NS, Ali BR. (2008). Identification of a novel mutation in ARG1 gene responsible for arginase deficiency in an Asian family from United Arab Emirates. The 2nd Al Ain International Genetics Conference, Al Ain, UAE.

Karuvantevida NS, Al-Mazrooei SS, John A, Hume AN, Al-Allaf F, Ali BR. (2008). The Cellular

Basis of Familial Hypercholesterolemia. The 2nd Al Ain International Genetics Conference, Al Ain, UAE.

Lin JHR, Chong SM, Lim YC. (2008). E-selectin-B cell interactions under defined flow conditions is mediated by L-selectin & α_1 -integrin. NHG Annual Scientific Congress, Singapore.



RESEARCH GRANTS

FMHS New Research Grant 2008

Prof MM Agarwal [PI], Drs G Dhath, N Bali. Gestational diabetes mellitus: value of serum fructosamine as a screening test.

Dr BR Ali [PI], Prof L Al-Gazali. Establishing mammalian cell lines expressing ERAD substrates for evaluating ER quality control escape as a therapeutic target for genetic diseases.

Dr S Al-Salam [PI]. Role of Galectin 1, 3, 4, 7 and 10 in the development and progression of uterine cervical carcinoma.

UAEU Individual Grant 2008

Dr S Al-Salam [PI]. Expression of estrogen receptors alpha and beta and progesterone receptors in thyroid carcinoma among UAE Nationals and their relation with the expression of EGFR, c-erb-B2, c-kit, cyclin D1, bcl- xL and p53.

National Research Foundation

Dr Ali BR, Prof L. Al-Gazali [PI], Dr O El-Agnaf, Profs TE Adrian, E Adeghate, B Al-Ramadi. Genes and Diseases Research Center of Excellence.

Standing left to right: **Dr Bassam Ali, Dr Suhail Al Salam, Dr Antonio Castella, Prof Mukesh Agarwal, Dr Chong Siew Meng.**
Seated left to right: **Mr Noushad, Ms Anne Mathew, Ms Manjusha Sudhadevi, Ms Khaula Al Ghanem**

Pathology



<http://www.fmhs.uaeu.ac.ae/Departments/Pathology>
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DEPARTMENT of PHARMACOLOGY

RESEARCH PROFILE

The Pharmacology Department has special interests in Diabetes and Degenerative Diseases, Neuroscience, Clinical Toxicology, Gastroenterology and Oncology. The research is done with state of the art equipment in purpose-built laboratories with good technical and other support.

Professor & Chair:
Prof G Petroianu

Professor:
Prof A Adem
Prof MY Hasan

Associate Professor:
Dr S Bastaki
Dr M Oz

Assistant Professor:
Dr S Attoub

Medical Research
Specialist:

Ms N Amir
Ms K Arafat

Mr SM Nurulain
Mr A Shamsllisam

Medical Secretary:
Ms S Duncan

Central Facilities
Medical Research

Specialist:
Dr M Kosanovic

Animal House
Veterinarian:

Dr M Al Sultan
Medical Research

Specialist:
Mr M El Wasila
Mr M Shafiullah

Prof. Abdu Adem **Diabetes**

Mechanisms of Apoptotic Cell Death in Diabetes

In almost all multicellular organisms, cell suicide or apoptosis appears to play an important role in the maintenance of cellular homeostasis. Apoptosis is tightly regulated by a set of genes that either promote apoptosis or promote cell survival. Although a number of stimuli appear to trigger the process of apoptosis, there are two major signaling pathways of apoptosis: the death receptor pathway and the death receptor-independent or mitochondrial pathway. Mechanisms of apoptotic cell death are being studied in kidneys of an animal model of diabetes. The ultra structural features in the tubules seem to implicate apoptosis in the pathology of renal nephropathy. In addition we reported, for the first time, a significant loss of foot processes of podocytes (*) in the diabetic rat kidney (Fig.1 left). These findings could contribute to the understanding of the patho-physiology of diabetic nephropathy.

Neurodegenerative Diseases

Novel Selective Ligands for Muscarinic Acetylcholine Receptors

Five muscarinic acetylcholine receptor subtypes (M1- M5) have been cloned and are found in the brain. However, the pharmacological identification of the subtypes responsible for the various central effects of the muscarinic drugs is difficult due to the lack of highly selective muscarinic agonists and antagonists. We have isolated muscarinic M1 and M4 receptor

subtype selective toxins from mamba snake (*Dendroaspis*) venoms. At present the status of M1 and M4 receptors in health and disease states in humans are being investigated. Our results show significant decrease of M4, but not of M1 receptors in the hippocampus of Alzheimer's patients compared to controls. Moreover, changes in these receptors in adrenalectomized animal models which have been shown to have a selective loss of hippocampal neurons. Attempts to isolate and characterize M2, M3, and M5 selective toxins is also in progress. Behavioral, biochemical and electrophysiological techniques are also used in understanding the role of other neurotransmitters in diabetes, epilepsy, aggressive behavior, aging, and degenerative diseases.

Prof. Georg Petroianu

Clinical toxicology

Therapy of acute organophosphate poisoning

Organophosphorus cholinesterase inhibitors (organophosphates) are widely used in agriculture, in industry and technology, and in military technology. According to the WHO, more than one million casualties per year are due to organophosphates exposure. Countries of the Indian subcontinent and adjacent regions top the list. While use of atropine in the therapy of acute organophosphate poisoning is well-established clinical practice, the use of oxime enzyme reactivators (pralidoxime, obidoxime) is a hotly debated issue. Recent in vivo data from our laboratory shows that oximes produce a spurious signal when ChE activity is determined photometrically. True enzyme protection/reactivation is thus less than assumed. Furthermore high dose oxime increases the "time-to-extubation (TTE)" and mortality as compared to identical therapy without oxime (animal data). The paradigm of enzyme reactivation in organophosphate poisoning must be reassessed and alternatives developed. Screening of benzamide compounds with cholinesterase protective capabilities is a present priority of our group. Preliminary experiments performed in our laboratory in vitro and in vivo suggest that the benzamide compound tiapride is partially protective against esterase inhibition by organophosphates. In addition newly synthesized oximes with superior reactivating

properties are tested in conjunction with benzamides to increase survival in exposed animals.

Prof. MY Hasan

Neuroscience

The main line of research has been focusing on neurotransmission. We have been applying behavioral, biochemical and electrophysiological and morphological techniques in understanding the role of neurotransmitters in various disorders (diabetes, epilepsy, aging, neurodegenerative diseases). Findings indicated significant modification of specific neurotransmitters in many of the disorders. It appears that alteration in calcium mobilization and free radical system may be a common factor accounting for some of the changes observed in aging, diabetes and Parkinson's disease. Another line of research has been toxicological studies and impact of toxins on muscle the nervous system. We have investigated the effects of heavy metal intoxication in relation to

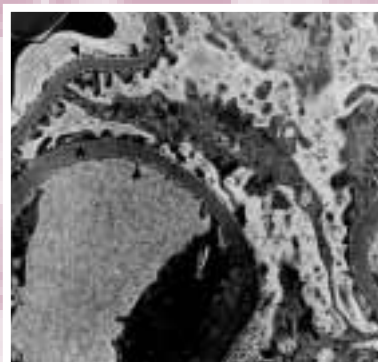


FIGURE 1

degenerative diseases. We studied impact of heavy metal toxicity on nervous system and muscle and observed that free radicals may be involved in metal toxicity and antioxidants like ascorbic acid and alpha-tocopherol may have a protective role against metals effects Also we have been looking at neurotoxicity and general toxicity from organophosphates and nerve gases. We have been screening antidotes for organophosphate poisoning and implication for treating exposure to nerve gas agents. Furthermore my interest covered broad areas in medical education and community health. Some

of the projects performed included; drug utilization and rational use of antibiotics and analgesics in health care centers and community, developing Sickness Impact Profile for studying quality of life in infertile patients, studying views of medical students and physicians of clinical skills teaching at the medical colleges and surveying patient's attitudes towards students involvement in medical practice.

Dr. Salim Bastaki

Gastroenterology: Gastrointestinal diseases have increased in recent years. Work stress, alcohol, non-steroidal anti-inflammatory drugs (NSAIDS) strong tea or coffees have contributed to the pathology. Our research is based on gastrointestinal secretion and the mechanism of action of PPIs and other acid inhibitors on acid secretion. In the early years, Histamine H₂-receptor antagonist, Sucralfate and Muscarinic receptor antagonists were used more often. But with the introduction of the proton pump inhibitors (PPIs) their use has declined owing to the potent anti-secretory and anti-ulcer activity of the PPIs. Recently we published the work on new proton pump inhibitor, esomeprazole, Astra-Zeneca (accepted for publication [2008]). At present we are studying the interactions of aspirin in combination with ibuprofen on gastric acid and ulcer formation in the rat in vivo and in vitro (manuscript in preparation). In the near future we are planning to study the effect of stress on the mucosa of FSL and FRL rats and the healing rate of alcohol-and indomethacin-induced ulcers in the same rats.

Teratology: Epilepsy affects approximately 1% of the world's population and it is the second most common neurologic disorder after stroke. It is a heterogeneous symptom complex a chronic disorder characterized by chronic seizures. Approximately 0.5% of all pregnancies occur in women with epilepsy. It is known that epileptic women demonstrate a higher liability to obstetric complication than non-epileptic females and congenital malformations are more common in their offspring than those of women who do not take anti-epileptic drugs.

Pharmacogenetics: Oxidation by enzymes encoded at the CYP2D6 locus is the main route of elimination for a large number of drugs including many commonly prescribed in psychiatric practice such as antidepressants and neuroleptics. The CYP2D6 locus is highly

polymorphic and numerous mutant CYP2D6 alleles are currently known including defective alleles which yield no functional protein product and duplicated active alleles which cause ultrarapid oxidation. Two CYP2D6 oxidation phenotypes EM (extensive metabolisers) and PM (poor metabolisers) are commonly recognized. These phenotypes can be accurately predicted by genotyping. The clinical implications of the CYP2D6 polymorphism are of potential importance to psychiatric practice in the UAE since tricyclic antidepressants are widely prescribed for treatment of depression. These drugs have a small therapeutic index and unpleasant side-effects or therapeutic failure is commonly encountered when fixed dose regimens are used. There are only very few and conflicting data concerning the distribution of CYP2D6 phenotypes in Arab populations and no genotyping studies have ever been carried out. We aim to determine the frequency of the most common CYP2D6 alleles in the local population using allele specific PCR methodology and to assess the relevance of the CYP2D6 polymorphism to psychiatric practice in the UAE.

Dr. Murat Ahmed Oz

Research interest of Dr. Oz focuses on the identification of ion channels and neuronal networks upon which neuropharmacologically active agents act to modulate neuronal excitability. To this end, actions of neuropeptides such as vasopressin, angiotensin, and cholecystokinin on the spinal cord preparations and the effects of bioactive lipids such as endocannabinoids on the functions of ion channels are the major research topics investigated in his laboratory.

Dr. Samir Attoub

Cancer research

My research is focused on the role of PI3K/Akt/NFκB pathway as a driving force behind lung and colon cancer progression (apoptosis, invasion, angiogenesis and metastasis) using siRNA technology and in parallel screening of potential anti-cancer drugs.

1. Identification of Akt isoforms involved in colon cancer survival and invasion

The PI3K/Akt/NFκB signaling cascade is constitutively activated in cancers. Akt is linked to the transforming activity of c-src, c-kit, c-met oncogenes and growth factors, such as EGF and

IGF receptors. Drugs targeting receptor tyrosine kinases (ErbB2/HER2 and ABL/c-kit) impact the PI3K/Akt pathway. Consequently, the inhibition of Akt is considered to be an attractive cancer therapeutic target. Three isoforms of Akt (Akt1/PKB α , Akt2/PKB β , and Akt3/PKB γ) are over-expressed and activated in cancers, but the degree of functional redundancy between them on cancer cell survival and invasion are unclear. The identification of the Akt isoform that is the most promising target for cancer therapy is unknown and will be addressed in the following specific objectives:

a. To explore the respective roles of Akt-1, -2 and -3 in cancer cell survival, invasion, tumor growth and metastasis, studies will be conducted using RNA interference technology in LNM35 human lung cancer cells and HT29 human colon cancer cells.

b. To characterize the ability of different isoforms of Akt (Akt-1, -2 and -3) to transactivate different subsets of target genes to orchestrate either cell survival or invasion. This will be investigated in colon and lung cancer cells using microarray analysis.

The effects of knockdown of Akt-1, -2 or -3 on cellular survival will be determined by cellular viability, DNA fragmentation, cell cycle and TUNEL assays, caspases activity, PARP cleavage, cytochrome-c release and expression of pro- and anti-apoptotic proteins. The impact of Akt-1, -2 or -3 silencing on invasion will be investigated using the collagen type I and the chick heart invasion assays, cell-cell and cell-matrix adhesion and expression of E-Cadherin. The effect of knock down of the Akt's on HT29 cell line on tumour growth will be tested in nude mice. In addition, we will assess the development of new blood vessels (CD31 antibody), the presence of apoptotic cells (caspase 3 activity), and proliferative activity (ki67 antibody). We'll test the therapeutic impact of the Akt isoforms inhibition on metastasis using the highly invasive and metastatic lung cancer cell line LNM35 targeting the lymph nodes and lungs. This cell line is stably transfected with a vector encoding luciferase, to allow a rapid and reliable quantification of micro-metastases. To identify the mechanisms underlying the effects of Akt isoform inhibition, we will search for differentially expressed genes

using microarray analysis and confirm the results by real-time RT-PCR. It is anticipated that this project will provide evidence that targeting Akt-1 and/or -2 is a promising strategy for the treatment of colon and lung cancer.

2. Screening of potential anti-cancer compounds using in vitro and in vivo assays

The overall goals of this part of my research are directed towards studying the in vitro and in vivo cytotoxic properties of the synthesized/purified drugs (Luteolin, Thymoquinone and Frondoside A). The effective drugs will be further investigated in order to determine their mechanisms of action using various molecular biological techniques. In addition, we will attempt to investigate the effects of these drugs on cell survival and invasion in vitro and on tumor growth in vivo. The effects on metastasis in nude mice using various cancer cell lines will also be investigated.

ARTICLES IN PEER-REVIEWED JOURNALS

- Abdulrazzaq YM, Osman N, Nagelkerke N, Kosanovic M, Adem A. (2008). Trace element composition of plasma and breast milk of well-nourished women. *J Environ Sci Health. A43* (5); 329-34.
- Al-Ramadi BK, Fernandez-Cabezudo MJ, El-Hasasna H, Al-Salam S, Attoub S, Xu D, Chouaib S. (2008). Attenuated bacteria as effectors in cancer immunotherapy. *Ann N Y Acad Sci. 1138*; 351-7.
- Attoub S, De Wever O, Bruyneel E, Mareel M, Gespach C. (2008). The transforming functions of PI3-kinase-gamma are linked to disruption of intercellular adhesion and promotion of cancer cell invasion. *Ann NY Acad Sci. 1138*: 204-13.
- Attoub S, Gaben AM, Al-Salam S, Al Sultan MA, John A, Nicholls MG, Mester J, Petroianu G. (2008). Captopril as a potential inhibitor of lung tumor growth and metastasis. *Ann N Y Acad Sci. 1138*; 65-72.
- Bastaki SM, Chandranath IS, Singh J. (2008). The anti-secretory and anti-ulcer activities of esomeprazole in comparison with omeprazole in the stomach of rats and rabbits. *Mol Cell Biochem. 309*; 167-75.
- Butt C, Alptekin A, Shippenberg T, Oz M (2008). Endogenous cannabinoid anandamide inhibits nicotinic acetylcholine receptor function in mouse thalamic synaptosomes. *J Neurochem. 105*; 1235-43.
- Csermely T, Kalász H, Petroianu GA, Kuca K, Darvas F, Ludányi K, Mudhafar AA, Tekes K. (2008). Analysis of pyridinium aldoximes - a chromatographic approach. *Curr Med Chem. 15*; 2401-18.
- Deng H, Yang X, Jin T, Wu J, Hu LS, Chang M, Sun XJ, Adem A, Winblad B, Zhu J. (2008). The role of IL-12 and TNF-alpha in AIDP and AMAN. *Eur J Neurol. 15*; 1100-5.
- Fernandez-Cabezudo MJ, Azimullah S, Nurulain SM, Mechkarska M, Lorke DE, Hasan MY, Petroianu GA, Al-Ramadi BK. (2008). The organophosphate paraoxon has no demonstrable effect on the murine immune system following subchronic low dose exposure. *Int J Immunopathol Pharmacol. 21*; 891-901.
- Jackson SN, Singhal SK, Woods AS, Morales M, Shippenberg T, Zhang L, Oz M. (2008). Volatile anesthetics and endogenous cannabinoid anandamide have additive and independent inhibitory effects on alpha(7)-nicotinic acetylcholine receptor-mediated responses in *Xenopus* oocytes. *Eur J Pharmacol. 17*; 42-51.
- Lorke DE, Hasan MY, Arafat K, Kuca K, Musilek K, Schmitt A, Petroianu GA. (2008). In vitro oxime protection of human red blood cell acetylcholinesterase inhibited by diisopropyl-fluorophosphate. *J Appl Toxicol. 28*: 422-9.
- Lorke DE, Hasan MY, Nurulain SM, Kuca K, Schmitt A, Petroianu GA. (2008). Efficacy of two new asymmetric bispyridinium oximes (K-27 and K-48) in rats exposed to diisopropylfluorophosphate: comparison with pralidoxime, obidoxime, trimedoxime, methoxime, and HI-6. *Clin Toxicol (Phila). 23*; 1-7.
- Lorke DE, Hasan MY, Nurulain SM, Shafiullah M, Nagelkerke N, Petroianu GA. (2008). Effect of intrathecal pralidoxime administration upon survival of rats exposed to the organophosphate paraoxon. *Neurotoxicology. 29*; 663-70.
- Lorke DE, Kalasz H, Petroianu GA, Tekes K. (2008). Entry of oximes into the brain: a review. *Curr Med Chem. 15*; 743-53.
- Lorke DE, Nurulain SM, Hasan MY, Kuca K, Musilek K, Petroianu GA. (2008). Eight new bispyridinium oximes in comparison with the conventional oximes pralidoxime and obidoxime: in vivo efficacy to protect from diisopropylfluorophosphate toxicity. *J Appl Toxicol. 28*; 920-8.
- Lu MO, Zhang XM, Mix E, Quezada HC, Jin T, Zhu J, Adem A. (2008). TNF-alpha receptor 1 deficiency enhances kainic acid-induced hippocampal injury in mice. *J Neurosci Res. 5*; 1608-14.
- Padmanabhan R, Abdulrazzaq YM, Bastaki SM, Shafiullah MM. (2008). Intrauterine growth restriction and skeletal variations in mouse fetuses induced by vigabatrin administered at preimplantation stages of development. *Congenit Anom (Kyoto). 48*; 29-39.
- Petroianu GA. (2008). The history of cholinesterase inhibitors: who was Moschnin(e)? *Pharmazie. 63*; 325-7.
- R Padmanabhan, YM Abdulrazzaq, SMA Bastaki, M Shafiullah, SI Chandranath. (2008). Experimental Studies on Reproductive Toxicologic Effects of Lamotrigine in mice. *Congenital Abnorm. 48*: 29-39.
- Siddig A, Mohamed AO, Awad S, Hassan AH, Zilahi E, Al-Haj M, Bernsen R, Adem A. (2008). Estrogen receptor alpha gene polymorphism and breast cancer. *Ann N Y Acad Sci. 1138*; 95-107.
- Siddig A, Mohamed AO, Kamal H, Awad S, Hassan AH, Zilahi E, Al-Haj M, Bernsen R, Adem A. (2008). HER-2/neu Ile655Val polymorphism and the risk of breast cancer. *Ann N Y Acad Sci. 1138*: 84-94.
- Stegmeier-Petroianu A, Petroianu GA. (2008). Hiccups and dopamine. *Am J Health Syst Pharm. 15*; 2092-4.



Books, Chapters, Reviews and Editorials

Petroianu GA, Lorke DE. (2008). Pyridinium oxime reactivators of cholinesterase inhibited by diisopropyl-fluorophosphate (DFP): Predictive value of in-vitro testing for In-Vivo efficacy. *Mini Rev Med Chem.* 8; 1328-42.



PROCEEDINGS, CONFERENCES, INVITED LECTURES, WEB SITES AND OTHERS.

Adem A, Lu MO, Zhang XM, Mix E, Quezada HC, Jin T, Zhu J. TNF alpha receptor 1 deficiency enhances kainic acid induced hippocampal injury in mice. 6th FENS, Forum of European Neuroscience, Geneva, Switzerland, July 12-16, 2008.

A Adem, M. Al Haj, I. S. Chandranath, E. Kazzam, E. Obineche. Effect of Long-term Dehydration on Hormones in the One-humped Camel. The 9th UAEU Annual Research Conference, Al Ain, United Arab Emirates. (2008)

Attoub S, Al-Salam S, John A, Manjush S, Al Sultan M, Al Safi MM, John A, Raza H, Adem A. (2008). Thymoquinone induces human cancer cell death and tumor growth inhibition. AACR International Conference on "Advances in Cancer Research: From the Laboratory to the Clinic". Dead Sea, Jordan.

Attoub S, Al-Salam S, John A, Manjush S, Al Sultan M, Gaben AM, John A, Raza H, Adem A. (2008). Thymoquinone induces human cancer cell death and tumor growth inhibition. EUROCANCER, Paris, France.

Attoub S, Al-Salam S, John A,

Manjusha S, Al Sultan MAH, Al Safi MM, John A, Raza H, Adem A. (2008). Thymoquinone induces human cancer cell death and tumor growth inhibition. The 9th UAEU Annual Research Conference, Al-Ain, United Arab Emirates, April 2008

Attoub S. (2008). Selective depletion of Akt-1 and -2 uncover their respective contribution to colon and lung cancer progression AACR International Conference on "Advances in Cancer Research: From the Laboratory to the Clinic". Dead Sea, Jordan, March 2008.

MY Hasan, GP Petroianu, Al Junaibi F, Al Ahbabi F, Al Kuwaiti N, Al Maamari S, A Adem, M Fahim, Praquat exposure induces alterations in brain catecholamines: Implications for Parkinson's disease? The 9th UAEU Annual Research Conference, Al Ain, United Arab Emirates. (2008)

Bastaki MA, Adeghate E, Chandranath I, Tariq S, Adem A. (2008). Evaluation of the morphological changes in the glandular stomach of streptozotocin-induced long-term diabetic rats. The United European gastroenterology Week in Vienna, Austria.

El-Hasasna H, Fernandez-Cabezudo MJ, Al-Salam S, Bashir G, Attoub S, Chouaib S, al-Ramadi BK. (2008). The anti-tumor activity of systemically-administered IL2-expressing salmonella correlates with decreased angiogenesis and enhanced apoptosis. 3rd Al-Ain International Immunology Meeting, Al-Ain, UAE.

Fernandez Cabezudo MJ, Ullah A, Nurulain SM, AlRamadi BK, Petroianu GA. (2008). Assessment of immunologic parameters following exposure to organophosphate containing pesticides. Al Ain International Immunology Meeting.

Oz M. (2008). Voltage-gated calcium channels are novel targets for endocannabinoids T-type Calcium Channels: from Discovery

to Channelopathies, 25 Years of Research Advanced Workshop in Kyiv, Ukraine, June 2008.

Oz M. (2008). Ion Current Measurements Using Patch-Clamp Technique, 2nd International Congress on Cell Membranes and Oxidative Stress Focus on Calcium Signaling and TRP Channels in Isparta, Turkey.

Oz M, Jaligam V, Shippenberg, TS. (2008). The endogenous cannabinoid anandamide inhibits dopamine transporter function and cell surface expression. Soc. for Neurosci.

Petroianu G. (2008). Neuropharmacology review: The Newer AEDs 9th Cairo International Neurology Conference. The Egyptian Society of Neurology Psychiatry & Neurosurgery, Cairo, Egypt.

Petroianu G. (2008). Antihistaminika aus pharmakologischer Sicht. 5th HNO Symposium. St. Joseph-Stift, Bremen, Germany.

Prévost GP, Damian M, Attoub S, Ayoub M.A, Pin J.P, Banères J-L, Petit M, Depierre G, De Giorgi F, Brezak M-C, Coulomb H, Chaumeron S, Ferrandis E, Roubert P, Demarquay D, Lavergne O, Thurieau C, Ichas F, Silvente-Poirot S, Favre G, Poirot M, Carlson M, De Wever O, Geiseler F, Gespach C & Kasprzyk P. (2008). Blocking heterotrimeric G-protein complex by a small-molecule inhibitor as a potential therapy for human tumors. 99th AACR Annual Meeting, San Diego, California, USA.



RESEARCH GRANTS

FMHS Research grant

Prof A Adem [PI] Immunological responses in brain after adrenalectomy.

Dr S Attoub [PI]
Effect of Frondoside A on tumour cell survival and invasion in vitro and in vivo.

UAEU Individual Grant

Prof A [PI]
Role of inflammatory molecules and their receptors in adrenalectomy.

Dr S Attoub [PI]
Investigation of Luteolin as a potential inhibitor of cell survival and tumour growth.

Dr S. Bastaki. [PI] The occurrence of mutant alleles at the CYP2D6 gene locus in UAE Nationals and its implication for Psychiatric practice

in the UAE. (07/148).

FMHS Seed Grant

Dr M Oz [PI]
Arachidonic Acid Modulation of Serotonin Type Three Receptors Expressed in Xenopus Oocytes.

UAEU Interdisciplinary Grant

Prof A Adem. Enhancement of Solubility, Stability, Dissolution Rate, and Bioavailability of Poorly Water-soluble Antifungal Drugs by Complexation with Cyclodextrins. (PI: Dr. Ali Al-Marzouqi).

Sheikh Hamdan Award

Prof A Adem. Potential role of immune response and inflammatory molecules in

pathogenesis of excitotoxic neurodegeneration: a model of Alzheimer's disease. 2008

Others

Dr S Bastaki. The protective effects of omeprazole (or Lansoprazole)/ranitidine/CCK-B receptor antagonists on aspirin/NSAID/stress-induced ulcer in Flinder rats.



Standing left to right: **Mr C Saeed, Prof A Adem, Dr M Al Sultan, Mr Azim, Mr M Elwasila, Dr S Attoub, Dr. Murat Oz, Dr Huba, Mr SM Nurulain**
Seated left to right: **Ms Sumia, Ms Naheed, Ms S Duncan, Prof M Y Hasan, Prof G Petroianu, Dr M Kosanovic, Ms K Arafat and Dr S Bastaki.**

Pharmacology



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DEPARTMENT of Physiology

RESEARCH PROFILE

Members of Staff of the Physiology Department have interests in neuroscience and muscle (including skeletal, cardiac and smooth muscle). The experimental work includes normal physiology as well as pathophysiology, particularly in relation to the peripheral nerves, autonomic nervous system, and heart in the diabetic state, which is a common disorder in the United Arab Emirates. The work requires complex electrophysiological and cellular methodologies, as well as electron microscopy, using in vitro and in vivo techniques. Other departmental research interests include uterine smooth muscle physiology, cardiovascular and pulmonary effects of particulate air pollution and cancer biology.

Aging and neurodegenerative disorders

Studies on aging and neurodegenerative disorders have focused on synaptic plasticity and synaptic remodelling, particularly at the nerve-muscle junction in various peripheral neuropathies including those caused by diabetes, aging and heavy metal poisoning. Electrophysiological, laser confocal microscopy and electron microscopy techniques are used in combination to focus on changes in muscular performance in these conditions. It is hypothesised that free radicals are involved in these nerve injuries and antioxidants like vitamin E & C may have a protective role. Studies on the cerebral microcirculation include changes in the susceptibility to thrombus formation in the brain, and the effects of metals, aspirin and heat.

Professor & Chair:

Prof TE Adrian

Professor:

Prof M Fahim

Prof W Lammers

Prof M Ljubisavijevic

Prof FC Howarth

Prof J Morrison

Associate Professor:

Dr A Nemmar

Medical Research

Specialist:

Mr S Dhanasekaran

Ms K Parekh

Mr MA Qureshi

Ms B Stephen

Ms Shaheen Zia

Research Assistant:

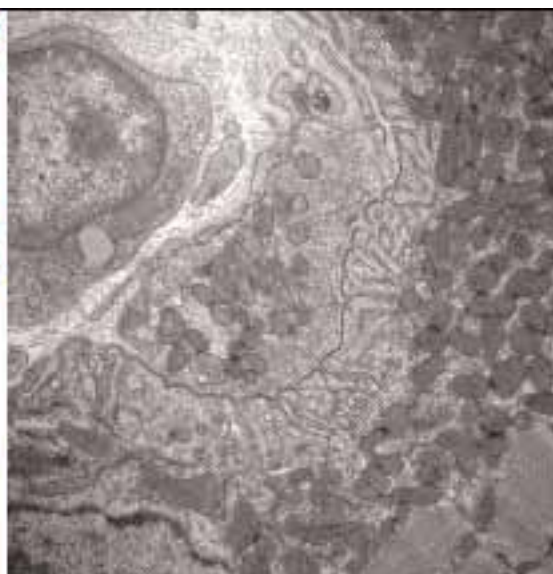
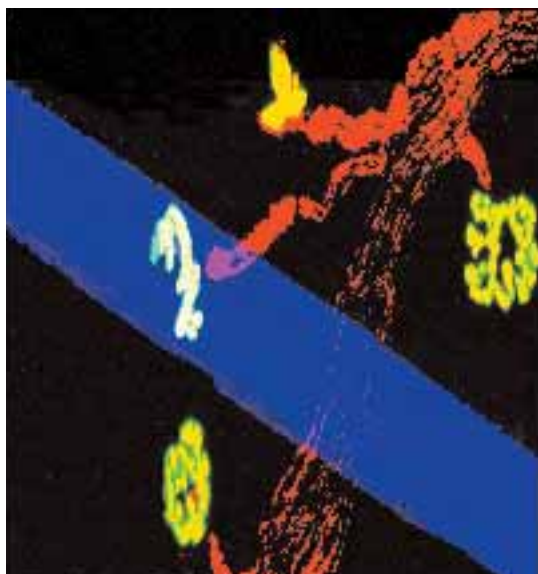
Ms Sneha Ann Thomas

Secretary:

Mr P Rajagopalan

Office Assistant:

Mr Saeed



Electrophysiology and clinical neurophysiology laboratories

The research activities of the electrophysiology laboratory focuses on skeletal muscle function and muscle pain. The main techniques employed are classical electrophysiological techniques (EMG, ENG, muscle force and velocity, single fiber and single unit-extracellular/intracellular recordings). We have also recently introduced at FMHS the set of small animal behavioral techniques including Morris Water Maze, T and Y maze, coordination and balance motor testing etc. We are also planning to introduce multiunit recording by implementing multisite cell recordings in order to investigate in more details the plasticity changes of spinal cord pain processing neural networks. We are particularly interested to elucidate differences between cervical and spinal neural networks as they may exhibit differential processing in chronic muscle pain conditions which are clinically quite different in these two regions.

The newly formed clinical neurophysiology laboratory uses Transcranial Magnetic Stimulation (TMS) and other classical clinical neurophysiology methods (H and F wave, Evoked potentials) to investigate mechanisms of human nervous system plasticity and the possibilities to remodel these processes in healthy subjects and several diseases primarily focusing on movement disorders. Dr. Ljubisavljevic's special interests over the years were cortical processes related to volition in

exercise and fatigue. The work focuses on mechanisms associated with sensorimotor integration and maladaptive plasticity in central fatigue. In collaboration with colleagues from the Institute for Neurology, University Clinical Center Belgrade, we are investigating the character of pathophysiological maladaptive cortical processes in Parkinson's dystonia and tremor. Finally, in collaboration with neurology division and ENT department of Tawam Johns Hopkins Hospital we are currently developing a set of clinical experimental and therapeutic TMS protocols for Multiple Sclerosis, stroke and chronic idiopathic tinnitus patients.

Mapping laboratory

As in previous years, work has steadily progressed in the mapping laboratory. A major achievement this year has been that we finalized and published a study on the patterns of electrical propagations in the whole intact and isolated small intestine, describing and explaining the well-known contraction frequency gradient in this organ. Another milestone was the publication of the mechanism of rhythm disturbances (arrhythmias) in the stomach. The recordings had been performed in the research laboratories of Johnson & Johnson in Beerse, Belgium and the analysis performed in Al Ain.

More collaborations were initiated or expanded and visits were made to several laboratories including the Arbeitsgruppe Enterisches

Nervensystem Kinderchirurgie in Zweibrücken, Germany (January 2008; motility mapping of neonatal rat small intestine seeded with stem cells, Professor H Schafer), the Division of Cardiovascular and Endocrine Sciences, University of Manchester, in Manchester, UK (July 2008, electrical mapping of the knock-out murine SA-node, Dr Ming) and the Bioengineering Laboratory, Auckland University, Auckland NZ (December 2008; electrical mapping of the porcine and the human stomach; Professors Pullan, Cheng and Windsor). The laboratory also hosted one visitor last November; Professor Jan Huizinga, Director of the Farncombe Family Intestinal Health Research Institute, McMaster University, Hamilton, Canada who gave a talk to the faculty.

In the UAE, research collaboration has developed with Dr Sandeep Subramanya, Assistant Professor, department of Physiology, RAK Medical School, to study the effects of cholera toxin on the electrical and mechanical activities in the rat small intestine, a project for which we have also submitted together a Hamdan grant. At FMHS, a collaborative project is ongoing with Dr Fayez Hammad investigating the acute and long-term effects of permanent or reversible unilateral ureter obstruction on the electrical activity proximal and distal to the obstruction, with a first presentation expected in Stockholm in March 2009

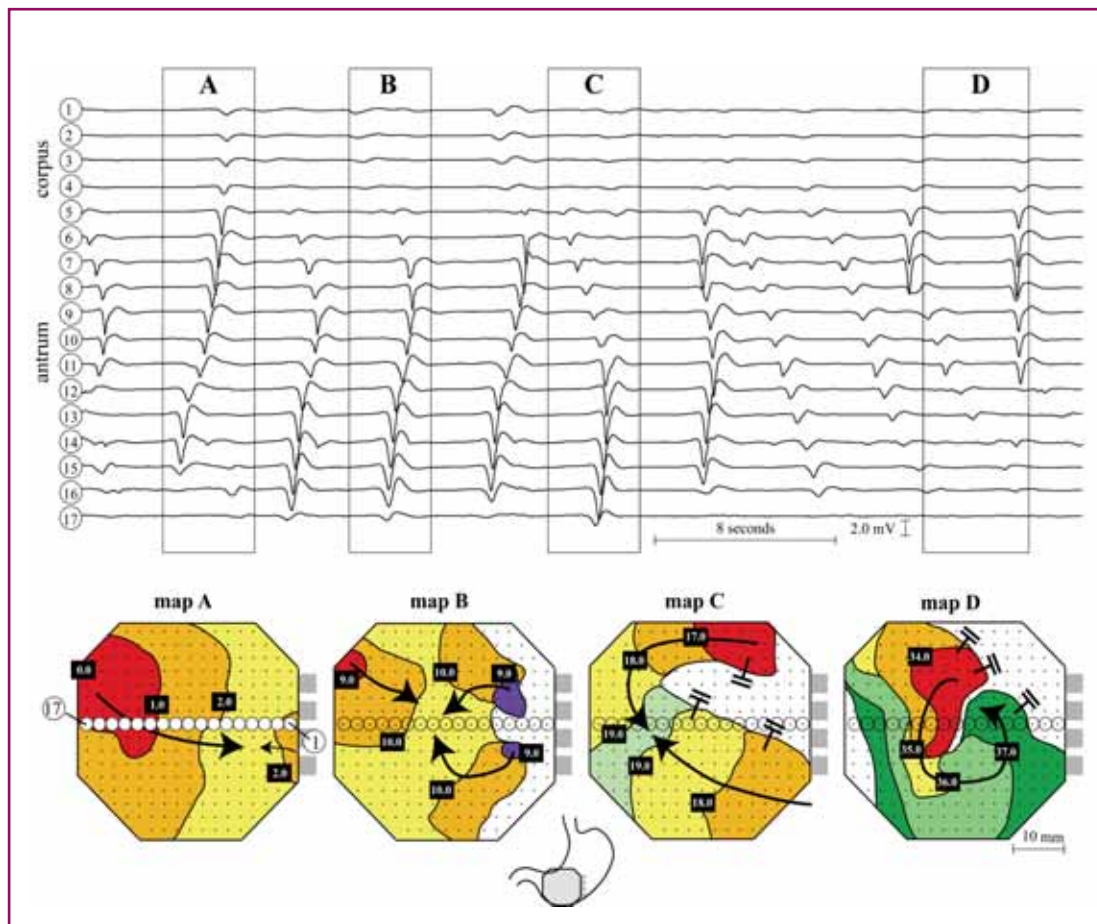


Figure: Slow wave propagation during irregular tachygastria. Upper traces display continuous variations in waveform amplitudes and directions. Four periods (A-D) were selected and the corresponding maps presented in the lower panels. Map A shows a large waveform originating from the distal antrum propagating retrogradely, and colliding with a second slow wave descending from the corpus. Map B shows again a slow wave with a distal antral origin and two premature waves originating simultaneously close to the corpus (blue isochrone). These three waveforms then merged in the middle of the antrum. Map C: shows two waveforms, one propagating close to the lesser curvature and another one propagating close to the greater curvature; they collided with each other in the distal antrum. In map D, a re-entrant wave (red isochrone; $t = 34.0$ seconds), revolved as a large counter clockwise loop in the middle of the antrum. Lower inset: location of the 240-mapping electrode system on the stomach (Lammers et al, *Gastroenterology* 135, 1601-1611, 2008).

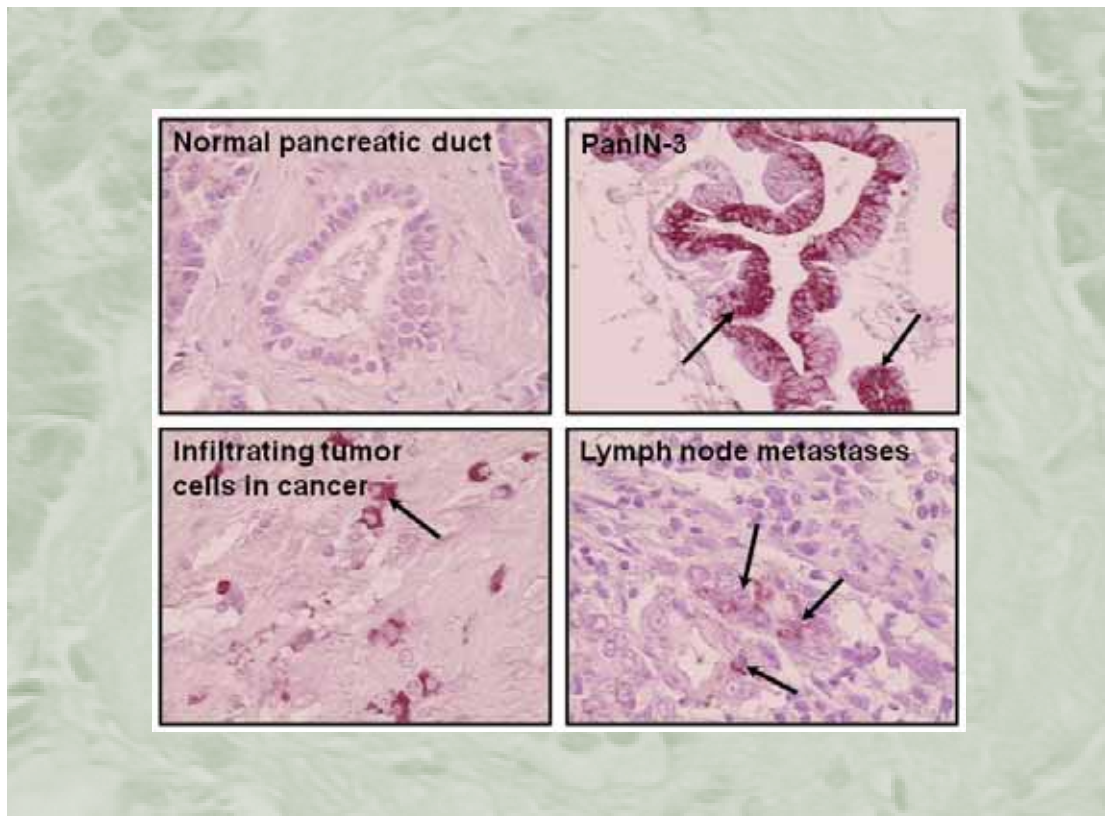
The cancer laboratory

The overall thrust of the pancreatic cancer program is elucidating the molecular mechanisms underlying its rapid growth and invasion and in developing novel strategies to treat it. Prof. Adrian investigates various aspects of this pancreatic cancer, including growth and differentiation signaling pathways, the role of the lipoxygenase pathways in tumor growth and escape from apoptosis, the interactions between pancreatic cancer cells and the pancreatic endocrine islet tissue, as well as the reasons for the severe metabolic disturbance and cachexia that accompany this devastating disease. With his collaborators, he has developed some novel therapeutic agents, one of which recently entered clinical trials. New anti-cancer compounds have been isolated from marine organisms, including the sea cucumber. The mechanisms by which these agents cause cell cycle arrest and induce apoptosis in cancer cells are currently under investigation. Recently, he has used oligonucleotide microarrays to identify

novel growth-related genes from their expressed sequence tags and this has led to the discovery of a new tumor suppressor gene in the endoplasmic reticulum.

Recently we have shown that the gene for the BLT2 leukotriene receptor is switched on in all pancreatic intraepithelial neoplasias (PanIN lesions), which are the precursor lesions for pancreatic cancer. The BLT2 receptor is also upregulated in pancreatic cancer tissues. Overexpression of these BLT2 receptors provides a growth advantage compared with the wild type cells, while knockdown of overexpression using siRNA causes growth inhibition. These findings suggest that the BLT2 receptor would be valuable target for chemoprevention or therapy of pancreatic cancer.

In other studies we have shown that the sea cucumber-derived triterpene glycoside, frondoside A causes marked growth inhibition of human pancreatic cancer cells, both in vitro



Immunohistochemical localization of BLT2 in human pancreatic tissues stained by the AP-Red system. Pictures include an unstained duct in normal pancreas; a PanIN-3 lesion with intense cytoplasmic staining; infiltrating tumor cells in a pancreatic cancer with marked positive staining in the cytoplasm; positive stained tumor cells in a lymph node metastasis (all x400);

and in vivo. Frondoside A causes apoptosis of the cancer cells via the mitochondrial pathway. New studies on the 5-lipoxygenase (5-LOX) pathway have focused on colonic cancer. 5-LOX expression was detected in all adenomatous colonic polyps that were studied but not in normal colonic mucosa or in hyperplastic polyps. These adenomas are the precursor lesions for human colonic cancer. Inhibitors of the 5-LOX pathway block growth of colonic cancer cells in vitro and also when transplanted into athymic mice. These important findings suggest that 5-LOX inhibitors may be valuable in the chemoprevention of colonic cancer in humans.

Pathophysiologic mechanisms of particulate air pollution

The main research topic of Dr Nemmar is related to the pathophysiologic mechanisms underlying the respiratory and cardiovascular effects of air pollution. Within the last two decades, environmental factors such as air pollution have been shown to contribute to cardiorespiratory morbidity and mortality. A growing body of epidemiological data implicates particulate matter air pollution (PM) as yet another factor in the pathogenesis of respiratory and cardiovascular diseases. PM influences susceptibility to hard events and may be particularly harmful to high-risk groups such as people with diabetes, people with hypertension, and elderly people. However, the pathophysiologic mechanisms underlying these associations are not fully understood. Recently, through a series of experimental studies, with his collaborators, Dr Nemmar provided biological plausibility for the associations between particulate air pollution and cardiorespiratory events. In this context, Dr Nemmar has

investigated the translocation of inhaled ultrafine pollutant particles in humans and hamsters, and the mechanisms of their acute cardiopulmonary effects. Dr Nemmar intends to further clarify the acute and chronic cardiopulmonary effects of pollutant particles, and to develop pharmacological approaches capable of preventing particle-induced cardiorespiratory complications. Moreover, epidemiological studies indicate that the effects of air pollution are more pronounced in "susceptible" subjects, such as the elderly, diabetics or hypertensive. Dr Nemmar will verify this hypothesis by extending his experiments in a relevant animal model of enhanced susceptibility (spontaneously hypertensive and diabetic animals).

Diabetic Neuropathy

Professor John Morrison is interested in the physiology and patho-physiology of the autonomic nervous system and its various target organs, particularly those in the lower urinary tract. He is PI on a grant for Sheikh Hamdan Medical Awards (together with Professor Wim Lammers) on the generation of spontaneous activity in the bladder, and the relative roles of intramural nerves and spontaneous smooth muscle activity. These investigations map the spread of electrical activity in the bladder, the sites of pacemakers and the effects of distension on the spread of excitation. Another long-term interest is in diabetic neuropathy, and the STZ model of Type I diabetes and the MSG and GK models of Type II diabetes have been studied. For the STZ model it takes about 12 weeks for clear significant changes in peripheral nerve markers to appear, while in the Type II models, these changes appear around the time that glucose tolerance becomes evident, usually

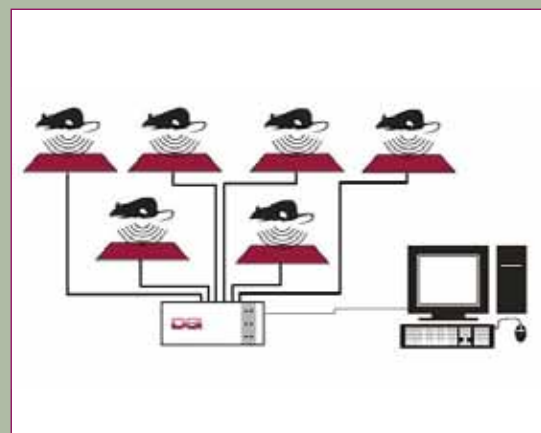
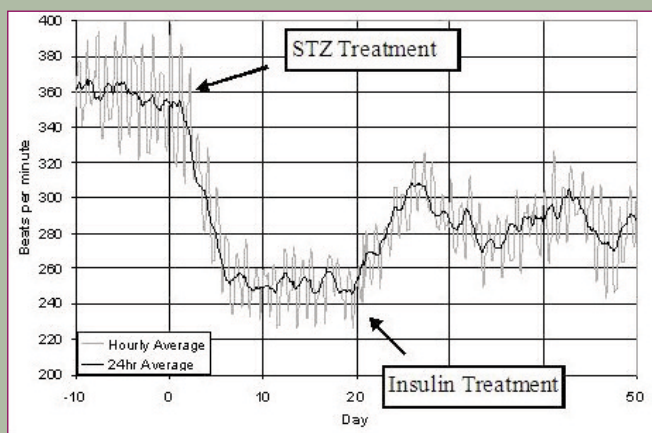


around one year of age in the rat. These investigations have included studies on catecholamine metabolism and handling at nerve endings, the levels of peptide markers as well as sensory testing. More recently changes in gene expression in sympathetic and dorsal root ganglia have been studied using real time RT-PCR. There have been dramatic differences in the expression of genes encoding neurotransmitter synthesis, transport, metabolism and reuptake in different parts of the sympathetic chain.

Changes in gene expression in the diabetic eye, in sympathetic and dorsal root ganglia, corpus cavernosum and vascular tissues are being investigated by low density expression array in studies funded by the Emirates Foundation and the FMHS by Professors Adrian and Morrison.

Diabetes and heart function

Human and animal studies have shown that diabetes can be associated with altered cardiac function that is independent of vascular complications. A variety of techniques including biotelemetry, electrophysiology, molecular biology and confocal microscopy are being employed to investigate the cellular and sub-cellular mechanisms which may be responsible for contractility and heart rhythm defects in the diabetic heart.



Acquisition of electrocardiography data in the Biotelemetry Laboratory

ARTICLES IN PEER-REVIEWED JOURNALS

- Ali BH, Blunden G, Tanira MO, Nemmar A. (2008). Some phytochemical, pharmacological and toxicological properties of ginger (*Zingiber officinale* Roscoe): a review of recent research. *Food Chem Toxicol*, 46 (2):409-20. 6.
- Ali BH, Al-Moundhri M, Tageldin M, Al Hussein IS, Mansour MA, Nemmar A, Tanira. (2008). Ontogenic aspects of cisplatin-induced nephrotoxicity in rats. *Food Chem Toxicol*, 46(11):3355-9.
- Ali BH, Al-Moundhri M, Eldin MT, Nemmar A, Al-Siyabi S, Annamalai K. (2008). Amelioration of cisplatin-induced nephrotoxicity in rats by tetramethylpyrazine, a major constituent of the Chinese herb *Ligusticum wallichii*. *Exp Biol Med* (Maywood), 233(7):891-896.
- Cukic M, Kalauzi A, Ilic T, Miskovic M, Ljubisavljevic M. (2008). The influence of coil-skull distance on transcranial magnetic stimulation motor-evoked responses. *Exp Brain Res*. 2008 Sep 12. [Epub ahead of print]
- Geys J, Nemmar A, Verbeken E, Smolders E, Ratoai M, Hoylaerts M, Nemery B, Hoet PH. (2008). Acute Toxicity and Prothrombotic Effects of Quantum Dots: Impact of Surface Charge. *Environ Health Perspect*, 116(12):1607-13.
- Hennig R, Osman T, Esposito I, Giese N, Rao SM, Ding XZ, Tong WG, Büchler MW, Yokomizo T, Friess H, Adrian TE. (2008). BLT2 is expressed in PanINs, IPMNs, pancreatic cancer and stimulates tumour cell proliferation. *Br J Cancer*. 99:1064-73.
- Howarth FC, Chandler NJ, Kharche S, Tellez JO, Greener ID, Yamanushi TT, Billeter R, Boyett MR, Zhang H, Dobrzynski H. (2008). Effects of streptozotocin-induced diabetes on connexin43 mRNA and protein expression in ventricular muscle. *Molecular & Cellular Biochemistry*, 319: 105-114.
- Howarth FC, Almugaddum FA, Qureshi MA, Ljubisavljevic M. (2008). Effects of varying intensity exercise on shortening and intracellular calcium in ventricular myocytes from streptozotocin (STZ) – induced diabetic rats. *Molecular & Cellular Biochemistry*, 317: 161-167.
- Howarth FC, Qureshi MA. (2008). Myofilament sensitivity to Ca²⁺ in ventricular myocytes from the Goto-Kakizaki diabetic rat. *Molecular & Cellular Biochemistry*, 315: 69-74.
- Howarth FC, Jacobson M, Shafiullah M, Adeghate E. (2008). Long-term effects of type 2 diabetes mellitus on heart rhythm in the Goto-Kakizaki rat. *Experimental Physiology*, 93: 362-369.
- Lammers WJEP, Ver Donck L, Stephen B, Smets D, Schuurkes JAJ. (2008). Focal activities and re-entrant propagations as mechanisms of gastric tachyarrhythmias. *Gastroenterology*, 135, 1601-1611.
- Lammers WJEP Michiels B, Voeten J, Ver Donck L, Schuurkes JAJ. (2008). Mapping slow waves and spikes in chronically instrumented conscious dogs. Part II: Automated on-line electrogram analysis. *Med Biol Eng & Comp* 2008.
- Lammers WJEP, Stephen B. (2008). Origin and propagation of individual slow waves along the intact feline small intestine. *Exp Physiol* 93: 334-346.
- Lammers WJEP, Cheng LK. (2008). Simulation and analysis of spatio-temporal maps of gastrointestinal motility. *Biomedical Engineering Online*. 7.2.
- Li X, Roginsky AB, Ding XZ, Woodward C, Collin P, Newman RA, Bell RH Jr, Adrian TE. (2008). Review of the apoptosis pathways in pancreatic cancer and the anti-apoptotic effects of the novel sea cucumber compound, Frondoside A. *Ann N Y Acad Sci*. 1138: 181-198.
- McLean M, Howarth FC. (2008). Does undergraduate research constitute scholarship? Drawing on the experiences of one medical faculty. *Journal of the Scholarship of Teaching and Learning*, 8: 72-87.
- Melstrom LG, Bentrem DJ, Salabat MR, Kennedy TJ, Ding XZ, Strouch M, Rao SM, Witt RC, Ternent CA, Talamonti MS, Bell RH, Adrian TE. (2008). Overexpression of 5-lipoxygenase in colon polyps and cancer and the effect of 5-LOX inhibitors in vitro and in a murine model. *Clin Cancer Res*. 15:14, 6525-6530.
- Morrison JFB, Dhanasekaran SM, Howarth FC. (2008). Neuropeptide Y and CGRP concentrations in the rat tail artery: effects of age and two type of diabetes. *Peptides*. ePub November 2008.
- Nemmar A, Melghit K, Ali BH. (2008). The acute proinflammatory and prothrombotic effects of pulmonary exposure to rutile TiO₂ nanorods in rats. *Exp Biol Med* (Maywood), 233(5):610-9.
- Nemmar A, Inuwa IM. (2008). Diesel exhaust particles in blood trigger systemic and pulmonary morphological alterations. *Toxicol Lett.*, 176 (1):20-30.
- Rizk DE, Hassan HA, Al-Marzouqi AH, Shafiullah M, Fahim MA. (2008). Combined estrogen and ghrelin administration decreases expression of p27(kp1) and proportion of isomyosin type I in the striated urethral and anal sphincters and levator ani of old ovariectomized rats. *Int Urogynecol J Pelvic Floor Dysfunct*, Oct 19(10): 1363-9, Epub 2008.
- Rizk DE, Fahim MA. (2008). Ageing of the female pelvic floor: towards treatment a la carte of the "geripause". *Int Urogynecol J Pelvic Floor Dysfunct*, Apr 19(4): 455-8, Epub 2008.
- Rizk DE, Hassan HA, Al-Marzouqi AH, Ramadan GA, Al-Kedrah SS, Daoud SA, Fahim MA. (2008). Combined estrogen and ghrelin administration restores number of blood vessels and collagen type

I/III ratio in the urethral and anal canal submucosa of old ovariectomized rats. *Int Urogynecol J Pelvic Floor Dysfunct*, Apr 19(4): 547-52, Epub 2007.

Books, Chapters, Reviews and Editorials

Ljubisavljevic M. (2008). Transcranial Magnetic Stimulation. In: *Encyclopedia of Neuroscience* edited by U. Windhorst, M. Binder and N. Hirokawa. Pub: Springer Berlin Heidelberg. ISBN 978-3-540-23735-8 pp 4091-4096.

Published Abstracts, Letters and Correspondence

Cravero J, Adrian K, Quinn C, Pelham C, Adrian TE, Grippo P. (2008). COX-2 expression in el-positive cells induces aberrant duct development. *Pancreas* 37: 466, 2008.

Heiferman MJ, Ujiki MB, Salabat MR, Strouch MJ, Heiferman DM, Cheon EC, Zarlengo DJ, Silveram R, Adrian TE, Bentrem DJ. Sansalvamide analog induces G1 cell-cycle arrest through upregulation of P21 and down regulation of CDK4 and cyclin E in pancreatic cancer cells. *Pancreas* 37: 475, 2008.

Ljubisavljevic M, Dhanasekaran S, Maric J, Blesic S, Filipovic S. (2008). The effects of two different repetitive TMS stimulation protocols on muscle fatigue associated changes in excitability of motor cortex in man. *Proceeding of the Third*

International Conference on Transcranial Magnetic Stimulation and Direct Current Stimulation. October 1-4, Gottingen, Germany. *Brain Stimulation*, 1(3): 305-306.

Nemmar A, Melghit K, Ali BH. (2008). The Acute Proinflammatory and Prothrombotic Effects of Pulmonary Exposure to Rutile TiO₂ Nanorods in Rats. *International Conference of the American Thoracic Society*, Toronto, Ontario, May 16-21, 2008. *Am. J. Respir. Crit. Care Med.*, 177: A163.

PROCEEDINGS, CONFERENCES, INVITED LECTURES, WEB SITES AND OTHERS

Adrian TE. (2008). Discovery and Characterization of a Novel Growth Related Cancer Gene. *Pancreas 2000 Conference*: Karolinska Institute, Angavallen, Sweden.

Adrian TE. (2008). Studies on a Novel Growth-Related Gene in Pancreatic Cancer. *Department of Physiology, University of Southern Illinois School of Medicine*, Carbondale, IL, USA.

Al-Shuaib WB, Hasan MY, Fahim MA. (2008). Modulation of neuronal potassium current by vitamins. *Society of Neuroscience*, 18:2008.

Du P, J.U. Egbuji, O'Grady G, Lammers WJ, Pullan AJ, Windsor JA, Cheng LK. (2008). Computational simulation of gastric electrical activity. *Asia-Oceania Top University League on Engineering (AOTULE) Postgraduate Conference*, Auckland.

Egbuji J, O'Grady G, Du P, Cheng L, Wahab A, Lammers WJ, Pullan A, Windsor J. (2008). Laparoscopic measurement of human gastric electrical activity. *HealthX Conference*, September 12th,

2008, Auckland, New Zealand.

Egbuji JU, Du P, O'Grady G, Lammers WJ, Cheng LK, Windsor JA, Pullan AJ. (2008). In-vivo high-density mapping of gastric electrical activity. *Asia-Oceania Top University League on Engineering (AOTULE) Postgraduate Conference*, Auckland.

Egbuji J, Du P, O'Grady G, Lammers WJ, Cheng L, Windsor JA, Pullan A. (2008). In-vivo high density mapping of gastric electrical activity. *Engineering & Physical Sciences in Medicine*, Christchurch.

Fahim MA, Mantilla CB, Zhan W, Shokat KM, Ginty DD, Sieck GC. (2008). Inhibition of TrkB signaling alters neuromuscular junction ultrastructure. *Society for Neuroscience*, 22: 2008.

Fahim MA. (2008). Inhibition of TrkB signaling alters neuromuscular junction ultrastructure, *The FASEB Journal*.

Howarth FC, Zilahi E, El Haj MA, Nowotny N, Lei M. (2008). Remodeling of ion channel proteins may partly underlie electrophysiological defects in the diabetic rat heart, *The 9th UAE University Research Conference*, 56.

Howarth FC, Ljubisavijevic M, Qureshi MA, Almugaddum FA. (2008). Effects of varying intensity exercise on shortening and intracellular calcium in ventricular myocytes from streptozotocin-induced diabetic rats, *The 9th UAE University Research Conference*, 58

Howarth FC, Qureshi M, Nowotny N, Zilahi E, Al Haj A, Lei M. (2007). Altered expression of ion transport genes may partly underlie heart rhythm disturbances in the streptozotocin-induced diabetic rat heart, *Life Sciences*, Glasgow, PC165.

O'Grady G, Du P, Egbuji J, Cheng L, Wahab A, Lammers WJ, Pullan A, Windsor J. (2008). A novel device for the laparoscopic measurement

of gastric electrical activity and in-vivo validation in a porcine model. Engineering and Physics in Science and Medicine, and the Australasian Bioengineering Conference, Christchurch, New Zealand.

O'Grady G, Egbuji JU, Du P, Cheng LK, Wahab A, Lammers WJ, Pullan AJ, Windsor JA. (2008). A novel laparoscopic device for the measurement of gastrointestinal slow wave activity and in-vivo validation in a porcine model. Asia-Oceania Top University League on Engineering (AOTULE) Postgraduate Conference, Auckland.



RESEARCH GRANTS

FMHS New Research Grant

Profs TE Adrian (PI), JFB Morrison. Gene Expression in Diabetic Retinopathy and Cataract. (NP/08/10)

Prof C Howarth
Remodelling of ion transport proteins underlies abnormal electrical conduction in the streptozotocin-induced diabetic rat heart. (NP/08/01)

Prof C Howarth
Progressive effects of type 2 diabetes mellitus on heart function in the Goto-Kakizaki rat (NP/07/10)

Prof. M Ljubisavljevic
rTMS induced modulation of fatigue-induced cortical plasticity. Neurophysiological and behavioural correlates.

Dr F Hammad (PI), Prof WJEP Lammers, Ms B Stephen
Spatial and temporal electrical impulse propagation in the normal and the obstructed ureter.

Prof WJEP Lammers (PI), Dr H Mirghani, Ms B. Stephen
The effects of oxytocin on the electrical and contractile activities in the pregnant guinea-pig uterus.

UAEU individual Grant

Prof C Howarth
Altered gene expression of ion transport proteins underlies ventricular arrhythmias in alloxan-induced non-insulin-dependent diabetic rats". Grant (01-05-8-11/09)

Prof C Howarth
Sinoatrial node dysfunction in the streptozotocin-induced diabetic rat heart. (01-05-8-11/07)

Drs A Nemmar (PI), S. Al-Salam.
Effect of diesel exhaust particles on cerebral microvessel thrombosis, pulmonary and systemic oxidative stress: Influence of a cysteine prodrug, L-2-oxothiazolidine-4-carboxylic acid. [2008-2009]

UAEU Interdisciplinary Grant

Profs TE Adrian, F Branicki, J Permert, and Dr D Kelly
Expression of Genes Predisposing to Type II diabetes in the UAE. [2007-2009]

Prof C Howarth (PI), Prof. M. Ljubisavljevic, Dr. M. Jacobson
Exercise induced remodelling of diabetic cardiomyopathy in STZ-induced diabetic rats. (01-03-8-12/06)

Hamdan Award Medical Research Grant

Profs JFB Morrison (PI), WJEP Lammers, Ms B Stephen, Mr S Dhanasekaran.
The generation and spread of electrical and contractile activities in smooth muscles of the lower urinary tract and the effects of aging and diabetes

Prof. M Ljubisavljevic, Dr. S. Shehab (P.I.)
Does high frequency stimulation of the substantia nigra suppress tonic epileptic seizures?

Terry Fox Cancer Research Grant

Profs TE Adrian (PI), F Safi and Dr

P Collin
Effects of and Mechanism of Frondoside A, a Novel Anti-Cancer Agent. [2007-2010].

Profs TE Adrian (PI), F Safi and Dr P Collin
Marine Mussel Oil for Cancer Treatment. [2009-2012].

Emirates Foundation

Profs TE Adrian (PI), JFB Morrison, A Perrin and Dr R Hennig.
The expression of genes in neurons and the tissues they innervate during the development of Type 2 diabetic neuropathy and retinopathy in two animal models and in human tissues. Emirates Foundation grant (2009-2011).

Drs A Nemmar (PI), S Al-Salam, Prof E Kazzam.
Experimental studies on the interactions between pulmonary exposure to particulate air pollution and hypertension: Pathophysiologic mechanisms and influence of protectant drugs. Emirates Foundation grant (2009-2011).

National Research Foundation

Profs L Al-Gazali (PI), EA Adeghate, TE Adrian (Co-PI), BK Al Ramadi, and Drs BR Ali, OM El-Agnaf
Genes and Diseases Research Center of Excellence (2009-2114).

Others

Profs TE. Adrian (PI), S Gariballa, and Drs H Saadi, J Al Kabbi.
Release of Rectal Hormones for Weight Loss and Improvement of Type II Diabetes Mellitus. Satiagen Inc, San Diego, California, USA (2008-2009).



Standing left to right: **Ms S Zia, Mr A Qureshi, Mr Saeed Ali Kutty, Prof C Howarth, Prof W Lammers, Prof M Ljubisavljevic, Ms B Stephen, Ms Fadwa A Almugaddam**
Seated left to right: **Ms Sneha Ann Thomas, Ms Khatija Parekh, Prof TE Adrian, Prof M Fahim, Mr P Rajagopalan, Mr S Dhanasekaran,**
(Dr Nemmar and Prof Morrison were not available for the photograph)

Physiology



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DEPARTMENT of PSYCHIATRY AND BEHAVIOURAL SCIENCES

DEPARTMENTAL PROFILE

Departmental Profile and Research Themes:

1. Epidemiological aspects of common mental health disorders in primary health care and community settings

(a) First-episode psychosis presenting at the Psychiatric Department of Al-Ain Hospital. (Dr. M.O. Salem).

(b) A study of the prevalence, socio-demographic correlates and co-morbidity of premenstrual dysphoric disorder in the primary care. (Dr. O. Osman).

(c) A 10-year retrospective study of the prevalence and correlates of various psychiatric diagnoses among inpatient admissions to Al-Ain Hospital. (Dr. O. Osman).

(d) Suicidal behavior and suicide prevention in childhood, adolescence and adulthood. (Dr. K. Dervic).

(e) Affective and anxiety disorders in childhood and adolescence. (Dr. K. Dervic and Dr. L. Amiri).

(f) Effect of stress, depression, social support, and coping on psychological distress of patients with Ischemic heart disease. (Prof. M.R. Sadeghi).

(g) Prevalence of teenager depression in Al Ain. (Prof. M.R. Sadeghi)

(h) Prevalence and correlates of suicidality in rural population of Pakistan. (Prof. M.R. Sadeghi).

(i) Life satisfaction among older adults in UAE. (Dr. H. Moselhy).

2. Personality, psychosocial and transcultural aspects of physical illness

(a) Association of Irritable Bowel Syndrome with personality traits and with anxiety and depressive disorders. (Prof. O. El Rifaie).

Professor & Chair:

Prof Omer El-Rifaie

Professor:

Prof Rafia Ghubash

Prof M Reza Sadeghi

Associate Professor:

Dr Kanita Dervic

Dr Hamdy F. Moselhy

Dr Ossama T. Osman

Assistant Professor:

Dr Lina Amiri

Dr Hanan Hassanin

Dr Mohamed O Salem

Research Assistant:

Dr Sufyan Sabri

Mr Saeed Yousef

Medical Secretary:

Miss Aisha Al-Shamsi

Secretary:

Mr D Ranganathan

Office Assistant:

Mr O Pocker

(b) Psychological and social intervention in patients undergoing bariatric surgery. (Dr. O. Osman).

(c) Personality disorders, life-events and suicidal behaviour. (Dr. K. Dervic)

(d) Depressive disorders as a risk factor in susceptibility to coronary heart disease. (Dr. H. Moselhy).

(e) Relation of brain lesion and apathy, depression, cognition and daily function in stroke patients. (Dr. H. Moselhy).

3. Cultural aspects of psychiatry

(a) Help seeking behaviour of psychiatric patients before attending the psychiatric services at Al-Ain Hospital. (Dr. M.O. Salem).

(b) Colour preference of patients attending the Psychiatric Department of Al-Ain Hospital. (Dr. M.O. Salem).

(c) Time estimation of patients with psychiatric morbidity attending Al-Ain Hospital. (Dr. M.O. Salem).

(d) Cross-cultural child and adolescent psychiatry. (Dr. K. Dervic).

4. Dream Research

(a) Effect of dreams on psychiatric patients presenting at Al Ain Hospital psychiatric clinic. (Dr. M.O. Salem).

(b) Significance of dreams among UAE University students. (Dr.M.O. Salem).

(c) Effect of watching movies on the viewer's dreams in a sample of UAE University students.(Dr.M.O.Salem).

5. Psychotherapy

• Cognitive Behaviour Group Therapy (rCBGT) for Breast Cancer Patients with Psychiatric. Morbidity: Controlled Study- in collaboration with the Dept of Psychiatry, Faculty of Medicine, Alexandria University.(Dr. M.O.Salem).

6. Women's Mental Health

(a) A study of symptoms expression of PMDD in women in the Primary Care. (Dr. O. Osman).

(b) Psychosocial study of pregnant women with foetal abnormalities.(Dr. O. Osman).

(c) A study of the post-partum psychiatric disorders in Al Ain.(Dr. O. Osman).

(d) Maternal anxiety and depression Following a diagnosis of Gestational Diabetes Mellitus (Prof. M.R. Sadeghi).

7. Postgraduate Education and Training

(a) Arab Board curricular development in psychiatry (Dr. O.Osman).

(b) Survey of Arab Board programs for structural and procedural organizations (Dr. O. Osman).

(c) Research training in Child & Adolescent Psychiatry at the Medical University of Vienna, Austria. (Dr. K. Dervic).

8. Recent translation, development and validation of psychiatric instruments for use among Arabic speaking population.

• Mini-International Neuropsychiatric Interview (MINI) (Dr. O. Osman).

9. Genetic Study:

(a) Molecular genetic study of schizophrenia in an Arab population (Dr. H. Moselhy)

ARTICLES IN PEER-REVIEWED JOURNALS

Blasco-Fontecilla H, Baca-Garcia E, Dervic K, Perez-Rodriguez M, Saiz-Gonzalez D, Saiz-Ruiz J, Oquendo MA, de Leon J. (2008). Severity of personality disorders and suicide attempt. *Acta Psychiatrica Scandinavica* 2008 Nov 10. [Epub ahead of print].

Eapen V, El Rufaie O. (2008). United Arab Emirates (UAE). *International Psychiatry* Vol.5, No.2; 38-40.

Kapusta ND, Niederkrotenthaler T, Etzersdorfer E, Voracek M, Dervic K, Jandl-Jager E, Sonneck G. (2008). Influence of Psychotherapist Density and Antidepressant Sales on Suicide Rates. *Acta Psychiatrica Scandinavica* 2008 Dec 4. [Epub ahead of print].

Niederkrotenthaler T, Till B, Herberth A, Kapusta N, Voracek M, Dervic K, Etzersdorfer E, Sonneck G. (2008). Can Media Effects Counteract Legislation Reforms? The Case of Adolescent Firearm Suicide in the Wake of the Austrian Firearm Legislation. *Journal of Adolescent Health* 2009 Jan; 44(1); 90-3. Epub 2008 Oct 18.

Osman OT, Younis A, Almirii Z. (2008). Infanticide Attempt by A Postpartum Depressed Mother. *J. Emergency Med, Trauma and Acute Care (JEMTAC)* Vol June No.2; 122-123.

Salem MO, Moselhy HF, Attia H, Yousef S. (2008). Clinical Characteristics of first episode psychosis: a study in Al Ain, UAE. *Arab Journal of Psychiatry* Vol. 19 (2); 25-35.

Salem MO, Ali MM. (2008). Psycho-Spiritual Strategies in treating Addiction patients: Al-Amal Hospital experience, Saudi Arabia. *Journal of the*

Islamic Medical Association of North America (JIMA). 40(4);1-12.

Voracek M, Loibl LM, Kapusta N, Niederkrotenthaler T, Dervic K, Sonneck G. (2008). Not carried away by a moonlight shadow: no evidence for associations between suicide prevalence and lunar phase among more than 65,000 suicide cases in Austria, 1970-2006. *Wiener Klinische Wochenschrift* 120/11-12; 343-349.

Younis A, Moselhy H. (2008). Benzhexol-dependence resulting from self-medication of intermittent explosive disorder. *International journal of psychiatry in clinical practice* 1-5 (Epub ahead of print).

Younis A, Moselhy H. (2008). Lycanthropy alive in Babylon: the existence of archetype. *ACTA Psychiatrica Scandinavia Journal* 1-4; (Epub ahead of print).

Books, CHAPTERS, REVIEWS AND EDITORIALS

Akkaya-Kalayci T, Dervic K, Friedrich MH. (2008). Modellprojekt "Ambulanz für transkulturelle Psychiatrie und migrationsbedingte Störungen des Kindes- und Jugendalters" an der Wiener Universitätsklinik für Psychiatrie des Kindes- und Jugendalters. In: Von Gemeinsamkeiten und Unterschieden. Sammelband; 1. Kongress der transkulturellen Psychiatrie im deutschsprachigen Raum 6-9. September 2007, Universität Witten/Herdecke; Verlag für Wissenschaft und Bildung (VWB).

Dervic K, Brent DA, Oquendo MA. (2008). Completed Suicide

in Childhood. *Psychiatric Clinics of North America* 31(2); 271-91.

Salem MO. (2008). Light on the Path: My second book on supported self-help for rCBT, (336 pages, in Arabic), Al-Resallah Publications, Beirut.

PUBLISHED ABSTRACTS, LETTERS AND CORRESPONDENCE

El Rufaie OEF. (2008). Somatisation and Somatised Mental Disorder. *Psychosomatic Medicine* Vol 70; No3.A.

Osman OT. (2008). Premenstrual Dysphoric Disorder in the UAE primary care women. *Psychosomatic Medicine* Vol 70; No. 3A.

PROCEEDINGS, CONFERENCES, INVITED LECTURES, WEB SITES AND OTHERS.

Dervic K. (2008). Presuicidal Syndrome in Childhood and Adolescence. Annual Meeting of the Austrian Association of Pediatricians, Seggau, Austria.

Dervic K. (2008). Annual Symposium of the Austrian Association of Child and Adolescent Psychiatry – (ÖGKJP), Suicidal Behaviour in Children and Adolescents in Austria, Pollau, Austria.

Dervic K. (2008). Epidemiology in Child and Adolescent Psychiatry on Example of Suicide Research. Annual Meeting of the Austrian

- Association of Child and Adolescent Psychiatry (ÖGKJP), Linz, Austria.
- Dervic K. (2008). Suicidality in Childhood and Adolescence, Viennese Social Pedagogues Meeting, Vienna, Austria.
- Dervic K. (2008). Psychopharmacological Treatment of Children and Adolescents. Annual Symposium of the Austrian Association of Child and Adolescent Psychiatry – (ÖGKJP), Invited Workshop, Pöllau, Austria.
- Dervic K. (2008). Suicidal behaviour in childhood and adolescence – risk factors, prevention and treatment. Viennese Medical Chamber, Continuing Medical Education course for school doctors, Vienna, Austria.
- Dervic K, Kapusta ND, Niederkrotenthaler T, Aysel M, Voracek M, Loibl LM, Meng H, Sonneck G, Friedrich MH. (2008). Are there temporal variations in youth suicides? Abstract book, 18. World Congress of the International Association for Child and Adolescent Psychiatry and Allied Professions (IACAPAP), Istanbul, Turkey.
- El Rufaie OEF. (2008). The 3rd Biennial Conference of the International Society of Bipolar Disorder. Prevalence of cognitive function and mental disorders among the UAE elderly Population. Delhi, India.
- El Rufaie OEF. (2008). Somatisation and somatised mental disorder. American Psychosomatic Society. 66th Annual Scientific Meeting Baltimore USA.
- Moselhy H. (2008). The profile of Iraqi juvenile delinquents during the sanction period. 13th Pacific Rim College of Psychiatric Scientific Meeting Tokyo, Japan.
- Moselhy H. (2008). Aripiprazol treatment in 12 patients with obsessive compulsive disorder. 13th Pacific Rim College of Psychiatric Scientific Meeting Tokyo, Japan.
- Moselhy H. (2008). Comorbidity of anticholinergic abuse and intermittent explosive disorders. 13th Pacific Rim College of Psychiatric Scientific Meeting, Tokyo, Japan.
- Osman OT. (2008). Symptoms Expression in Premenstrual Dysphoric Disorder in the UAE. The American Psychosomatic Society 66th Annual Scientific Meeting. Baltimore, USA.
- Osman OT. (2008). Prevalence of Premenstrual Dysphoric Disorder Among Primary Care Patients in Al-Ain. The XI Pan Arab Conference in Psychiatry, Damascus.
- Osman OT. (2008). Cognitive Decline Among the Elderly: from Senility to dementia. Abu Dhabi International Aging Conference.
- Osman OT. (2008). Post-partum Depression. 3rd International Conference of Al Noor: Psychiatry in General Practice, Abu Dhabi.
- Osman OT. (2008). Developing the Arab Board Curriculum for Psychiatry. The XI Pan Arab Conference in Psychiatry, Damascus.
- Osman OT. (2008). Participation in the Lundbeck Institute Conference on: Evidence Based Medicine in Schizophrenia, Hurghada, Egypt.
- Osman OT. (2008). Prevalence and correlates of premenstrual dysphoric disorder in Al Ain primary care. Program Abstracts. XI Pan Arab Conference in Psychiatry, Damascus, Syria.
- Sadeghi MR. (2008). Occupational stress and its consequences on employees and organization. 13th International - 2nd World conference of A.P.P.A.C.
- Sadeghi MR. (2008). Cognitive behavior therapy: the most effective psychological treatment for moderate and severe depression. Taravat Bahar Institute (NGO). Mashhad.
- Sadeghi MR. (2008). Behavioral modification program for management of problem behavior of persons with intellectual disability. Tawam-Yab Welfare Institute, Mashhad.
- Sadeghi MR. (2008). Occupational Stress Assessment of ADMA-OPCO Staff: Implications and Recommendations. ADMA Occupational Stress Campaign. Abu Dhabi.
- Salem MO, Mustafa AK. (2008). Workshop on the Spiritual interventions in psychotherapy. The 4th International Conference on Psychiatry, SGH, Jeddah, Saudi Arabia.
- Salem MO, Younis AA, El Banna A, Saleh B, Yousif S. (2008). Effect of Dreams on psychiatric Patients in a UAE Study, Dreams without Borders. The 25th Annual Conference of the International Association for the Study of Dreams (IASD), Montreal, Canada.
- Salem MO. (2008). Cognitive aspects of sleep and dreaming. 5th International Conference on Information Technology and Cognitive Sciences, Al Ain, UAE.
- Salem MO. (2008). Workshop on: Theories and methods of dream research. The 5th Alexandria International Congress on Psychiatry, Alexandria, Egypt.
- Salem MO. (2008). Workshop on the Spiritual aspects of psychiatry for the elderly. Elderly Home Care Conference, RAK, UAE.
- Salem MO. (2008). Participation in the Lundbeck Institute

Conference on: Evidence Based
Medicine in Schizophrenia,
Hurghada, Egypt.



RESEARCH GRANTS

UAEU Interdisciplinary Grant

Eapen V, Moselhy H [PI], Ali Basam.
Association of serine racase
gene, PDLIM5 gene and PICK 1
gene polymorphism and
schizophrenia. (2007-2009]



2008
Psychiatry

<http://www.fmhs.uaeu.ac.ae/psy/psych.htm>

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DEPARTMENT of Radiology

RESEARCH Profile

Our research interests are focussed on common medical and health issues in the UAE.

Trauma

Trauma imaging is an important part of our daily work and road traffic accidents a major cause of morbidity and mortality in the UAE. We have been working with colleagues in orthopaedic surgery to establish the role of radiographs and three dimensional computed tomographic models of the skeleton in assessing the type and extent of fractures.

Sports Medicine Imaging

We continue our interest in injuries sustained by sportsmen especially long distance runners and soccer players. We investigated knee injuries in runners this year and are currently investigating changes in Hoffa's fat pad in the knee joint following trauma and osteoarthritis of the knee.

Osteoporosis and Body Fat Composition in Peri-Menopausal Women

Osteoporosis is an under recognized health problem in UAE national women and is the major cause of bone fractures in older women. We are currently measuring the bone density and body fat composition of peri-menopausal women living in Al Ain to determine if there is a direct correlation between the body composition values (percentage body fat and lean mass) and bone mineral density using dual energy X-ray absorption (DEXA) scans. This study will provide a databank of bone mineral density measurements for women living in Al Ain and we hope this study will confirm the correlation between percentage body fat and bone density in women older than 40 years.

Contrast medium research

We are active in this area of radiology. Two studies were performed during the year: An in vitro study of the efficiency of adding antibiotics to non-ionic contrast media for intradiscal [UAEU grant 2008/ completed]; collaboration with the FMHS Department of Pharmacology, and international collaboration

Professor & Chair:
Prof P Corr
Professor:
Prof R Langer
Associate Professor:
Dr K N van Gorkom
Teaching Assistant:
Dr T Al Mansoor
Administrative Assistant:
Ms R Ahmed

with 'Experimental Radiology', Charité University, Berlin, Germany and an investigation of the development of NSF after IP administration of various GBCA [FMHS grant 2008/ animal experiments ongoing]; collaboration with the FMHS Departments of Pharmacology, Anatomy, and international collaboration with 'Experimental Radiology', Charité University, Berlin, Germany.

We are also currently investigating tumour angiogenesis in vitro cancer cell lines and an animal model using a novel MR contrast agent consisting of paramagnetic iron oxide nanoparticles attached to RGD peptide that can potentially be used to detect early cancers in solid organs such as the liver.

Molecular Imaging

We are actively involved in the forthcoming PET-CT installation in Tawam Hospital. Clinical research in oncology and neuroscience is pending with this new facility.

Neuroimaging

Neuroimaging plays a key role in analysis, diagnosis and treatment of diseases of the central nervous system. Magnetic Resonance Imaging is the tool of choice for the examination of the CNS in vivo without ionization radiation. Computed assisted evaluation allows for morphometric, fine-structural as well as for functional examinations. We are working at the implementation of sophisticated software (FSL & FreeSurfer) and adaptation to local needs and testing with normative external data-sets is the first step of this project. In a second step a small number of dedicated local MRI examinations (Tawam, Al Ain Hospitals) will be evaluated. These efforts are also related to the upcoming projects in the field of cognitive sciences at the main university.

Textural Analysis in Liver Fibrosis

We have completed a study this year with the departments of physics and molecular biology to assess whether we could quantify textural disruption of the liver parenchyma in an animal model of liver fibrosis. Textural analysis uses digital data from CT and MR images to assess the degree of disruption of organ patterns from pathological processes such as cancer or fibrosis. This novel technique improves the sensitivity of digital images in detecting subtle changes in solid organ structures.

Articles in PEER-REVIEWED JOURNALS

Langer R, Neidl v Gorkom K, Raupp P. (2008). Cerebral MRI manifestations in neonatal tuberous sclerosis. *Iran J Radiol*, 5: 25ff.

Rijke A, Hagemann G, Corr P. (2008). Do knees survive the Comrades Marathon? A MR study. *S Afr M J*;98:872-875.



Published ABSTRACTS, LETTERS AND CORRESPONDENCE

Langer RD, Petroianu G, Lorke DE, Neidl van Gorkom K, Usmani A, Azimullah S, Nurulain SM. (2008). In Vitro study of the efficacy of adding antibiotics to contrast media at discography to inhibit bacterial growth *Radiology*; 249(S), 976



PROCEEDINGS, CONFERENCES, INVITED LECTURES, WEB SITES AND OTHERS.

Corr P. (2008). 8th Middle East Medical Imaging Conference 2008, Dubai
Invited lecture: Advances in CT Technology, Assessment of Radiation Dose, Risk vs Benefits

Corr P. (2008). Musculoskeletal manifestations of HIV/AIDS. 15th Annual Meeting European Society for Musculoskeletal Radiology June 2008, Galway, Ireland.

Langer RD, Neidl van Gorkom K, Obaid Al Kaabi H, Czechowski J, Torab F. (2008). Prospective comparative study of two imaging protocols in patients with acute stroke. 67th Annual Meeting of the Japanese Radiological Society (JRS): 24

Langer RD, Neidl van Gorkom K, Obaid Al Kaabi H, Czechowski J, Torab F. (2008). Prospective comparative study of two imaging protocols in patients with acute stroke. 67th Annual Meeting of the Japanese Radiological Society (JRS)

Langer RD, Al-Gazali L, Varady E, Neidl van Gorkom K. (2008). Radiographic findings in newborns and survivors'

with Stuewe-Wiedemann syndrome. 2nd International Genetics Conference 2008: 33

administration of gadolinium-based contrast agents (GBCA).

UAEU Individual Research Grant

Prof R Langer [PI], G Petroianu, K Neidl v Gorkom, D Lorke, A Usmani, SM Nurulain, S Azimullah. In vitro study of the efficacy of adding antibiotics to nonionic contrast media for intradiscal use at discography in order to reduce bacterial growth

RESEARCH GRANTS

FMHS Research Grant

Prof R Langer [PI], G Petroianu, D Lorke, K Neidl v Gorkom, M Agarwal, N Nagelkerke, SM Nurulain, U Speck: Investigation of the development of nephrogenic systemic fibrosis (NSF) after intra-peritoneal

2008

From left:
**Dr T Al Mansoor, Dr KN van Gorkom,
Ms R Ahmed, Prof R Langer, Prof P Corr**

Radiology



<http://www.fmhs.uaeu.ac.ae/Departments/Radiology>
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DEPARTMENT of SURGERY

RESEARCH Profile

From 1999 until 2001 Prof. Branicki was the sole General Surgeon in the Faculty. The appointments of Dr. Fawaz Torab (March 2001) and Dr. Fikri Abu Zidan (July 2001) and Professor Farouk Safi (September 2002) have now enabled the pursuit of subspeciality interests in upper gastrointestinal/bariatric surgery, trauma care and hepatobiliary/colorectal surgery. Professor Derek Younge (August 2002) has expertise in the management of hand and brachial plexus injuries and musculoskeletal tumours in particular, returning to practise in Canada in August 2008. Dr. Fayeze Hammad joined the Department in August 2007, being the first Faculty appointee in Urology. Faculty members in the Department have now increased from four (1999) to ten currently, five of whom are UAE nationals, with five advertised senior positions (breast/endocrine surgery, minimal access surgery, neurosurgery, orthopaedics and otorhinolaryngology) yet to be filled.

All Faculty members have Consultant privileges at Al Ain and Tawam Hospitals. Teaching Assistant Dr. Ali Jawas successfully completed Residency training in General and Vascular Surgery at the University of Toronto in 2004 and was appointed Assistant Professor in December 2004. Following his training in Vascular Surgery he has also completed a Fellowship in Toronto and rejoined us in Al Ain in October 2005. He is actively involved in the provision of vascular services. Teaching Assistant Dr. Saeed Al Thani completed Residency Training in Orthopaedics also at the University of Toronto and was appointed Assistant Professor in July 2004. Following Fellowship training in 'sports injuries, hand and joint replacement surgery' at the same institution in Toronto he rejoined the Faculty in Al Ain in January 2006 and has been able to establish a busy Sports Injuries clinic and surgical practice in Tawam Hospital. In Canada, Teaching Assistant Dr. Tahira Mahmoud completed Residency training in Ophthalmology at McGill University, Montreal and a Fellowship period in Ottawa concerned with disease of the anterior chamber of the eye. Appointed Assistant Professor, Dr. Tahira returned to Al Ain in 2006 and is now practising at Al Ain and Tawam Hospitals.

Dr. Zuhair Al Fardan completed Residency training in Plastic

Professor & Chair:

Prof Frank J Branicki

Professor:

Prof Fikri Abu-Zidan

Prof Farouk Safi

Associate Professor:

Dr Fayeze Hammad

Assistant Professor:

Dr Ali Al Belooshi

Dr Zuhair Al Fardan

Dr Saeed Al Thani

Dr Ali Jawas

Dr Tahira Mahmoud

Dr Fawaz Torab

Teaching Assistant:

Dr Mohamed Ali Al Ali

Medical Research

Specialist:

Mr Loay Lubbad

General Technician:

Ms Mahra Al Mansouri

Medical Secretary:

Ms. Raisa Al Mansouri

Secretary:

Mr Abdulla C Jamal

Office Assistant:

Mr Cherukunnumal

Aboobacker

and Reconstruction Surgery in Toronto, and subsequently Fellowship training including experience in microvascular surgery. Appointed Assistant Professor he returned to the Faculty in August 2008 and is actively participating in clinical services at Tawam Hospital. Dr. Ali Al Belooshi has also completed his Residency training in Toronto (Orthopaedic Surgery) and having been appointed as an Assistant Professor, he undertook an extended period of subspecialty Fellowship training in lower limb arthroplasty including revisional surgery. Dr. Mohamad Al Ali, the most recently appointed Teaching Assistant, completed an attachment at Sheikh Khalifa Medical Centre in Abu Dhabi and also underwent training at Tawam Hospital. He undertook a short term period of training in Toronto for three months in 2007 and has now commenced a Residency training opportunity for Otorhinolaryngology at the Sahlgrenska University Hospital in Sweden.

A senior medical laboratory specialist, Mr Loay Lubbad took up appointment in the Department in May 2008 and is much involved, in particular, with experimental studies of smooth muscle function conducted by Dr. Fayez Hammad. Ms. Mahra Al Mansouri is a General Technician and assists with other duties relating to teaching as well as research. Mr. Abdulla Jamal has been acting for some years as Departmental Secretary and, facilitates both teaching activities in the Clerkships, workshops and various CME activities with dedicated service to a high standard, with assistance from Mr. Aboobacker in office duties. Ms Raisa Al Mansouri joined the Department as Secretary in May 2008 following secretarial duties in the Department of Mathematics at the UAE University. Ms Mansouri is actively engaged with administrative arrangements for teaching and CME activity, including the pending Trauma, Critical Care and Injury Prevention Conference scheduled for February 2009.

Educational Activity: teaching and training

The Department has computerized its teaching materials (Blackboard) and is involved in clinical and as well as basic science research activities. The Junior Surgical Clerkship was reorganized with an emphasis on small group teaching and case discussion with new initiatives introduced by the then Clerkship Coordinator, Dr. Fawaz Torab, who was succeeded in this role by Dr.

Fikri Abu Zidan. A question bank that has been established is now being consolidated. Dr. Torab, a member of the Faculty CME Committee, has also been a member of a Committee which has developed a course in ethics in the General Basic University Teaching Year (UGRU). He has also functioned as a Subcommittee member for implementation of Ethics and Professionalism in the Curriculum and is now Chair of the Research Ethics Committee for the Al Ain Medical District. He has also been appointed to the Research Committee of the Harvard Medical Foundation in Dubai.

Prof. Safi took on the role as Director of Postgraduate Training in the Department with the establishment in June 2005 of a local Residency training program in General Surgery under the auspices of the Arab Board with the future possibility of Associate MRCS accreditation by the Senate of Surgery in the United Kingdom. The Program has been accredited by the Arab Board in Surgery and five Residents were appointed to the first year of the program in October 2005 and four more joined the program in 2006. In 2007 Prof. Safi became the Chair of the Postgraduate Medical Education Committee. Professor Branicki assumed the role of Acting Program Director in April 2007 in a revitalized program which has been restructured along North American lines. In April 2008, Dr. Ali Jawas accepted the invitation to take on responsibilities as Program Director. Five new Residents joined the program in July 2007 and following some earlier attrition the complement of the Residents in the Program is now thirteen (PGY 1-3), with more highly organized Viva Voce and MCQ assessments during "In Service" training. A Residency Advisory Committee was established in August 2007 for the new Integrated Training Program with membership of surgeons from both Sheikh Khalifa Medical City and Mafraq Hospital in Abu Dhabi and Tawam and Al Ain Hospitals. The Program is thus expanding to other sites with a strong spirit of enthusiasm for these collaborative efforts to provide training opportunities for Residents in General Surgery.

Two new initiatives in the UAE, the first Residency Training Program in Urology commenced in July 2008 with Dr. Fayez Hammad the designated Program Director. A second new program - Residency Training Program in

Ophthalmology under the directorship of Dr. Tahra Mahmoud commenced in October 2008.

Skills and Procedural Training

In April 2004 the Department hosted inaugural back to back Provider and Instructor courses in the UAE for the Advanced Trauma Life Support (ATLS). Four invited Faculty and staff from the USA and one from Canada participated in the teaching and Provider courses have since been held again in the Faculty and in Fujairah. These courses are training Emirati graduates and others in trauma care and will help reduce the burden of disabling illness and mortality from motor vehicle crashes. In 2005 the Department hosted two ATLS courses in Al Ain and members also participated as Instructors in two courses held in Fujairah. Courses were held in the Faculty in March, April, November and December 2006. In addition, Prof. Branicki participated as Faculty for two Instructor Courses held in Abu Dhabi in May 2006. Dr. Ali Jawas and Prof. Derek Younge successfully completed the Instructor Course. In 2006 participation in Courses (teaching activities and assessments) conducted over 2.5 days at weekends was as follows: Dr. Fikri Abu Zidan (4), Prof. Derek Younge (5), Assistant Professors Fawaz Torab (4), Ali Jawas (2) with Frank Branicki who is a Course Director for the Emirate of Abu Dhabi, directing and teaching courses in Al Ain (6), Sheikh Khalifa Medical City (5) and Fujairah (1).

In 2007 ATLS activities continued with participation of Faculty members as follows: Prof. Fikri Abu Zidan (2), Prof. Derek Younge (4), Prof. Frank Branicki (6) being the Course Director and Faculty for courses in Al Ain as well as teaching courses in Fujairah (2). In 2008 Faculty participation as Instructors continued in Al Ain with courses taught by Dr. Ali Jawas (1) and Prof. Branicki (2) and Fujairah Dr. Fawaz Torab (1) and Prof. Branicki (1). By December 2008 a total of 889 doctors had been trained in 41 Provider and 5 Instructor courses – all of this made possible with active participation of Instructors (Anaesthetists, Emergency Medicine Physicians and Surgeons) at Tawam Hospital. Several Faculty also participated in an international Emirates Trauma and Emergency Surgery Conference which took place in Fujairah in May 2006. Data relating to ATLS courses and training have been presented nationally and at International Surgical Congresses.



In March 2008 the FMHS was the site for inauguration of the Advanced Trauma Provider Course for Nurses (ATCN) in the UAE, followed by an ATCN Instructor course and a second Provider Course in November 2008. These activities run in concert with ATLS courses are made possible with the enthusiastic participation of Instructors from Tawam Hospital. In addition, the Pre-Hospital Trauma Life Support Course (PHTLS) has been conducted in Tawam Hospital with Prof. Branicki acting as Faculty in December 2008.

The Department has organized a number of CME/CPD activities including an International Surgical Conference with more than 600 delegates held in Abu Dhabi in October 2003. This was highly successful with fourteen invited international Faculty and 72 free paper presentations of research activity from the UAE and elsewhere. The Department raised 75% of funding required for the meeting from corporate sponsorship. Members of the Department were involved in Pre-conference Surgical Skills workshops in January and November 2004 and



Dr. Fawaz also organized the 1st Middle East Forum and Workshop on "Virtual Reality for Skills Training in Medicine" in May 2004.

The Department is now designated a training centre for laparoscopic surgery simulation and practice by the European Association of Endoscopic Surgeons (EAES). Dr. Torab is the Founding President of the recently established entity – the UAE Chapter of the European Association for Endoscopic Surgery (EAES-UAE), with 42 members, and has organized 17 basic and advanced laparoscopic workshops involving bench top trainers, surgery in animal models and 'Virtual Reality' surgical simulations.

Prof. Fikri has received two ultrasound machines donated by the Red Crescent Society to the Department of Surgery which are to be used for the detection of free intrabdominal fluid (FAST) in trauma. The machines have also helped to facilitate teaching and research activities in trauma and other fields. Two FAST workshops for training in ultrasonography have been conducted by Dr. Fikri Abu Zidan and colleagues in 2004, 2005, and again in 2006. Dr. Fikri organized a FAST workshop at a meeting of the 7th European Congress of Trauma and Emergency Surgery which took place in Malmo, Sweden in September 2006. Subsequently, he was instrumental in facilitating the donation by SonoSite of six portable, hand held, ultrasound machines for education purposes in the Faculty of Medicine and Health Sciences at UAE University. SonoSite have since

generously sponsored an education grant for administrative support, etc, to enable CME/CPD activity in the recently established Clinical Skills Training Center at FMHS. By the end of 2008 a total of 10 FAST courses had been conducted with 216 doctors trained.

With the support of Faculty Administration it has been possible to establish a Clinical Skills and Procedural Training Centre which is a multidisciplinary venture to foster training for undergraduates and particularly Residents in a variety of clinical disciplines. Dr. Fawaz Torab, who received the Faculty Award for Teaching in April 2007, is the Director of the Center with basic and advanced laparoscopic courses planned in collaboration with industry who have strongly supported the project financially. Both FAST and ATLS courses are accommodated as need be, and also courses in laparoscopic gynaecological surgery and fetal ultrasonography. FAST trainers include, cardiologists, nephrologists, obstetrician/gynaecologists, radiologists and surgeons. This exciting initiative has been made possible with donations from instrument and equipment manufacturers. A number of Interns and Residents in the General Surgery training program have successfully completed ATLS, FAST and laparoscopic training Courses.

Education and Research Administration

Many Faculty are also heavily involved in administration of research activities – these



include the Chairs of Research Grants Committee, (Prof. Branicki, 2000-2004), Research Ethics Committee (Dr. Fawaz Torab, 2002-2004), Trauma Strategic Research Priority Group (Dr. Fikri Abu Zidan, 2002-to date) and Oncology Strategic Research Priority Group (Prof. Tjernstrom, 2002-2007), and the Postgraduate Education Committee (Prof. Farouk Safi, 2007 – to date), Drs. Torab and Fikri are members of the Research Advisory Board (RAB). Prof. Branicki, a former member of the RAB, also chairs the Undergraduate Curriculum Policy and Review Committee (2006 – to date), Dr. Torab also held membership of this Committee (2005-08) as well as the Health Informatics Group. Prof. Branicki was also a member of the Budget and Finance Committee and currently sits on the Education Advisory Board and Faculty Council. Prof. Safi also sat as a member of the Budget and Finance Committee and has been a member of various committees, including Education Advisory Board, Research Grants Committee, Promotion Committee, Health and Welfare Committee and the Oncology Research Group, Prof. Branicki and Torab also being members of this Strategic Research Priority Group for Oncology. Drs. Fawaz and Fikri are members of the Medical Education Research Group. Prof. Safi has completed commitments as Coordinator of the Gastrointestinal Module. Dr. Fikri Abu Zidan, also a member of the Medical Informatics Committee, was awarded the Faculty's Distinguished Performance Award for Teaching and Research for 2004 and Special Endeavours in Human Services Prize at 5th Annual Research Conference, April 2004.

At Tawam Hospital Prof. Branicki is a member of the Ethics and Consultation Committee, the Trauma Committee and also chairs the Quality Improvement Committee for the Department of Surgery, Dr. Fawaz Torab also being a member of this Committee. He is also a member of the Infection Control Committee and the Nutritional Committee at Tawam. Dr. Fikri is Co-chair of the Trauma Committee.

Prof. Branicki acted as Chair of three Subcommittees for Sheikh Hamdan Awards in 2004 funded externally by the Arab Health Foundation, and Dr. Torab acted as Subcommittee members for the consideration of various Awards. Prof. Branicki was again involved as Chair of a Subcommittee for the 2006 Awards and Dr. Torab was also involved as a Subcommittee member. Prof. Branicki once more acted as a Subcommittee Chair for the 2008 Awards with Dr. Torab being a Subcommittee member.

Prof. Derek Younge held nationwide responsibilities for the Terry Fox Fund for Cancer Research and was also the Director of the Clinical Sciences Course (2005 – 2007) and oversaw activities of the Al Ain Orthopaedic Club. This was founded recently and was previously chaired by Associate Professor Karl Lunsjo, who returned to Sweden in April 2006 after four successful years in the Department. Prof. Safi and Prof. Tjernstrom organized an Oncology Research Day held in Al Ain in November 2005 with presentations from holders of Terry Fox Cancer Fund awards.

Continuing Medical Education

Prof. Branicki chaired the Organizing Committee for a highly successful International Conference – Recent Advances in Clinical Oncology Conference which took place in February 2007, Prof. Tjernstrom, Prof. Safi, Prof. Younge and Dr. Torab, Chair of the Sponsorship Committee, also being involved in the organization of the Conference and its program. This was held in Al Ain United Arab Emirates, from February 19-22, 2007. The meeting was organized by the Oncology Research Group, an initiative of the Faculty of Medicine and Health Sciences at the

University and the University of Newcastle (Northern Institute of Cancer Research). Speakers from continental Europe came from Belgium (University of Leuven), France (Hospital Center of Le Havre), Germany (University of Heidelberg, University of Leipzig), Italy (University of Turin), and Spain (University of Navarra). Invited Faculty also traveled from Japan (Keio University), Korea (Pohang University of Science and Technology) and Australia (University of Queensland). In all, presentations were made by 31 International Overseas Faculty from Australia, Belgium, Canada, France, Germany, Italy, Spain, Japan, Korea, the UK, the USA and regionally from Saudi Arabia and Qatar. Sixteen UAE based speakers participated by invitation from Abu Dhabi (two), Dubai (three), Al Ain (eleven), all being Faculty members at FMHS. This was the largest group of Invited Internationally distinguished clinicians with Oncology interests ever to gather in the UAE. The meeting attracted 1000 delegates from around the world.



United Arab Emirates University. The Group comprises those with a particular interest in Oncology and membership includes basic scientists and clinical faculty at the Faculty of Medicine and Health Sciences (FMHS) and clinicians from Tawam Hospital in affiliation with Johns Hopkins Medicine.

Invited Faculty included eminent overseas speakers, many of whom are in the forefront internationally of their respective fields of interest. Those emanating from North America included clinicians from Johns Hopkins Hospital (Baltimore), MD Anderson Cancer Center (Houston), Memorial Sloan Kettering Cancer Center (New York), Case Western Reserve University (Cleveland), the Mayo Clinic (Rochester), and the University of Toronto (Canada). Invited Faculty from the UK came from the University of London (St Bartholomew's Hospital and University College), Cardiff

The Conference was deemed a great success. Financial assistance to host the meeting came from a variety of sources, substantial support came from the Faculty of Medicine and Health Sciences, UAE University, Tawam Hospital in affiliation with Johns Hopkins Medicine, and the General Authority for Health for Health Services for the Emirate of Abu Dhabi. We are most grateful for the help of many of our colleagues in the Oncology Research Group, UAE University and Tawam/Johns Hopkins Medicine. Abstracts of Invited Faculty presentations, free papers and posters were published in a special supplement of the Emirates Medical Journal [EMJ 2007; Vol 25(1 suppl.)] with the support of the Sheikh Hamdan Foundation. The Proceedings of the meeting (Eds: Prof. Branicki, Dr. Saad Aswad, Dr. Fawaz Torab, Prof. Abdu Adem) were published in a volume of the Annals of the New York Academy of Sciences (Vol 1138) in September 2008 more than 40 chapters (403pp) being included.

The Trauma Group is actively involved in planning an international Conference entitled 'Trauma Management, Critical Care and Prevention. The above conference will take place at the Intercontinental Hotel and Resort at Al-Ain on 17-19 February 2009. The Conference is an initiative of the Trauma Group

at the Faculty of Medicine and Health Sciences (FMHS), United Arab Emirates University and planning for the conference began on 4 February 2007. Prof. Fikri Abu Zidan is the Chair of the Organizing Committee, Prof. Branicki Chair of the Scientific Committee and Dr Fawaz Torab Chair of the Sponsorship Committee. The scientific program was built on controversial themes. Parallel sessions will cover four main areas: Disaster Medicine, Trauma Management, Critical Care and Injury Prevention. Four workshops are to be held on 16 February 2009. These will include 'hands on training' in four areas: Focused Assessment Sonography of Trauma, Critical Care Ultrasound, Percutaneous Tracheostomy and Establishing a Trauma Registry.

The main conference will be three full days. Sixteen well known international experts from North America, Europe, Canada, South Africa, Australia and GCC countries have accepted an invitation to participate in the conference. This International Conference will provide a forum for the exchange of ideas and knowledge concerning trauma management. The meeting will focus on recent advances and controversies through interaction with renowned international speakers. The conference will be of a multidisciplinary nature as Surgeons, Emergency Physicians, Critical Care Physicians, Radiologists, Epidemiologists, prehospital staff as well as hospital based medical and nursing staff in the United Arab Emirates and those from other GCC are expected to participate. A website of the conference has been designed <http://www.traumacnf.uaeu.ac.ae>

Research and Scholarship Activity

Dr. Torab is completing studies to evaluate resorption capacity of inflamed peritoneum in the pathogenesis of systemic sepsis in an acute peritonitis model. This work involves measurement of endotoxin and cytokines, the gastrointestinal tract being the primary source of endotoxin as a result of bacterial translocation. The work was facilitated by summer electives undertaken in 2003 and 2004 by female medical students at the Faculty. Results were presented in the GCC Students Conference in January 2004. One of his supervised students won a poster award at the GCC Medical Students Conference held in Kuwait (January 2005). One student also presented the findings, under the supervision of Dr. Torab, at a meeting in Germany in March

2005. Studies to measure endotoxin in both human and rat plasma and sera using the Limulus Amoebocyte Lysate Test (LAL) are also underway. This involves a quantitative spectrophotometric assay for endotoxin in human plasma, modified and standardized for murine plasma. Dr. Torab is collaborating with Prof. Ellis (Department of Medicine) and Dr. Ramadi (Department of Microbiology) in an analysis of the tolerability and efficacy of human recombinant interleukin II in the management of sepsis in leukemia patients undergoing consolidation chemotherapy.

Prof. Fikri has a major interest in research concerning trauma and has recently presented initial results following the establishment of the first Trauma Registry in the UAE. The project has received international attention when findings have been presented national and overseas. Profs. Fikri and Younge collaborated with former colleague Assoc. Prof. Lunsjo in prospective studies of patients treated in Al Ain Hospital having sustained scapular or pelvic fractures. These have come to fruition and are now the two largest prospective series in the literature. Prof. Younge is currently writing up his experiences with novel operative procedures he has devised for the management of musculoskeletal tumours.

Several research projects and activities have been fruitful and these include endotoxin and cytokine measurement in chemical peritonitis with intraperitoneal injection of interleukin 6, similar studies in gram positive peritonitis with endotoxin and interleukin 6 injections, as well as measurement of endotoxin, interleukin 6 and tumour necrosis factor alpha in patients with critical limb ischaemia. Studies also involve the investigation of endotoxaemia and inflammatory conditions in patients with peritonitis and treatment of infection in the feet of diabetic patients.

Prof. Fikri and Dr. Fawaz are Principal Investigators for research projects funded from different sources – the Research Grants Committee (Faculty of Medicine and Health Sciences) Individual and Interdisciplinary Research Proposals (United Arab Emirates University) and the Sheikh Hamdan Awards. More recently, Dr. Torab has been awarded a Individual Faculty Research Grant by the UAE

University for research relating to laparoscopic treatment of perforated peptic ulcer. He has also collaborated in studies with Faculty in Medical Microbiology regarding in vitro investigations of breast cancer.

Associate Professor Fayez Hammad commenced research activities in 2008 with two new projects. The first of these - "The effect of NSAIDs (nonsteroidal antiinflammatory drugs) on the obstructed kidney" was supported by a Faculty Seed Grant. The appointment of our research assistant Mr. Loay Lubbad in April 2008, enabled the commencement of this work. This project investigates the effect of NSAIDs on the function of the kidney in a rat model of unilateral ureteric obstruction. The main indicators of renal function being measured in this study are glomerular filtration rate (GFR), renal blood flow (RBF) and fractional excretion of sodium. GFR and RBF are measured using the clearance of inulin and para-aminohippuric acid, respectively. The model has now been established and studies commenced with the first group of control animals. The second new project - "Spatial and temporal electrical impulse propagation in the normal and the obstructed ureter" being carried out in collaboration with Prof. Wim Lammers from the Department of Physiology was supported by a Faculty Research Grant. The project investigates the effect of ureteric obstruction on electrical activities of the ureter. We are using small surface probes which have 160 microelectrodes on the surface to map the electrical impulses of the normal and obstructed ureter. The work is almost in its final stages and an abstract has been accepted for presentation in the Annual meetings of both the American Urological Association and the European Association of Urology.

Departmental research interests are thus diverse, currently encompassing general surgery, oncology, ophthalmology, trauma and urology. Dr. Mahmoud has ongoing research collaboration in Canada in Ophthalmology. As the Department grows in stature with a new medical laboratory specialist in post to act as laboratory manager and surgeons with subspeciality interests, it is perceived that experimental research initiatives will expand in keeping with strategic themes which have been adopted in the Faculty.

ARTICLES IN PEER-REVIEWED JOURNALS

Abu-Zidan FM, Al-Hussona M, Eid HO, Czechowski J. (2008). Massive necrotizing fasciitis. *J Trauma*. 64:241.

Adam SH, Eid HO, Barss P, Lunsjo K, Grivna M, Torab FC, Abu-Zidan FM. (2008). Epidemiology of geriatric trauma in United Arab Emirates. *Arch Gerontol Geriatr*. 47:377-82.

Ahmed I, Branicki FJ, Ramadhan K, El-Ashaal Y, Abu Zidan F. (2008). Pancreatic injuries in the United Arab Emirates. *Scand J Surg*. 97(3):243-7.

Al Hanaei A, Hefny AF, El Teraifi H, Abu Zidan FM. (2008). Small-bowel obstruction due to bilharziasis. *Scand J Gastroenterol*. 43:382-3.

Botden SM, Torab F, Buzink SN, Jakimowicz JJ (2008). The importance of haptic feedback in laparoscopic suturing training and the additive value of virtual reality simulation. *Surg Endosc*. 22:1214-1222.

Eid HO, Lunsjo K, Chikh Torab F, Abu-Zidan FM. (2008). Trauma research in United Arab Emirates: Reality and vision. *Sing Med J*. 49 (9):1-5.

Eid HO, Hefny AF, Joshi S, Abu-Zidan FM. (2008). Non traumatic perforation of the small bowel. *Afr Health Sci*. 8: 36-39

El-Ashaal YI, Al-Olama AK, Abu-Zidan FM. (2008). Trans-anal rectal injuries. *Singapore Med J*. 49:54-6.

Hammad FT. (2008). Radical Prostatectomy, Oncological Outcomes, *Annals of New York Academy of Sciences*, 1138: 267-277.

Hefny AF, Eid HO, Salim K, Abu-Zidan FM. (2008). Medical image. Fatal tyre blast injuries including

bowel evisceration and forearm amputation. *N Z Med J*. 121:72-3.

Hefny A.F., Ahmed I, Branicki F.J., Ramadan K, Czechowski J, Abu-Zidan F.M. (2008). Management of Mesenteric Vascular Occlusion. *Singapore Med J*, 49(4):316-9.

Jawas A, Abu-Zidan FM. (2008). Management algorithm for complete blunt renal artery occlusion in multiple trauma patients: case series. *Int J Surg*. 6:317-22.

Oulaqi NS, Hefny AF, Joshi S, Salim K, Abu Zidan FM. (2008). Endometriosis of the appendix. *Afr Health Sci*; 8: 196-198.

Saleh A, Potemkowski A, Abu-Zidan FM. (2008). Endovascular aortic stent graft repair for blunt traumatic thoracic aortic transection. *Sing Med J*. 49:847-8.

Tadros AM, Lunsjo K, Czechowski J, Abu-Zidan FM. (2008). Causes of delayed diagnosis of scapular fractures. *Injury*. 39:314-8.

Torab F.C., Bokobza B., Branicki F.J. (2008). Laparoscopy in Gastrointestinal Malignancies. *Annals of New York Academy of Sciences*, 1138:155-61.

Books, Chapters, Reviews and Editorials

FJ Branicki, S. Aswad, F.C. Torab, A, Adem, Eds. Recent Advances in Clinical Oncology. *Annals of the New York Academy of Sciences*, September 2008, Vol 1138, pp 403. Published by Blackwell Publishing on behalf of the New York Academy of Sciences. ISBN 978-1-57331-700-9

Published Abstracts, Letters Correspondence

Abu-Zidan FM, Eid H, Masoud B, Branicki FJ. (2008). Camel bite injuries: a six year prospective study of 33 patients. *ANZJ Surg* 2008, 78 (Suppl 1): A145(TS37P)

Abu Zidan FM, El-Houni A, Al-Ayyan M, Faour I, Neidl van Gorkom K, El-Taji H. (2008). Adrenal Insufficiency following Blunt Abdominal Trauma: Report of two Cases and Review of the Literature. *ANZJ Surg* 2008, 78 (Suppl 1): A145(TS35P)

Al-Ashaal Y, Joshi S, Tjenstrom NO, Abu-Zidan FM. (2008). Papillary thyroid carcinoma presenting as a lateral neck cyst. *ANZJ Surg* 2008, 78 (Suppl 1): A46(ES25P)

Branicki FJ, Ahmed I, Ramadan K, Al-Ashaal Y, Abu-Zidan FM (2008). Pancreatic injuries in United Arab Emirates. *ANZJ Surg*, 78 (Suppl 1): A140(TS11)

Eid HO, Adam SH, Torab FC, Lunsjo K, Barss P, Michal Grivna M, Abu-Zidan FM. (2008). Factors affecting mortality in motor vehicle collisions in Al-Ain City. *ANZJ Surg* 2008, 78 (Suppl 1): A146(TS41P)

Eid HO, Lunsjo K, Torab FC, Barss P, Grivna M, Abu-Zidan FM. (2008). Pre-incident behavior and mechanism of injury in drivers involved in vehicle collisions in United Arab Emirates. *ANZJ Surg* 2008, 78 (Suppl 1): A143(TS24P)

Hammad F, Kaya M, Kazim E. (2008). Extracorporeal Shockwave lithotripsy: another confirmation of its efficiency in children. *European Urology*. 7 (3): 82.

Hefny AF, Eid HO, Abu-Zidan FM. (2008). Severe tyre blast injuries during servicing: report of three cases and review of the literature. *ANZJ Surg* 2008, 78 (Suppl 1): A147(TS49P)

Jawas A, Abu-Zidan FM. (2008). Management Algorithm for

Complete Blunt Renal Artery Occlusion in Multiple Trauma Patients. *ANZJ Surg* 2008, 78 (Suppl 1): A147(TS44P)

Rahman M, Abu-Zidan F, Ibrahim Y, Abuhasna S. (2008). Care of terminally ill patients: an opinion survey among healthcare providers in the Middle East. *Critical Care* 12 (Suppl 2):519.

Proceedings, Invited Lectures and Others

Abu Zidan FM, El-Houni A, Al-Ayyan M, Faour I, Neidl van Gorkom K, El-Taji H. (2008). Adrenal Insufficiency following Blunt Abdominal Trauma: Report of two cases and review of the literature. *Royal Australasian College of Surgeons and the College of Surgeons of Hong Kong Conjoint Annual Scientific Congress*, Hong Kong, China.

Abu-Zidan FM, Eid H, Masoud B, Branicki FJ. (2008). Camel Bite Injuries: a six year prospective study of 33 patients. *Royal Australasian College of Surgeons and the College of Surgeons of Hong Kong Conjoint Annual Scientific Congress*, Hong Kong, China.

Abu-Zidan FM, Barss P. (2008). Occupational Injury Prevention. *Trauma and Accident and Emergency Conference*, Abu-Dhabi, UAE.

Abu-Zidan FM. (2008). Damage Control Surgery. *Second Emirates Emergency Surgery and Trauma Conference*. Fujairah, UAE.

Abu-Zidan FM, Branicki FJ, Torab FC, Albarracin F, Kazim S, Gautam SC (2008). Advanced Trauma Life Support Courses in the United Arab Emirates. *9th College of Surgeons of East, Central and Southern Africa (COSECSA) / 59th Association of Surgeons of East*

- Africa (ASEA) Annual General Meeting and Scientific Conference. Maputo, Mozambique.
- Ahmad I, Branicki FJ, Ramadhan K, El-Ashaal Y, Abu-Zidan FM. (2008). Pancreatic injuries in the United Arab Emirates. 9th College of Surgeons of East, Central and Southern Africa (COSECSA) / 59th Association of Surgeons of East Africa (ASEA) Annual General Meeting and Scientific Conference. Maputo, Mozambique.
- Al-Ashaal Y, Joshi S, Tjenstrom NO, Abu-Zidan FM. (2008). Papillary thyroid carcinoma presenting as a lateral neck cyst. Royal Australasian College of Surgeons and the College of Surgeons of Hong Kong Conjoint Annual Scientific Congress. Hong Kong, China.
- Branicki FJ. (2008). Management of early Complications following Gastro-duodenal Surgery. 7th International Surgical Update. Royal Hospital Muscat and Omani Chapter of the Royal College of Surgeons of Edinburgh. Muscat, Oman.
- Branicki FJ. (2008). Barrett's oesophagus – medical, endoscopic or laparoscopic intervention? 7th International Surgical Update. Royal Hospital Muscat and Omani Chapter of the Royal College of Surgeons of Edinburgh. Muscat, Oman.
- Branicki FJ. (2008). Gastric Cancer: Case presentation and Moderator Panel Discussion. Decision Making in Oncology: Evidence and Consensus. National Comprehensive Cancer Network (NCCN). 1st Annual Asia and Middle East Guidelines in Oncology Symposium. Al Ain, UAE.
- Branicki FJ. (2008). Gastric Cancer Surgery. Proceedings: Cleveland Clinic Surgical Symposium. Advances in Surgery. Abu Dhabi, UAE.
- Branicki FJ. (2008). Gastroesophageal reflux disease – medical, endoscopic or surgical intervention. 2nd International Conference of Laparo-endoscopic Surgery. Emirates Medical Association. Dubai, UAE.
- Branicki FJ. (2008). Pancreatic Injuries in the United Arab Emirates. Royal Australasian College of Surgeons and the College of Surgeons of Hong Kong Conjoint Annual Scientific Congress. Hong Kong, China.
- Branicki FJ. (2008). Pancreatic injuries, Al Ain experience. 2nd Emirates Emergency Surgery and Trauma Conference. Fujairah, UAE.
- Branicki FJ. (2008). Gastric Cancer- from minimal access to multimodality therapy. 9th College of Surgeons of East, Central and Southern Africa (COSECSA) / 59th Association of Surgeons of East Africa (ASEA) Annual General Meeting and Scientific Conference. Maputo, Mozambique.
- Eid HO, Adam SH, Torab FC, Lunsjo K, Barss P, Michal Grivna M, Abu-Zidan FM. (2008). Factors affecting mortality in motor vehicle collisions in Al-Ain City. Royal Australasian College of Surgeons and The College of Surgeons of Hong Kong Conjoint Annual Scientific Congress, Hong Kong, China.
- Eid HO, Lunsjo K, Torab FC, Barss P, Grivna M, Abu-Zidan FM. (2008). Pre-incident behavior and mechanism of injury in drivers involved in vehicle collisions in United Arab Emirates. Royal Australasian College of Surgeons and The College of Surgeons of Hong Kong Conjoint Annual Scientific Congress. Hong Kong, China.
- Hammad FT, Hani O Eid, F Abu-Zidan. (2008). Epidemiology of genitourinary injuries following road traffic collisions: a study from the Middle East. 2nd Emirates Emergency Surgery and Trauma Conference, Fujairah, UAE.
- Hammad FT, Kaya M, Kazim E (2008). Extracorporeal shockwave lithotripsy: another confirmation of its efficiency in children. 23rd Annual Meeting European Association of Urology. Milan, Italy.
- Hefny AF, Eid HO, Abu-Zidan FM. (2008). Severe tyre blast injuries during servicing: report of three cases and review of the literature. Royal Australasian College of Surgeons and the College of Surgeons of Hong Kong Conjoint Annual Scientific Congress. Hong Kong, China.
- Hefny AF, Ahmed I, Branicki FJ, Ramadan K, Czechowski J, Abu-Zidan F.M. (2008). Management of Mesenteric Vascular Occlusion. 9th College of Surgeons of East, Central and Southern Africa (COSECSA) / 59th Association of Surgeons of East Africa (ASEA) Annual General Meeting and Scientific Conference. Maputo, Mozambique.
- Jawas A, Abu-Zidan FM. (2008). Management algorithm for complete blunt renal artery occlusion in multiple trauma patients. Royal Australasian College of Surgeons and the College of Surgeons of Hong Kong Conjoint Annual Scientific Congress, Hong Kong, China.
- Jawas A, Abu-Zidan FM. (2008). Management algorithm for complete blunt renal artery occlusion in multiple trauma patients. 7th International Symposium on Vascular Surgery Update, Riyadh, Saudi Arabia.
- Jawas A, Abu-Zidan FM. (2008). Management algorithm for complete blunt renal artery occlusion in multiple trauma patients. 6th Gulf Heart Association Conference, Sana'a, Yemen.
- Shobhana PK, Nair D, AlMahmoud T, Azeem A, Moh'd AA, Al-Shamsi H. (2008). Visual out come of ocular trauma in camel hit and robot jockey hit injuries. World Ophthalmology Congress (WOC). Hong Kong.
- Torab FC, (2008). Is type II Diabetes now a surgical disease? Arab Health Conference. Dubai, UAE.
- Torab FC. (2008). Is type 2 diabetes

a surgical disease? 13th Annual Workshop on Diabetes Mellitus and its Complications. Al Ain, UAE.

Torab FC. (2008). Bariatric Surgery. 2nd International Conference of Emirates Society of Laparo-Endoscopic Surgeons. Dubai, UAE.

Torab FC, Fardoun A, Branicki F. (2008). Results of laparoscopic gastric banding versus bypass in a country with high prevalence of obesity and diabetes. XII World

Congress of the International Federation for the Surgery of Obesity and Metabolic Diseases, Buenos Aires, Argentina.

Torab FC. (2008). Obesity surgery in a country of high prevalence of obesity and diabetes. International Surgical Week 2007. Montréal, Canada.

RESEARCH GRANTS

FMHS NEW Research Grant
Dr F Hammad (PI), Prof W Lammers,
Ms B Stephen, Mr L Lubbad.
Spatial and Temporal electrical
impulse propagation in the normal
and the obstructed ureter.

Standing left to right: **Mr. Abdulla Jamal, Mr. Loay Lubbad, Dr. Fayez Hammad, Dr. Zuhair Al Fardan, Mr. Cherukunnummal Aboobacker**
Seated left to right: **Ms. Mahra Al Mansouri, Ms. Reesa Al Mansouri, Prof. Frank Branicki, Dr. Fawaz Torab, Dr. Ali Al Beloushi, Prof. Fikri Abu Zidan**
Absent: **Prof. Farouk Safi, Dr. Ali Jawas, Dr. Saeed Al Thani, Dr. Tahra Mahmoud**

Surgery



<http://www.fmhs.uaeu.ac.ae/Departments/Surgery>
Tel: 7137558 / Fax: 7672067

RESEARCH PRIORITY Groups

DIABETES AND CARDIOVASCULAR RESEARCH PRIORITY GROUP

ANNUAL REPORT

Introduction

Aims of the Group

Facilitate diabetes and cardiovascular research in the Faculty.
Enhance the clinical and basic research capabilities of established diabetes investigators.
Act as a channel for research funding.
Act as a resource for new faculty members and for those who may want to start research in diabetes/cardiovascular diseases.
Present scientific research at national and international scientific conferences.
Publish scientific research in national and international scientific journals.
Cooperate and liaise with any local, national or international agency with similar research interests.
Train post-doctoral, doctoral, masters and bachelors degree students.
Act as a resource unit on diabetes and cardiovascular diseases.

Activities

Annual Workshop on Diabetes Mellitus and Its Complications, March 22, 2008

The DCRG organized a one-day Annual Workshop on Diabetes Mellitus and Its Complications on Saturday, March 22, 2008 at the Faculty of Medicine & Health Sciences, United Arab Emirates University. The Workshop attracted more than 400 delegates across the UAE and abroad. The Workshop covered different areas of diabetes including New Treatment options for Type 2 Diabetes, Hypertension in Diabetes: A double jeopardy and Assessment of Physical Activity and Dietary Practices among Diabetic Patients in Al-Ain District

Core members:

Prof. Enyioma Obineche
Dr. Hussain Saadi
Prof. Abdu Adem

Prof. Chris Howarth
Prof. El-sadig Kazzam
Prof. Farouk Safi
Dr. Juma Al Kaabi
Prof. Thomas Adrian
Dr. Fatma Al Maskari
Dr. Syed Mehboob Ali Shah
Prof. Ernest Adeghate
(Chair)

In addition to the core members, group membership includes 40 other faculty members from within the FMHS.

Themes of research include the following

Neuropeptides and neurotransmitters in diabetes

Trace elements in diabetes

Immunology of diabetes

Clinical pharmacology of diabetes

Insulin and glucagon secretion

Effects of diabetes on cardiac muscle function

Epidemiology of diabetes

Diabetic complications (nephropathy, neuropathy and angiopathy)

Lipids in human and experimental diabetes

Metabolic syndrome and obesity

Pancreas transplantation

Hypertension

Gestational diabetes

Grants obtained by members

National strategy for Environment and Health in the United Arab Emirates. The Environment Agency of Abu Dhabi. 5 million USD. 2008 (Aw TC, Al-Maskari F, Schneider J, El-Sadig M and Faculty of Public Health, University of North Carolina Chapel Hill)

Parents Assisting Children and Teachers (PACT) for obesity Prevention. One Year. Individual grant. UAE University. 2008 (Shah SM, Al-Maskari F and Bernsen R).

Altered gene expression of ion transport proteins underlies ventricular arrhythmias in alloxan-induced non-insulin-dependent diabetic rats. UAE University Individual Grant (Howarth FC)

Remodelling of ion transport proteins underlies abnormal electrical conduction in the streptozotocin-induced diabetic rat heart. FMHS Project Grant (Howarth FC)

Progressive effects of type 2 diabetes mellitus on heart function in the Goto-Kakizaki rat. FMHS (Howarth FC, Adeghate E)

Sinoatrial node dysfunction in the streptozotocin-induced diabetic rat heart, UAE University Individual Grant (Howarth FC)

Exercise-induced remodelling of diabetic cardiomyopathy in STZ-induced diabetic rats. UAE University Interdisciplinary Grant (Howarth FC, Adeghate E)

Impairment of cellular redox and respiratory functions by acetaminophen: role of oxidative stress and glutathione metabolism in the prevention of toxicity by antioxidants. FMHS (Raza H)

High prevalence of rickets and sub-clinical maternal and childhood vitamin D deficiency in the Middle East: a randomized controlled trial of prenatal vitamin D supplementation to prevent vitamin D deficiency in mothers and their infants. The Thrasher Research Fund (USA) \$377,974. (Saadi H)

Release of rectal hormones for weight loss and improvement of type 2 diabetes mellitus. Externally funded project (Adrian T, Saadi H).

Effect of pancreatic beta cell transplantation on the metabolic parameters of diabetic rats. Shekh Hamdan Award for Medical Sciences (Adeghate E)

The effect of visfatin and adiponectin on metabolic parameters of an animal model of type 2 diabetes. UAE University Individual Grant (Adeghate E)

The effect of incretin on gene expression in pancreatic islet cells in diabetes mellitus. UAE University Individual Grant (Adeghate E)

Collaboration with local and international institutions

Local

Al Ain Diabetes Research Group
Emirates Diabetes Society (Emirates Medical Association)

Tawam and Jimi Hospitals, Al Ain, UAE
Neuroscience Research Group, FMHS, UAEU
Faculty of Science, UAEU

Faculty of Engineering, UAEU
International
University of Manchester, UK

James Cook University, Queensland, Australia
University of Bristol, UK
University of Leeds, UK
University of Central Lancashire, UK
Karolinska Institut, Sweden
Sемmelweis University, Hungary
CNRS, France

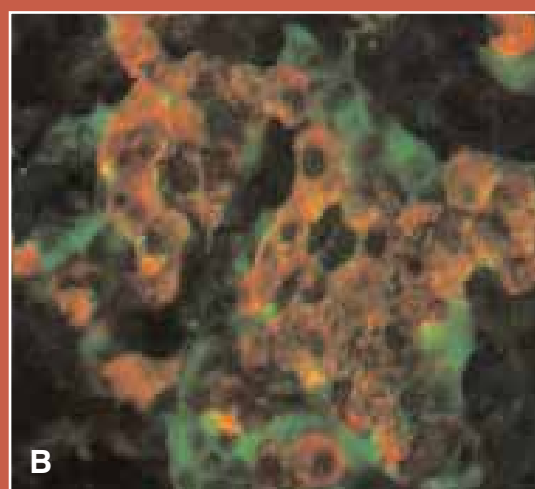
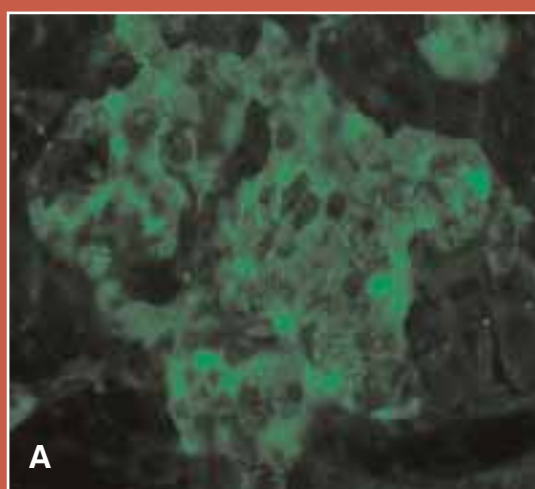
Future plans

The group is planning to establish a Diabetes Research Centre. The centre will provide a facility that enables and facilitates a multidisciplinary approach to the study of diabetes and its complications and to provide the infrastructure for diabetes related undergraduate and post-graduate research and teaching activities.

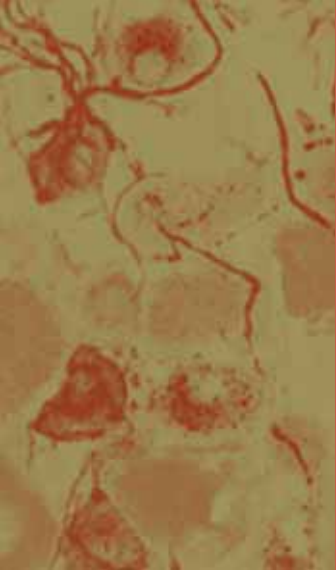
Publications

Members of the DCRG published more than 36 diabetes-related papers in top quality peer-

reviewed journals including but not limited to Annals of New York Academy of Sciences, BMC Nephrology, Chemical Biology & Drug Design, Clinical Immunology, Current Medicinal Chemistry, Diabetes Research and Clinical Practice, Endocrine Practice, Experimental Physiology, Gynecological & Obstetrics Investigation, Molecular and Cellular Biochemistry, Peptides, Peritoneal Dialysis International, Reviews in Diabetes Studies, The Endocrinologist, Toxicology and Applied Pharmacology in 2008. The cumulative impact factors of these journals exceeded 79 (See Departments of Anatomy, Biochemistry, Community Medicine, Pathology, Pharmacology, Physiology, Psychiatry, Internal Medicine and Medical Microbiology for relevant publications).



Glutamic acid decarboxylase (GAD)-positive cells are present in normal Goto-Kakizaki rat (A). Some GAD-positive (green) cells co-localize with insulin-positive cells (red) in pancreatic islets (B).



GENETICS AND DEVELOPMENT RESEARCH GROUP

ANNUAL REPORT

Mission of the Group

The UAE is a young modern society, with traditional customs and beliefs, in which consanguineous marriages are still the norm. As a result, autosomal recessive disorders occur more frequently in the UAE than in other populations with over 150 recessive disorders having been reported so far. In addition, the local population has a high frequency of alpha and beta thalassemia mutations and hemoglobin S. Furthermore, the incidence of multifactorial diseases such as type 2 diabetes, obesity, certain cancers, neurodegenerative and cardiovascular diseases has been steadily rising in the UAE over the past three decades. This is mainly due to the rapid socioeconomic growth and a significant rise in life expectancy. The rapid increase in the prevalence of multifactorial diseases also suggests genetic predisposition to those diseases revealed by rapid changes in lifestyle and diet. The mission of the Genetics and Development Research Group is to conduct the highest quality research into the basis of genetic diseases and provide high quality health care and education. In support of its mission, the group strives to (1) define the extent of genetic, developmental and multifactorial disorders in the country; (2) be the leading source of research into the causes and pathogenesis of these disorders; and (3) to seek new approaches to diagnosis, treatment and prevention of such disorders. Our mission is also to educate the next generation of health care leaders by providing continuing professional development to physicians with up to date courses and to educate the public by providing information on different genetic disorders and approaches to prevention.

The Group Principal Investigators

Principal investigators members of the Genetics and Development Research Group are affiliated to different departments within the Faculty of Medicine and Health Sciences

of the UAE University. The current membership of the group is:

Dr. Bassam R Ali

(Pathology Department); Associate Professor of Molecular Genetics and Leader of the Genetics and Development Research Group. Research interests: (1) Elucidation of the molecular defects responsible for genetic disorders in the UAE and Arab populations; (2) Development of molecular diagnostics for mutations underlying genetic diseases prevalent in Arab populations and (3) Establishing the cellular mechanisms of genetic disorders.

Prof. Yousef M Abdulrazzaq

(Paediatrics Department); Professor Research interests: (1) The genetics of truncus arteriosus (2) Metabolic disorders (3) Birth defects with vigabatrin, lamotrigine and gabapentin and (4) Aflatoxin effects on the fetus.

Prof. Thomas E Adrian (Physiology Department); Professor and Chair of Physiology Research interests: Identification of diabetes susceptibility genes in UAE nationals.

Prof. Lihadh Al-Gazali (Paediatrics Department); Professor and Senior Consultant in Clinical Genetics

Research interests: Delineation of the clinical and molecular aspects of congenital malformations in the UAE.

Dr. Ahmad Hassan Al-Marzouqi

(Biochemistry Department); Assistant Professor

Research interest: Protein complexes that modify chromatin for transcription regulation

Dr. Suhail Al-Salam (Pathology Department); Assistant Professor

Research interests: Molecular pathology of cancers in UAE

Dr. Samir Attoub (Pharmacology and Therapeutics Department); Assistant Professor

Research interest: The roles of Akt signaling in the mechanisms of cancer

Dr. Salim Bastaki (Pharmacology and Therapeutics Department); Associate Professor Research interests: 1) Oxidative phenotyping and genotyping UAE nationals using antidepressant drugs 2) Teratogenic effects of antiepileptic drugs in collaboration with Professor Abdulrazzaq.

Dr. Srdjan Denic (Internal Medicine Department); Associate Professor

Research interests: (1) Effect of human inbreeding on selection of alpha-thalassemia (2) The genetics of neutropenia

Dr. Omar M El-Agnaf (Biochemistry Department); Associate Professor

Research interest: The role of protein misfolding and aggregation in neurodegenerative diseases

Dr. Sehamuddin Galadari (Biochemistry Department); Associate Professor and Associate Dean for Research

Research interest: Cell signaling and human disease

Prof. Mohammad Y Hassan (Pharmacology and Therapeutics Department); Professor and Vice Dean of Faculty of Medicine and Health Sciences

Research interest: The roles of neurotransmitters in diabetes, epilepsy, aging and neurodegenerative diseases

Prof. Ruth Langer (Radiology Department); Professor, Associate Dean for Clinical Affairs and senior consultant Radiologist

Prof. Miodrag Lukic (Medical Microbiology Department); Professor, Chair of Medical Microbiology

Dr. Hisham Mirghani (Obs/Gyne Department); Associate Professor

Dr. Hassib Narchi (Paediatrics Department); Associate Professor

Research interests: Causes and mechanisms of common diseases in Middle Eastern populations

Prof. Tahir A Rizvi (Medical Microbiology Department); Professor
Research interest: Retroviral/lentiviral vectors for human gene therapy.

Dr. Hussain Saadi (Internal Medicine Department); Associate Professor and Senior Consultant Endocrinologist
Research interest: The genetic causes of common diseases in UAE and Arab populations

Group activities for 2008

Most of the group activities for this year have been focused on organizing the 2nd Al-Ain International Genetics Conference, 28-30th October 2008. The conference was held under the patronage of His Excellency Sheikh Nahayan Mabarak Al Nahayan, Minister of Higher Education and Scientific Research and Chancellor of the UAE University. The inaugural address was delivered by Her Excellency Dr. Fatima Al Shamsi, the UAE University Secretary General stressing the importance of genetics research to the UAE society. The opening ceremony and the first session were held at FMHS building and the rest of the conference at Al-Ain Rotana Hotel. The relevance of the conference is based on the fact that genetic

factors play a major role in the etiology of most health problems affecting Middle Eastern populations. According to the March of Dimes Survey of 2006, most Middle Eastern countries have the highest rates of birth defects in the world, mainly due to genetic causes. In addition, common diseases with clear genetic predispositions such as diabetes, cancer and age-related diseases are on the increase worldwide. Therefore, a detailed understanding of the genetic basis of birth defects, as well as common diseases, is essential for the development of better diagnosis, treatment and prevention strategies. The conference programme was focused on both the molecular and cellular basis of those diseases and the applications of new technologies and knowledge, gained through extensive research, for the benefit of the scientific community and patients. The organizing and scientific committees of the conference have set the following aims:

1. To disseminate recent research findings in human genetics among local, regional and international scientists and clinicians with a focus on the applications and molecular mechanisms
2. To promote interactions between geneticists and healthcare workers in the UAE and the region for the benefit of families affected by genetic diseases
3. To promote the practice of genetic



diagnostics and genetic counseling among healthcare workers to reduce the occurrence of new cases of genetic diseases

4. To create opportunities for collaborative research activities between scientists in the UAE with regional and international leading scientists in the field

To fulfill these objectives, the conference committees assembled a three-day scientific programme in the form of plenary lectures, symposia, workshops, oral and poster presentations covering a wide variety of themes such as the genetics of diabetes, obesity, osteoporosis, cancer, cardiovascular and skin diseases as well as the genetics of congenital malformation and mental retardation. During the three day conference, over 30 outstanding international and regional leaders in the field of human genetics delivered their latest scientific findings. In addition, several sessions and workshops were devoted to the genetic diseases prevalent in Middle Eastern countries including prevention and genetic counseling approaches. The speakers came from prestigious international and regional institutions. The opening session started with remarks on the importance of genetics and genomics research by Professor Christopher A. Walsh from Harvard Medical School and the opening lecture was delivered by Professor Philippe Froguel from Imperial College London

and CNRS in France on the genetics of type 2 diabetes, a disease that affect over 30% of the UAE adult population. The conference ended with closing remarks by Prof. S. George Carruthers, the conference president and the Dean of the Faculty of Medicine and Health Sciences.

Scientific programme of the conference:

33 Invited speaker presentations (see the list below)

12 Oral presentations selected from submitted abstracts (out of 118 received)

8 Workshop presentations

98 Poster presentations

Invited Speakers at the conference:

Prof. John Hardy, University College London, UK
Prof. Philippe Froguel, Imperial College London, UK, and CNRS, France

Dr. Joseph G. Gleeson, San Diego, USA

Dr. I. Sadaf Farooqi, Cambridge University, UK

Prof. Serge Ferrari, Geneva University, Switzerland

Dr. J. Clay Stephens, Motif BioScience, USA

Prof. Stephen B. Liggett, University of Maryland School of Medicine, USA

Dr. C. Geoff Woods, Cambridge University, UK

Prof. Christopher A. Walsh, Harvard Medical School, USA

Dr. Berthold Streubel, Medical University of Vienna, Austria

Prof. Christine Mannhalter, Medical University



of Vienna, Austria
 Dr. Kathleen Barnes, Johns Hopkins, USA
 Prof. Gary Cutting, Johns Hopkins, USA
 Prof. M. Elizabeth Ross, Weill Cornell Medical College, New York, USA
 Prof. Nabil G. Seidah, Montreal, IRCM, Canada
 Prof. Peter Bruade, King's College London, UK
 Prof. John A. McGrath, King's College London, UK
 Dr. Raghu Kalluri, Harvard Medical School, USA
 Prof. Hossein Najmabadi, Genetics Research Center, Tehran, Iran
 Dr. Moien Kanaan, Bethlehem University, Palestine
 Dr. Tawfeg Ben-Omran, Weill Cornell Medical College in Qatar, Qatar
 Dr. Hatem El-Shanti, Shaffalah Center, Qatar
 Dr. Moeen Al-Sayed, Kingdom of Saudi Arabia
 Dr. Said Al-Yahyaee, SQU, Sultanate of Oman
 Dr. Erol Baysal, Dubai Genetic Center, UAE
 Dr. Ghazi Tadmouri, Center for Arab Genomic Studies, UAE
 Prof. Lihadh Al-Gazali, UAE University, UAE
 Dr. Omar El-Agnaf, UAE University, UAE
 Dr. Srdjan Denic, UAE University, UAE
 Dr. Hussein Saadi, UAE University, UAE
 Dr. Bassam Ali, UAE University, UAE

Conference attendance:

Total attendees including delegates, speakers, organizers and sponsors over the three day period was 394 (our target was 250-300). Genetics Diagnosis and Counseling Workshop was attended by over 75 delegates (our target was 50-60).

Collaborations of the group members with UAE, regional and international organizations

Local collaborations

- Ministry of Health
- School Health Authorities
- Sheikh Hamdan Awards for Medical Sciences
- Center for Arab Genomic Studies
- Central Veterinary Research Laboratory

Regional collaborations

Sultan Qaboos University, Muscat, Sultanate of Oman

King Faisal Specialist Hospital and Research Center, Saudi Arabia

International collaborations

- International Clearing House for Birth Defect Monitoring System [member]
- Harvard University
- University of California, San Diego
- Cambridge University, UK
- Birmingham University, UK
- Imperial College London
- University College London Medical School
- National Human Genome Research Institute
- National Institute of Health, Bethesda, USA
- Institute of Human Genetics, Erlangen, Germany
- Mount Sinai School of Medicine, New York
- Telethon Institute of Genetics and Medicine Naples, Italy
- UT Southwestern Medical Center at Dallas, USA
- Institute fur Medizinische Genetik, Berlin, Germany
- Cincinnati Children's Hospital, OH, USA
- University of Ottawa, Canada
- Medical University of South Carolina, Charleston, South Carolina

Grants and Publications

Refer to departmental reports for individual members of the group.

Other major achievements in 2008

The Genetics and Development Research Priority group members led the application for the establishment of a research center of excellence in "Genes and Diseases" from the newly established National Research Foundation. The total fund approved by NRF is 37.5 million AED over five year period. Prof. Lihadh Al-Gazali was the principal applicant and the co-applicants were: Professors Basel al-Ramadi, Thomas Adrian and Ernest Adeghate and Drs Omar El-Agnaf and Bassam Ali.

(pictures are from the various activities of the 2nd Al-Ain International Genetics Conference).



THE IMMUNOREGULATION AND INFECTION RESEARCH GROUP

ANNUAL REPORT

The main aim of the Immunoregulation and Infection Research Priority Group is to promote basic and clinical research in the fields of immunology, microbiology, and related disciplines. Through its wide membership, which encompasses investigators in a diverse number of departments in the Faculty of Medicine and Health Sciences and affiliated hospitals, the Group aims to facilitate inter-departmental collaborations in basic and clinical research broadly related to immunological disorders, infectious diseases, and microbial pathogenesis. The group also undertakes sponsorship of international and regional visitors and speakers to FMHS and periodically becomes responsible for organizing international medical scientific conferences.

I. Original Publications by Group Members in the year 2008

Publication details of the members of the Immunoregulation and Infection Research Priority Group can be found under their respective FMHS departments.

II. Sponsored Events

1. The Third International Immunology Meeting

The major event during 2008 which occupied much of the group members' time was the hosting of the 3rd Al-Ain International Immunology Meeting, held under the title "Immunoregulation in Chronic Inflammatory Disorders" over the period 17-20 March 2008. The meeting was held under the patronage of HE Sheikh Nahayan Mubarak Al Nahayan, Minister of Higher Education and Scientific Research and Chancellor of the UAE University, and represented the third in a series, the first two having been held in 1993 and 2002 in Al-Ain, United Arab Emirates. The meeting was organized under the umbrella of the International Union of Immunological Societies and was supported by Nature Immunology, the premium scientific journal in the field. Twenty

Group Leader:

Prof. Basel al-Ramadi
Dept. of Microbiology & Immunology

Core Members:

Prof. Miodrag L. Lukic
Dept. of Microbiology & Immunology

Prof. Senarath Dissanayake
Dept. of Microbiology & Immunology

Prof. Michael Ellis
Dept. of Internal Medicine

Prof. S. Uduman
Dept. of Paediatrics

Prof. J. Michael Conlon
Dept. of Biochemistry

Prof. Tahir A. Rizvi
Dept. of Microbiology & Immunology

Prof. Tibor Pal
Dept. of Microbiology & Immunology

Dr. Walter Conca
Dept. of Internal Medicine

Dr. Eric Mensah-Brown
Dept. of Anatomy

Dr. Gulfaraz Khan
Dept. of Microbiology & Immunology

Dr. Maria J. Fernandez-Cabezudo
Dept. of Biochemistry

Dr. Suleiman Al-Hammadi
Dept. of Paediatrics

Dr. Mariam Al-Shamsi
Dept. of Microbiology & Immunology

Dr. Fawaz Chikh Torab
Dept. of Surgery

Dr. Suhail A. Al-Salam
Dept. of Pathology

Dr. Ahmed Al-Qahtani
Dept. of Microbiology & Immunology

Dr. Ahmed Al-Suwaidi
Dept. of Paediatrics

Dr. Agnes Sonnevend
Dept. of Microbiology & Immunology

eight international speakers from the USA (**Dr. David A. Brenner**, University of California San Diego, San Diego; **Dr. Richard A. Flavell**, Yale University School of Medicine, New Haven; **Dr. Giorgio Trinchieri**, National Cancer Institute, Bethesda; **Dr. Yang Liu**, University of Michigan Health System, Ann Arbor; **Dr. Ruslan Medzhitov**, Yale University School of Medicine, New Haven; **Dr. Emad Alnemri**, Thomas Jefferson University, Philadelphia; **Dr. Noel Rose**, Johns Hopkins Bloomberg School of Public Health, Baltimore; **Dr. Hamid Rabb**, Johns Hopkins University School of Medicine, Baltimore; **Dr. Paolo Casali**, University of California, Irvine; **Dr. Yuri Sykeluv**, Thomas Jefferson University, Philadelphia; **Dr. Zacharie Brahmi**, Indiana University School of Medicine, Indianapolis; **Dr. Mercedes Rincon**, University of Vermont, Burlington), the UK (**Dr. Adrian Hayday**, King's College London, London; **Dr. Foo Y Liew**, University of Glasgow, Glasgow; **Dr. Fiona Powrie**, University of Oxford, Oxford; **Dr. Graham A. W. Rook**, University College London, London; **Dr. Wilhelm Schwaeble**, University of Leicester, Leicester), Switzerland (**Dr. Marc Y Donath**, University Hospital Zürich, Zurich, France; **Dr. Salem Chouaib**, Institute Gustave-Roussy, INSERM, Paris, France; **Dr. Pierre Miossec**, Hopital Edouard Herriot, Lyon), Australia (**Dr. Leonard C Harrison**, The Walter and Eliza Hall Institute of Medical Research, Melbourne), Germany (**Dr. Martin Herrmann**, University Hospital Erlangen, Erlangen), Austria (**Dr. Hannes Stockinger**, Medical University of Vienna, Vienna), Tunisia (**Dr. Ridha Barbouche**, University of Tunis, Tunisia), Finland (**Dr. Malcolm Richardson**, University of Helsinki, Helsinki), India (**Dr. Narinder Mehra**, All India Institute of Medical Sciences, New Delhi), Brazil (**Dr. Jorge Kalil**, University of Sao Paulo, Sao Paulo) and Egypt (**Dr. Ahmed El Gohary**, Suez Canal University, Cairo) participated in the conference. In addition, 15 local speakers from FMHS, Tawam hospital, and Department of Preventive Medicine participated in the conference. All in all, a total of 58 plenary seminars, 18 short talks and 89 posters were presented during the conference. The number of registrants for the meeting was 423 from

more than 30 countries in North America, South America, Europe, Asia and Africa.

Meeting Report

A report on the meeting was commissioned by Nature Immunology. The report summarized the major scientific findings discussed during the conference. The meeting report was published in the July 2008 issue of Nature Immunology and was accompanied by a short editorial praising the positive steps taken by the UAE authorities in promoting the culture of scientific inquiry.

{Ref: Basel al-Ramadi, Adrian Hayday, and Wilhelm Schwaeble. Immunology in the Arabian desert. Nature Immunology 9:699-703, 2008}.

Meeting Proceedings: Special Issue of Clinical Immunology

A special, regular, issue of the journal Clinical Immunology, will be devoted for the publication of selected reviews and original articles contributed by invited speakers at the conference. The journal Clinical Immunology is the official journal of the USA-based "Clinical Immunology Society" and has an impact factor of 3.6. The special edition was published in January 2009 under the guest editorship of Prof. Basel al-Ramadi and Prof. Miodrag Lukic.

2. Sponsored Events – cont.

The following international speakers were hosted by the Immunoregulation and Infection Research Priority Group during 2008.

February 13, 2008

Prof. Andrew Lever

Professor of Infectious Diseases

Director Addenbrooke's Hospital, University of Cambridge, UK

Title of Presentation:

"HIV and its Relatives: Turning Molecular and Structural Biology to Clinical Use"

April 16, 2008

Prof. Bared Safieh-Garabedian

Professor of Neuroimmunology

American University of Beirut, Lebanon

Title of Presentation:
"Neuroimmune Role and Anti-inflammatory
Actions of Thymulin"

June 2, 2008

Professor Hannes Stockinger
Chair, Department of Molecular Immunology,
Medical University of Vienna, Austria

Title of Presentation:
"Differentiation Factors of Regulatory T cells"

November 3, 2008

Professor Janko Nikolich-Zugich MD, Ph.D.
Chairman, Department of Immunobiology,
Bowman Professor in Medical Research College
of Medicine, University of Arizona, USA.

Title of Presentation:
"Detecting and fixing the age-related defects in
T-cell immunity" ■■■

Medical Education Research Group

ANNUAL REPORT



Mission of the Group

To act as a co-ordinating body within the Faculty of Medicine and Health Sciences (UAEU) for individuals or groups interested in medical education in order to promote scholarly activities in teaching and learning locally, regionally and internationally.

Members of the Group

Chair

Prof M McLean

Core members

Prof E Adeghate

Prof D Lloyd

Prof R Sadeghi

Dr P Barss

Dr M Grivna

Dr C Howarth

Dr S Shaban

Ms G Kershaw

Dr Narchi

PRIMARY AIMS include

- Developing an ethos of medical education research within the FMHS
- Providing staff development to promote medical education research through workshops, journal clubs, etc.
- Providing guidance and resources for those interested in medical education research
- Promoting and facilitating teaching and learning scholarship by publishing research in peer-reviewed journals, conference attendance, etc.
- Co-ordinating medical education research activities within the FMHS
- Promoting medical education research with the Gulf region and internationally by establishing networks of collaborators
- Securing funding for medical research activities
- Establishing focus areas in research in terms of the current and future trends in medical education
- Communicating results of research activities to decision- and policy-makers
- Involving students in the activities of MERGE, wherever appropriate

Research profile

1. Transferable/generic skills audit: Data collection is in its

third year and involves a follow-up of Year 1 students into year 2. The study assesses students experience and confidence in 31 identified skills. A year later, students are asked to reflect on these skills (particularly where they thought they lacked experience) and indicate what activities contributed to the development of these skills. Two complete years of data have been completed (McLean, Shaban)

2. Student perceptions of research: With projects now only voluntary, we are looking at why students choose to do research and any difficulties they may encounter (McLean, Kershaw)

3. Female and male medical students' perceptions of the practice of medicine: Collaborative work with the University of KwaZulu-Natal. Final year students at the two institutions were interviewed in terms of being male and female students in their different cultures. The analysis began in November 2008. The follow-up of students as interns will begin in December 2009. A submission was been made to the UAEU Research Day (McLean)

4. Community Medicine curricula around the Gulf: Collaboratively with Dr Shaban and funded by a FMHS grant from Prof Aw. The survey has been piloted and distributed to the Deans of the various medical schools in the GCC. The aim is to collect data on what is included in the curriculum and how students learn different aspects of Community Medicine (e.g. projects in the community, tutorials, etc.) (Aw, McLean, Shaban)

5. Student project 1: *Female Emirati patient choice of a physician and their experience with medical students.* MSC 1 students undertook this project in the summer. 220 patients were interviewed. Data have been analysed and presented as a poster at the GCC Students' Conference. A submission was made to the UAEU Research Day. An abstract will be submitted for the 2009 AMEE conference. Two

manuscripts are in the process of being completed (McLean)

6. Student project 2: *Meeting the competencies of the CanMEDS roles in the FMHS curriculum.* Where are they being met? What activities contribute to their development? MSC1 students began during the summer. A poster was presented at the GCC conference in January 2009 (McLean)

7. Community Medicine Health Promotion Project: Evaluation. This project was implemented a few years ago. The intention is to publish the outcomes of this project (Barss, Grivna). ■



NEUROSCIENCE RESEARCH GROUP

ANNUAL REPORT

Mission

The mission of the Group shall be to:

- Support and promote neuroscience in Al Ain and the UAE
- Give encouragement and assistance to, and strengthen ties between, its members
- Organize seminars, congresses and workshops in the field of neuroscience
- Collaborate with and participate in scientific activities of other groups in the field of neuroscience nationally and internationally.
- Develop educational programs at the UAE University that lead to higher degrees in Neuroscience

Major Achievements

In the year 2008 the members of the group have presented several abstracts in national and international meetings and a number of publications have resulted from their research activities. Several members of the group have received major research grants from local and international bodies including Michael J. Fox Foundation for Parkinson's Research, USA, Shaikh Hamdan Award for Medical Sciences, Terry Fox Grant, Emirates Foundation, and several FMHS & UAE University Research Grants.

Several members of the group hold membership in prestigious organizations and serve on the editorial board of international journals and committees. Also the group members collaborate with a number of research groups, institutions and organizations within the UAE & abroad.

UAE:

Al Ain Hospital, Al Ain
Central Veterinary Research Laboratory, Dubai
Centre for Arab Genomic Study

Faculty of Science, UAEU
Tawam Hospital, Al Ain
Zayed University, Dubai

Abroad:

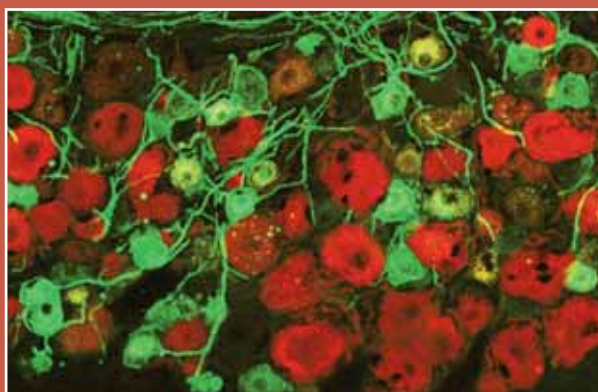
Boston College, MA, USA
Bogomeletz Institute, Ukraine
Conway Institute, Dublin, Ireland
Columbia University, NY, USA
Chapman University, USA
Chinese University of Hong Kong, China
Center of Molecular Neurobiology, University of Hamburg, Germany
Harvard Medical School, USA
Imperial College, London
Institut Pasteur de Lille, Cedex, France
Institutes for Medical Research and Neurology, Belgrade, Yugoslavia
Iowa Medical School, USA
James Cook University, Queensland, Australia
Janssen Research Foundation, Belgium
Lancaster University, UK
Kyoto Prefectural University of Medicine, Kyoto, Japan
Laboratory of Neurogenetics, National Institute on Aging, Maryland, USA
Mayo Clinic, Florida, USA
Manchester University, UK
McMaster University, Canada
National Institute of Health, USA
Royal Free & University College London Medical School, UK
SGHMS, University of London, UK
Sultan Qaboos University, Muscat, Oman
The Karolinska Institute, Sweden
The Queen's University of Belfast, UK
University of Manchester, UK

University of Aarhus, Denmark
Universita La Sapienza, Rome
University of Aalborg, Denmark
University of Amsterdam, Netherlands
University of Bonn, Germany
University of California and San Diego, USA
University of Gevle, Sweden
University of Glasgow
University of Groningen, Netherlands
University of Turin, Italy
University of Xi'an, China
Utrecht Medical Centre, Netherlands

Summary of Grants & Publications 2008 (refer to departmental reports as below):

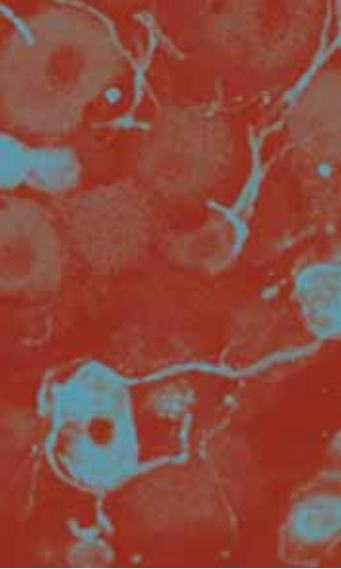
Shehab S (Anatomy).
Adeghate E (Anatomy).
Mensah-Brown E (Anatomy).
Dietrich Lorke (Anatomy).
Conlon JM (Biochemistry).

El-Agnaf O (Biochemistry).
Galadari S (Biochemistry).
Nicholls MG (Internal Medicine).
Lukic M (Medical Microbiology).
Al-Gazali L (Paediatrics).
Gururaj A (Paediatrics).
Petroianu G (Pharmacology).
Adem A (Pharmacology).
Hasan MY (Pharmacology).
Bastaki S (Pharmacology).
Attoub S (Pharmacology).
Murat Oz (Pharmacology).
Fahim M (Physiology).
Lammers W (Physiology).
Ljubisavljevic M (Physiology).
El-Rufaie O (Psychiatry).
Raguram R (Psychiatry).
Osman O (Psychiatry).
Moselhy H (Psychiatry).
Salem M (Psychiatry).
Amri L (Psychiatry).
Corr P (Radiology).
Gorkom van K (Radiology).



Confocal image of a section of the fifth lumbar dorsal root ganglion showing isolectin B4 (IB4) labelled neurons (green) and cholera toxin subunit B (CTb) labelled neurons (red) from a rat which had IB4 and CTb injection into the sciatic nerve. IB4 and CTb were used as neuroanatomical tracers to label unmyelinated neurons which are involved in pain sensation and myelinated neurons which are involved in touch sensation respectively.

(Courtesy of Dr Safa Shehab)



Oncology Research Group

ANNUAL REPORT

Introduction

The Oncology Research Group (ORG) comprises colleagues at FMHS and the Abu Dhabi Health Authority, who share an interest in oncology research. The Chair of this group is Prof. Thomas Adrian and the Vice-Chair is Prof. Frank Branicki. Dr. Jorgen Kristensen at Tawam Hospital is the Deputy Chair.

Objectives

- To promote cancer research – being a catalyst for research activity
- To create a forum for collaboration between Faculty members, basic scientists and colleagues in clinical disciplines, Faculty staff and colleagues of the Abu Dhabi Health Authority dealing with oncology.
- To create and maintain an inventory of
 - research activities
 - resources available
 - basic research expertise
 - available clinical services
 - specialty interests – subspecialties
 - individuals – registry of interest in Oncology
- To act as a reference group regarding cancer research and funding
- To act as an Advisory body to the Abu Dhabi Health Authority regarding cancer issues of national interest, e.g. breast cancer screening, cervical screening, risk factors
- To create a unified list of all cancer-related educational activities countrywide
- To act as an Advisory body for education regarding cancer, organizing lectures on cancer, cancer conferences and meetings at a local and national level

- To promote quality control in the management of patients with cancer

Cancer Database

Members of the group are supporting efforts to improve the national cancer register at Tawam hospital. This is considered to be the cornerstone of cancer surveillance in the UAE and will provide the tool to measure the nation's progress against cancer. A committee has been set up under the leadership of Dr. Jorgen Kristensen to work on all aspects of the registry. In the future all government and private healthcare providers in the UAE will contribute to the registry.

Tissue Bank

The group considers this to be a valuable resource for oncology research in the UAE. The bank will provide for the collection, processing and storage of human tumors and appropriate control tissues for research. The bank will help to foster collaborations between clinical oncologists and basic scientists at the FMHS. Approval for the tissue bank from the human ethics committee is in place, although approval for individual projects utilizing tissue will have to be obtained by the project investigators. The equipment and staff for the tissue procurement bank are in place. A subcommittee has developed protocols for tissue collection and storage as well as other issues, such as ethical approval, consent, maintenance of records, authorship recognition for surgeons and pathologists participating in tissue collection, etc.

Cancer Research Day

A cancer research day is being planned for the autumn of 2009.

of the ORG members were included in the recently-funded, National Research Foundation, Genes and Diseases Research Center of Excellence Award.

CANCER-RELATED PUBLICATIONS AND PRESENTATIONS OF ORG MEMBERS IN 2008

This year members of the ORG published 30 publications in peer-reviewed journals including the Lancet, Cancer Research, Clinical Cancer Research, Proceedings of the National Academy of Sciences, Journal of the American Medical Association, British Journal of Cancer and the Annals of the New York Academy of Sciences. The group also made 21 presentations at International meetings during the year. ■

CANCER-RELATED GRANT AWARDS OF ORG MEMBERS IN 2008

During 2008, members of the ORG received a total of 17 research grants for their work, including six awards from the Terry Fox Fund for Cancer Research, two UAE University Interdisciplinary Awards, one from the Sheikh Hamdan Awards. In addition, the projects of six

TRAUMA RESEARCH GROUP

ANNUAL REPORT



Summary

During 2008 the Trauma Group has made major contributions in trauma education and research both nationally and internationally. The "hands on training" in point of care ultrasound continued to flourish with introduction of a new course on Emergency Ultrasound. The group has run four courses in 2008, now published 14 papers related to trauma in international refereed journals, and presented more than twenty five abstracts with oral presentations at national and international meetings. The results of a major interdisciplinary grant "road traffic collision injuries" were analyzed and presented internationally and were highly appreciated. This includes full details of 1007 motor vehicle collisions collected over one and a half years .

Mission

Our mission is to promote and perform research and education of a high standard in the field of trauma so as to improve patient care.

MAJOR ACHIEVEMENTS OF THE TRAUMA GROUP IN 2008
INCLUDE:

A) Road Traffic Collision Registry

This project has run as planned and was successfully completed. We have collected detailed information on 1007 patients involved in road traffic collisions and pre-event information over one and a half years and data were analyzed. These data were presented at national and international meetings. A web-based road traffic collision registry has been established (**Fig 1**).

B) Participation in Scientific Courses

The Trauma Group was actively involved in the organization and conduct of numerous courses.

1) Advanced Trauma Life Support (ATLS) Provider and Instructor Courses: It was deemed essential to train UAE doctors using ATLS principles to improve the management of trauma patients. More than 889 doctors have taken the Provider Course to date in UAE. We have been encouraged by the increasing support and popularity of ATLS in the UAE. This course has been conducted at the Faculty of Medicine and Health Sciences four times every year. A greater awareness of the value of ATLS enhancement of the early management of severe trauma is more evident in our setting.

2) Course on Focused Assessment Sonography (FAST) for Trauma. Twelve courses have been run since the establishment of this course. 216 doctors have received "hands on" training on the use of FAST. The majority were senior registrars from Emergency Medicine (**Fig 2**). We have noticed increasing support and popularity for FAST in clinical practice in our setting. We have increased the annual number of point of care ultrasound courses from two to four. The demand from participants, local and overseas, is increasing. Sonosite has loaned four advanced Sonosite hand-held ultrasound machines to help us run our courses. These activities led to the establishment of The Clinical Skills Training Centre at the Faculty of Medicine and Health Sciences, UAE University (www.fmhs.uaeu.ac.ae/cstc)

C) Preparation of an International Conference on Trauma Management, Critical Care and Prevention

The Trauma Group is actively involved in planning an international Conference entitled 'Trauma Management, Critical Care and Prevention'. The above conference will take place at the Intercontinental Hotel and Resort at Al-Ain on 17-19 February 2009. The Conference is an initiative of the Trauma Group at the Faculty of Medicine and Health Sciences (FMHS), United Arab Emirates University and planning for the conference began on 4 February 2007.

Five organizations are involved in the preparation of this conference:

1. Trauma Group, Faculty of Medicine and Health

Sciences, UAE University.

2. Critical Care Department, Tawam Hospital in affiliation with Johns Hopkins Medicine.

3. Al-Ain Hospital managed by University of Vienna/Va Med.

4. Health Authority Abu Dhabi (HAAD).

5. Sheikh Hamdan Award for Medical Sciences.



Fig 1. Establishing a Road Traffic Collision Registry of Al-Ain City was one of the major achievements of the Trauma Group.

The scientific program was built on controversial themes. Parallel sessions will cover four main areas: Disaster Medicine, Trauma Management, Critical Care and Injury Prevention. Four workshops are to be held on 16 February 2009. These will include 'hands on training' in four areas: Focused Assessment Sonography of Trauma, Critical Care Ultrasound, Percutaneous Tracheostomy and Establishing a Trauma Registry.

The main conference will be three full days. Sixteen well known international experts from North America, Europe, Canada, South Africa, Australia and the GCC countries have accepted the participation in the conference.

This International Conference will provide a

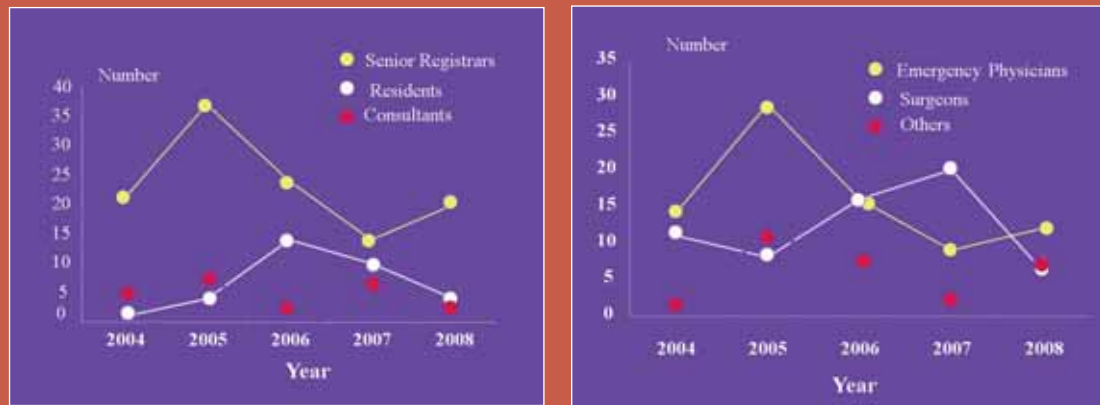


Fig 2. Specialty and rank of trained participants of the FAST Courses

forum for the exchange of ideas and knowledge concerning trauma management. The meeting will focus on recent advances and controversies through interaction with renowned international speakers. The conference will be of a multidisciplinary nature as Surgeons, Emergency Physicians, Critical Care Physicians, Radiologists, Epidemiologists, prehospital staff as well as hospital based medical and nursing staff in the United Arab Emirates and those from other GCC are expected to participate. The program has been structured in the form of plenary and parallel lectures and symposia, as well as oral and poster presentations. Issues addressed will include evidence based diagnosis and management of trauma patients, damage control surgery and angioembolization, abdominal compartment syndrome, and new trends in trauma research including management of coagulopathy and sepsis. Specific important topic sessions such as prehospital care, trauma education and training, trauma registries and systems, disaster management, injury prevention, biomechanics and road safety will also featured as well as dealing with trauma management of specific

organs. A website of the conference has been designed (<http://www.traumaconf.uaeu.ac.ae>).

D) Successful Grants

Grants

- Road Traffic Collision Injury Registry in Al-Ain City, Interdisciplinary University Research Grant.
 - The magnitude and risk factors of childhood injuries in UAE. Funded by Johnson & Johnson Middle East and Safe Kids Worldwide
 - Educational Grant to support Point of Care Ultrasound courses, Sonosite, Middle East.
- Details of these grants are to be found in the relevant Departmental Reports (Department of Surgery and Department of Community Medicine).

E) Publications and Abstracts

In 2008, the group has published 14 papers related to trauma in international referred journals and one research monograph. Both quality and quantity of research has improved. These papers stemmed from collaborative work with Tawam and Al-Ain Hospitals networking between the University and these two

institutions. The group has presented more than twenty five abstracts and oral presentations at national and international meetings in 2008. Details of these publications and presentations are also to be found in the relevant Departmental Reports (Department of Surgery, and Department of Community Medicine).

E) Clinical Service Role:

Professor Branicki (member) and Professor Abu-Zidan (Co-Chair) continue to serve on the Trauma Committee of Tawam Hospital. The members of the Trauma Group are actively participating in the Trauma CME program of Tawam Hospital. Furthermore, The Trauma Group has established a hospital-based trauma registry in Tawam Hospital. Dr Hani Eid has moved to Tawam Hospital to work in the Emergency Department as well as establishing this registry. The Trauma Group has also helped Al-Rahba Hospital (Abu Dhabi) and Rashid Hospital (Dubai) to start their Registries. Our ultimate goal is the establishment of a nationwide registry. ■

Medical Students Research



MEDICAL STUDENT RESEARCH



2008 has been a very busy year for student research. A major activity has been the preparations leading up to "The 6th International Scientific Conference for Medical Students in the GCC Countries". The summer was also a busy time for research.

"The 6th International Scientific Conference for Medical Students in the GCC Countries"

Nearly 200 students have been involved in the organisation of the conference which was held in the Faculty of Medicine & Health Sciences (FMHS), United Arab Emirates University (UAEU), January 18-21st, 2009. More than 1600 delegates from more than 35 countries were registered to attend the event which included 6 international keynote speakers, 74 oral and 198 posters, 17 workshops, 2 plenary sessions, a Medical Exhibition and a variety of social events.

The keynote speakers included: Professor Sir Bruce Ponder, Director of Cancer Research UK Cambridge Research Institute, UK; Professor David C. Dale, Professor of Medicine, University of Washington, USA; Doctor Joyce Pickering, Associate Dean, Medical Education & Student Affairs, Faculty of Medicine, McGill University, Canada; Professor Adekunle Dawodu, Professor of Paediatrics, Director of International Patient Care and Education, Cincinnati Children's Hospital Medical Centre, USA; Professor Ronald Harden, Director, Centre for Medical Education, University of Dundee, Scotland; Professor Ronald Berk, Professor of Biostatistics & Measurement, Former Assistant Dean for Teaching, The Johns Hopkins University, USA.



FMHS students contributed 14/74 Oral and 18/198 Poster presentations and two of our presentations won awards:

“The cellular mechanisms of Missense mutation in ALK1 causing hereditary Hemorrhagic Telangiectasia Type 2”, Al-Awadhi A, Al-Suwaidi S, John A, Karuvantevida N, Allistair N & Ali B. Supervisor: Doctor Bassam Ali, Department of Pathology. Basic Science, Oral Award.



“Mutational analysis of the predicted secondary RNA structure of Feline immunodeficiency virus (FIV) packaging signal”, Al Shamsi N, Al Neyadi A. Supervisor: Professor Tahir Rizvi, Department of Medical Microbiology. Doctor Rafia Ghubash, Oral Award.

Abstracts from the conference were published in a special edition of the “Journal of Medical Sciences”, the official publication of Sheikh Hamdan Bin Rashid Al Maktoum Award for Medical Sciences.



The event was supported by a variety of generous sponsors including: Health Authority – Abu Dhabi, Sheikh Hamdan Award for Medical Sciences, Sheikh Khalifa Medical City, Abu Dhabi Company for Onshore Oil Operations, Al Ain Hospital Medical University of Vienna, Tawam Hospital in affiliation with John Hopkins Medicine, The British Council, Lagap SA, Lari, FMHS, UAEU and others. ETIHAD Airlines were the official carriers for the conference.



Summer Research

Around 50 students took part in research activities during the summer and many of the projects were carried out in FMHS Research Laboratories. Four students were selected to join the UK Research Scholarship Program. This initiative is supported by the British Council and FMHS and provides opportunities for selected students to participate in research activities in ‘cutting-edge’ research laboratories in the UK during the summer holidays. Fatima Rashid Ali Al Kindi visited the laboratory of Professor Catherine Sarraf, Department of Biomedical Sciences, University of Westminster, London; Hind Saif Sultan Al Dhaheri visited the

laboratory of Professor Saadeh Suleiman, Bristol Heart Institute, University of Bristol, Bristol; Mariam Saleh Ali Al Harbi visited the laboratory of Professor Peter Ellaway, Division of Neurosciences & Mental Health, Faculty of Medicine, Imperial College London; Sarah Khamis Mohd Alsuwaidi visited the laboratory of Professor Miguel C. Seabra, Molecular & Cellular medicine, National Heart & Lung Institute, Faculty of Medicine, Imperial College London.

Some of our students contributed presentations at the "Chancellors Undergraduate Research Awards" (CURA) and "The 9th Annual UAE University Research Conference".

Harvard Medical School Dubai Centre Tamayoz Award

In recognition of his research activities Ahmed Al Hammadi, now a senior Medical Student, received the Harvard Medical School Dubai Center Tamayoz Award in the category Trainee Award for Research (2008). Ahmed spent three years working in the field of diabetes and heart function in the laboratory of Professor Chris Howarth. In 2007 Ahmed was selected for a UK Research Scholarship and spent the summer holidays working in the laboratory of Professor Saadeh Suleiman at the Bristol Heart Institute, University of Bristol. He contributed to the publication of a full paper in the Journal of Molecular & Cellular Biochemistry (2007) and has presented his research at various national and international conferences.



Examples of Recent Publications

Omar Al-Falasi, Khalid Al-Dahmani, Khalid Al-Eisaei, Salem Al-Ameri, Fatma Al-Maskari, Nicholas Nagelkerke and John Schneider (2008) Knowledge, Attitude and Practice of Anabolic Steroids Use Among Gym Users in Al-Ain District, United Arab Emirates, *The Open Sports Medicine Journal*, 2, 75-81.

Barss P, Subait OM, Al Ali MH & Grivna M (2008) Drowning in a high-income developing country: newspapers as an essential resource for injury surveillance. *J Sci Med Sport*, doi:10.1016/j.jsams.2007.08.016.

Howarth FC, Al Ali S, Al Sheryani S, Al Dhaheri H, Al Junaibi A, Almugaddum FA, Qureshi MA & Ljubisavijevic M (2007) Effects of voluntary exercise on heart function in the streptozotocin-induced diabetic rat, *International Journal of Diabetes & Metabolism*, 15: 32-37.

Conlon JM, Al-Dhaheri A, Al-Mutawa E, Al-Kharrge R, Ahmed E, Kolodziejek J, Nowotny N, Nielsen PF & Davidson C (2007) peptide defenses of the Cascades frog, *Rana cascadae*: implications for the evolutionary history of frogs of the Amerana species group, *Peptides*, 28: 1268-1274.

Ganczak M, Barss P, Alfaresi F, Almazrouei S, Muraddad A & Al-Maskari F (2007) Break the silence: HIV/AIDS knowledge, attitudes, and educational needs among Arab university students in United Arab Emirates. *J Adolesc Health*, 40: 572.e1-8.

Ganczak M, Barss P, Al-Marashda A, Al-Marzouqi A & Al-Kuwaiti N (2007) Use of the haddon matrix as a tool for assessing risk factors for sharps injury in emergency departments in the United Arab Emirates. *Infect Control Hosp Epidemiol*, 28: 751-4.

Howarth FC, Al-Sharhan R, Al-Hammadi A & Qureshi MA (2007) Effects of streptozotocin-induced diabetes on action potentials in the sinoatrial node compared with other regions of the rat heart, *Molecular & Cellular Biochemistry*, 300: 39-46.

Kosanovic M, Hasan MY, Subramanian D, Al Ahababi AA, Al Kathiri OA, Aleassa EM & Adem A (2007) Influence of urbanization of the western coast of the United Arab Emirates on trace metal content in muscle and liver of wild Red-spot emperor (*Lethrinus lentjan*). *Food Chem Toxicol*, 45: 2261-2266.



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RESEARCH PROFILE

The National Medical Library (NML) together with the Faculty of Medicine and Health Science continued to provide wide and efficient access to information to all Health Science Professionals in the country.

The NML houses a print collection of medical books and journals along with a growing collection of e-resources and medical databases accessible via NML website. In addition, the NML hosts a growing number of learning resources for the educational needs of the faculty such as DVD's, models and charts. Library services may be obtained through physically visiting the library or by requesting them online. A staff of professional and para-professionals are available to assist all library users.

In recent years, the NML has also housed the simulcast digital classrooms and the student computer laboratories, both developments that have ensured a much more prominent and lively attendance of students than is usual in a traditional library. In fact, as with other libraries in the world, the NML is witnessing a rapid change towards multi media contents than ever before, providing information services at a distance, typically at the desktop of individual faculty or closer by as with the growing collections of learning materials such as CD's, DVD's, anatomical and pathophysiological models.

Finally it is hoped that with the arrival of the new librarian, this development may continue thereby ensuring that the NML will enter the digital age as befits the largest medical repository of the nation.

Standing Left to right: **Mr. Abdurahiman, Mr. Khurshid Iqbal, Mr. Ahmed Fathy (LRC),
Mr. Abdul Salim, Mr. Khalid Pasha**
Sitting Left to right: **Mr. Osama Kayal, Ms. Widad Al Jaili (LRC), Ms. Muna Abdul Hameed,
Ms. Eben Prasad, Mr. A.V.Thomas**
Absent: **Ms. Hessa Ahmed**

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Impact Factor

Journal	Impact Factor
Lancet	28.638
Science	26.372
Gastroenterology	11.673
Am J Hum Genet	11.092
Nano Letters	9.627
J Allergy Clin Immunol	8.115
J Neurosci	7.490
J Immunol	6.068
J Infect Dis	6.035
AIDS	5.842
RNA	5.840
Emerg Infect Dis	5.775
Env Health Perspect	5.636
J Virol	5.332
Am J Epidemiol	5.285
Cell Mol Life Sci	5.239
Current Med Chem	4.944
Am J Med	4.907
Free Radical Biol & Med	4.813
Int J Immunopathol Pharmacol	4.665
Cochrane Database Sys Rev	4.654
J Neurochem	4.451
Neurobiol Dis	4.377
Biochem Journal	4.009
Exp Neurology	3.982
Toxicology & Applied Pharmacol	3.846
Acta Psychiatrica Scandinavica	3.782
AIDS Reviews	3.714
Am J Physiol Reg 1	3.661
J Neurosci Research	3.268
Clin Genet	3.181
Acta Neuropathologica	3.179
Cell Proliferation	3.120
Pediatr Infect Dis J	3.086
Mini Rev Med Chem	3.060
Exp Physiol	3.014
Neurotoxicology	3.009
Anal Biochem	3.002
Clin Microbiol Infect	2.980
J Physical Chemistry A	2.918
Biochemie	2.899
Mol Human Reprod	2.871
Biological Chem	2.840
Toxicol Lett	2.826
Eur J Neurol	2.580
Evolution & Human Behav	2.529

Journal	Impact Factor
Int J Med Microbiol	2.524
Malar J	2.473
Pediatr Allergy Immunol	2.454
Diagn Microbiol Infect. Dis	2.448
Am J Med Genetic Part A	2.440
Regul Peptides	2.422
J Adolescent Health	2.387
Eur J Pharmacol	2.376
Peptides	2.368
Comparative Biochem & Physiol C	2.345
J Trauma	2.334
Int J Infection	2.250
Toxicon	2.246
Surg Endosc	2.242
Brain Res	2.218
Food & Chem Toxicol	2.186
Stat Appl Genet Mol Biol	2.167
Pediatr Blood and Cancer	2.164
Nutrition	2.104
J Med Microbiol	2.091
Mol Medicine	2.078
Chem Biol & Drug Design	2.043
Exp Brain Res	2.027
Parkinsonism Relat. Disordr	2.021
Perit Dial Int	1.995
Exp Biol Med (Maywood)	1.979
J Appl Toxicol	1.942
J Epidemiol	1.906
Diabetes Res. Clin. Pract	1.823
Patient Educ Couns	1.792
Scan J Gastroenterol	1.758
Ann NY Acad Sci	1.731
Am J Health Sys Pharm	1.708
Mol Cell Biochem	1.707
Clin Toxicol	1.706
J Inherit Metab Dis	1.668
BMC Public Health	1.633
Leuk Lymphoma	1.512
Injury	1.509
J Nutrition Health Ageing	1.475
Appl Immunochem & Mol Morphology	1.474
Acta Paediatr	1.411
Anal Letters	1.362
Neuropathology	1.326
Archives of Gerontology & Geriatrics	1.289
Nephrology	1.241
Med Teacher	1.229

Journal	Impact Factor	
Genet Test	1.218	
Gyn & Obs Investigation	1.157	
Kidney Blood Press Res	1.092	
J Sci & Med in Sport	1.091	
Ann Hum Biol	1.060	
Br Dental J	1.018	
J Environ Sci Health A Tox Hazard		
Subst EnvironEng	0.967	
Med Biol Eng & Comp	0.943	
J Chemotherapy	0.922	
Wiener Klinische Wochenschrift	0.885	
Pharmazie	0.775	
J Pediat Ophthalmol. Strabismus	0.765	
Ann Trop Paediatric	0.737	
Archives of Gynecology and Obstetrics	0.666	
Scot Med J	0.500	
Int J Psychiatry in Clin Practice	0.446	
Turk J Pediatr	0.408	
Saudi Med J	0.329	
J Cosmet Sci	0.283	
Accident Analysis and Prevention	-	
Afri Health Sci	-	
Am J Ment. Retard	-	
Arab J Psychiatry	-	
Biochemica Biophysica Acta	-	
Biomed Eng. Online	-	
BMC Nephrol	-	
BMJ Monograph	-	
Cardio J South Africa	-	
Chronic Illin	-	
Congenit Anom	-	
Current Topics in Naturaceutical Res	-	
Current Trends in Biotech & Pharmacy	-	
Cutan Pathol	-	
Eastern Medit Health J	-	
Emirates Med J	-	
Eur J Echocardiogr	-	
Health Care for Women Intl	-	
Health Info Library J	-	
Hematol Oncol Stem Cell Ther	-	
Int Psychiatry	-	
Int J Surgery	-	
Int Urogynecol J Pevic Flr Dysfunction	-	
Iran J Radiol	-	
J Ambul Care Manage	-	
J Canadian Family Physicians	-	
J Cardiology	-	

Journal	Impact Factor	
J Emergency Med, Trauma & Acute Care	-	
J Headache Pain	-	
J Islamic Med Assoc of N.A.	-	
J Medical Sci	-	
J Nephrology & Renal Transplantation	-	
J Occ Med & Tox	-	
J Scholarship of Teaching & Learning	-	
Khartoum Pharmacy J	-	
MAM Paediatric Med	-	
Mol Cytogene	-	
NZ Med J	-	
Open Medicinal Chem J	-	
Open Sports Med J	-	
PLoS ONE	-	
Review of Diabetic Studies	-	
Scan J Surg	-	
Singapore Med J	-	
South Afri Med J	-	
Sri Lanka J of Child Health	-	
Traffic Injury Prevention	-	

كلمة العميد

الزملاء الأعزاء،

يسرني في هذا التقرير الأخير لي كعميد للكلية أن أعرب عن خالص شكري وتقديري إلى أعضاء هيئة التدريس والطلبة والموظفين الفنيين على ما بذلوه من جهد من أجل إثراء المنشورات العلمية خلال العام الإداري ٢٠٠٨. أتوجه بالشكر كذلك مرة أخرى إلى الأستاذ الدكتور ويم لأمرز على توليه صياغة مختلف المعلومات في شكل كتاب متكامل، كما أشكر أيضا السيدة إيفانا ليزاريتوري على التصميم الجديد للكتاب.

يساهم في توفير منح البحث العلمي بكلية الطب والعلوم الصحية مجموعة كبيرة من المتبرعين مثل جائزة الشيخ حمدان للعلوم الطبية وصناديق تيري فوكس لبحوث السرطان بكل من دبي وأبو ظبي ومؤسسة مايكل ج فوكس. بالإضافة إلى ذلك ما أنفك المجلس البريطاني بالتعاون مع كلية الطب والعلوم الصحية يعمل على إتاحة الفرصة أمام الطلبة للمشاركة في برامج البحوث العلمية الاختيارية في المملكة المتحدة خلال فترة الصيف. يحق لطلبتنا بمعية مشرفيهم سواء كانوا من أعضاء هيئة التدريس أو من الموظفين أن يفخروا كل الفخر بما حققوه من إنجازات ذات مستوى عال خلال عام ٢٠٠٨ وذلك بفضل إخلاصهم وتفانيهم في العمل. وقد أتت جهودهم أكلها بكل تأكيد خلال المؤتمر السادس لطلبة كليات الطب في دول مجلس التعاون الخليجي الذي تم عقده في مدينة العين.

غالبا ما تأتي المؤتمرات العلمية الكبرى تتويجا لما تبذله فرق أولويات البحوث العلمية بكليتنا من جهود، حيث يشارك في هذه المؤتمرات العديد من الباحثين من مختلف دول العالم بصفة موفدين قارين من أجل الاستفادة من مثل هذه اللقاءات التي تحظى بسمعة علمية عالية استحققتها عن جدارة. من الأشياء التي تبعث السرور في النفس كذلك هو ما نشهده من مشاركة متزايدة في برامج طلبة الدراسات العليا بجامعة الإمارات العربية المتحدة وبرامج تدريب الأطباء المقيمين والزملاء الباحثين وغيرهم من الزملاء السريريين في المستشفيات المحلية الذين تضاهي قيمة ما يقدمونه من مساهمات في العروض الشفوية وعروض الملصقات المعايير الدولية.

من أبرز أحداث عام ٢٠٠٨ هو الإعلان عن إنشاء مركز التميز بتمويل الهيئة الوطنية للبحث العلمي من أجل دعم التعاون في مجال بحوث الجينات والأمراض بين كلية الطب والعلوم الصحية وجامعة زايد بقيادة كل من الأستاذة الدكتورة لحاظ الغزالي والدكتور بسام علي.

إن ما يبذله قطاع البحث العلمي بجامعة الإمارات العربية المتحدة بقيادة سمو الدكتورة ميثاء الشامسي من جهود في سبيل دعم البحوث العلمية، ويساعدها في ذلك بكل اقتدار الأستاذ الدكتور محمد فهيم والطاخم الإداري للبحث العلمي بكلية الطب والعلوم الصحية بقيادة الدكتور سهام الدين كلداري، يحظى بخالص التقدير من قبل كافة الباحثين بكلية الطب والعلوم الصحية.

إن التحدي الذي يواجه كافة البحوث العلمية الجيدة في مجال العلوم الطبية الحيوية هو النهوض بمستوى الرعاية الصحية للمرضى من خلال تطوير أساليب التشخيص والعلاج المتاحة. وبفضل الدعم الذي يقدمه كل من مستشفى توام بالاشتراك مع جونز هوبكنز الطبية ومستشفى العين بإدارة جامعة فيانا الطبية ومؤسسة فاييمد، هناك دلائل واضحة على وجود خطوات إيجابية ترمي إلى تعزيز البحوث العلمية في المجال السريري وتطويرها. مع خالص الشكر!

أ.د/ ص. جورج كراذرز

عميد الكلية

مقدمة

يسرنا أن نضع بين أيديكم التقرير السنوي الثامن عشر حول المنشورات العلمية والاهتمامات البحثية لكلية الطب والعلوم الصحية بجامعة الإمارات العربية المتحدة. ويعد هذا الإصدار بمثابة امتداد لسلسلة من التقارير السنوية التي دأبنا على إصدارها منذ نشر أول تقرير لنا عام ١٩٩١.

وكما جرت العادة في كل عام فقد سعينا إلى تطوير هذا الدليل وتحديثه ليشمل كالمعتاد نبذات عامة عن مختلف الأقسام العلمية بالكلية بالإضافة إلى التقارير الصادرة عن فرق أولويات البحوث بما في ذلك التقرير الخاص بالبحوث الطبية للطلبة.

من أبرز التغييرات التي أدخلناها على الكتيب هذا العام هي إخراجها في تصميم جديد يتميز بأسلوب أكثر انتظاماً وتناسقاً وذلك باستخدام الأشكال المرئية على نحو ثابت ومتناسق بالإضافة إلى استخدام أسلوب حديث في الطباعة وطريقة فعالة في عرض المعلومات. من شأن هذا التصميم الجديد أن يتيح لكم تصفح مختلف فصول الكتيب وأقسامه بكل يسر والتمييز بين كافة أشكال النصوص المدرجة بسهولة أكبر. علاوة على ذلك، تم تغيير قائمة عوامل التأثير في نهاية الكتيب من مجرد قائمة مرتبة ترتيباً أبجدياً إلى قائمة مفصلة بالمجلات العلمية التي تم نشر بحوثنا العلمية بها هذا العام مرتبة حسب عوامل تأثيرها؛ فليس هناك من داع لإخفاء ما حققناه من إنجازات في هذا المجال!

وكعادتنا دائماً، يسرنا أن نشكر هيئة التحرير التي سهرت على إعداد هذا التقرير وصاغت كافة أقسامه ضمن كتاب متكامل. حيث قامت السيدة إيفانا ليزاريتوري بعملية التصميم بمساعدة الأنسة شيخة البطي وتولى السيد راجا غوبالان كعادته مراجعة محتوى المساهمات الأولية للأقسام العلمية وتنسيق الاتصال بين جميع الأطراف في حين قامت السيدة باملا روبرت بالتدقيق في محتوى الكتيب وتصحيح ما شابه من أخطاء وبيانات متضاربة. وقد مدنا السيد أشوك بالعديد من الصور وتولى السيد محمد زقر القيام بالترجمة المطلوبة.

أ.د. ويم لامرن،
رئيس التحرير

د. سهام الدين كلداري،
العميد المشارك لشؤون البحث العلمي والدراسات العليا

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هيئة التحرير

رئيس التحرير:

الأستاذ ويم لامرز

السكرتارية:

السيد راجاغوبالان

التصميم:

السيدة إيفانا ليزاريتوري

مساعد التصميم:

الآنسة شيخة البطي

التصوير:

السيد أشوك برازاد

الترجمة العربية:

السيد محمد زقر

تم توفير الصور المدرجة بالداخل

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من المنشورات السنوية

لمكتب العميد المشارك

لشؤون البحث العلمي والدراسات العليا

طبع بواسطة

وحدة المطبوعات - جامعة الإمارات العربية المتحدة



2008

المنشورات العلمية والاهتمامات البحثية



جامعة الإمارات العربية المتحدة
كلية الطب والعلوم الصحية

مكتب العميد المشارك لشؤون البحث العلمي والدراسات العليا