Mousa I. Hussein

Electrical Engineering Department United Arab Emirates University P.O. Box: 15551, Al-Ain Abu-Dhabi, United Arab Emirates Phone: (971) 3-7135140 (Office) (971) 50-4937074 (Mob)

Fax: (971) 3-7623156 E-mail: mihussein@uaeu.ac.ae

Web site: http://www.engg.uaeu.ac.ae/mihussein



PERSONAL INFORMATION:	
■ Date of Birth:	June 1, 1963
■ Citizenship:	Canadian
■ Marital Status:	Married (with five children)
EDUCATION:	
Ph.D. (EE)	University of Manitoba, Canada, May 1995. Thesis : Time-Domain Based Finite Difference Technique and Its Applications to Electromagnetic Problems."
M.Sc. (EE)	University of Manitoba, Canada, May 1992. Thesis: Scattering By A Perfectly Conducting Multi-Slotted Circular Cylinder
B.Sc. (EE)	West Virginia Tech University, WVA, USA, May 1985
ACADEMIC RANK:	
Assistant Professor	Amman University, 1997-1998
Assistant Professor	United Arab Emirates University, 1998-2003
Associate Professor	United Arab Emirates University, October 2003- Present
Chairman of Material Science & Engineering MSc Program	United Arab Emirates University, 2006-2008
ACADEMIC GOALS:	
Teaching:	 Undergraduate/ Graduate courses in electrical engineering with emphasis on electromagnetics, communications, and microwave processing of materials, modelling, and measurements. Updating laboratories and facilities.

Electromagnetic modelling and simulation using FDTD, MOM, BEM and exact solution.
 Microwave processing of materials, Material Charectrization, and Electromechanical behaviour of materials

Research: • Use of magnetic field for rapid detection of pathogenic agents

 Application of Metamaterial and Plazmonic material to enhance semiconductors absorption at light frequency.

ACADEMIC ACHIEVEMENTS:

- Coordinator of the Material Science and Engineering Graduate program 2014
- Chairman of the Material Science and Engineering Master program 2006-2008.
- Head of the **ABET** committee in the Electrical Engineering department. Duties include preparing the EE programs for **ABET** accreditation, and prepare ABET report. Actually the EE department was granted the ABET accreditation in 2004, and 2010.
- Head of the engineering college educational outcome assessment committee. Duties of the committee include preparing orientation seminars for new faculty members in the Engineering college about ABET and outcome assessment procedures, and making sure that all engineering programs are following the assessment procedures.
- Head of the curriculum committee at the EE department.
- Head of the engineering college "Teaching innovation and Laptop" committee.

RESEARCH ACTIVITIES:

Current Research:

- Electromagnetic scattering and radiation from lossy DNG elliptical objects.
- Enhancing Semiconductors Absorption Using Plasmonic Metamaterial.
- Pathogenic Agents Detection Using Magnetic Field ", UAEU, 1 year, (26,000 AED), 2010

2011 - Present U.A.E. University

- Co-PI in Multidisciplinary research project "Traceability and Bio-Security Control of Poultry Production", UAEU, 2 Yrs project, first year fund (96,000 AED). 2010-2012
- Antenna Design for Modern Small Satellite. (College of Eng. Indiv. Grant, 25,500 AED) 2014
- Development of Multivariable Fuzzy Logic Test Bed for WLAN Localization (College of Engineering Inter. Disp Grant 120,000 AED), 2014-2016.

Submitted Research Proposals:

- PRE-PROPOSAL APPLICATION FOR THE SPACE SCIENCE AND TECHNOLOGY CENTER, "Developing New and Efficient Communication and Data Handling Subsystem for CubeSat Satellite", submitted 2014, (2,198,000 AED) PI
- Proposal: Enhancing Thin film Solar Cell by improving light trapping, UPAR 2014, (500,000 AED) PI

2011 - Present U.A.E. University

- Proposal: Electromagnetic Energy Harvesting using Metamaterial Array, submitted to Emirates Centre for Energy and Environment Research. 2014, (500,000 AED) PI
- Pre-Proposal application for Dassault Aviation, Artificial Thin Nanostructured surfaces for microwave and optical applications. 2014 (500,000 AED) PI accepted.

Student Supervision:

Ph.D. Supervision: Supervising:

 Marwan Alakhras, "Fuzzy Approach Based Wireless Modelling" Co-supervisor with (Dr. Mourad Oussalah, The University of Birmingham, UK).

M.Sc. Supervision: Supervised the following Master students:

2011 – present U.A.E. University, U.A.E.

- Mohammed Ismaeel Shekfa, "Magnetometry for Rapid Detection of Pathogenic Agents", 2nd year Msc.2011
- Razan Najm, "Enhancing Semiconductors Absorption Using Plasmonic Metamaterial" 2014

Academic supervision: Supervised 97, 2002 and 2008-class student's registration, provided student's advising, orientation, and program planning.

COMMITTEES MEMBERSHIP:

Active member in the following committees:

Society: Active member in the following committee

- UAE Standardization and Metrology Authority-Electrical Branch (chair, 2004/present).
- Vice Chair of IEEE-UAE MTT-S Chapter 2013- Present

University: Active member in the following committees:

- College of Medicine Inventory Committee (Chair, 1999)
- Network Evaluation and Receiving Committee (Member, 2000/Present)
- Wireless Network Evaluation Committee. (Member, 2001/2002).
- Masters of Material Science steering committee. (Chairman)
- General Education Committee (2010/13)

1998 – present U.A.E. University, U.A.E.

College of Engineering: Active member in the following committees:

- Member of the Peer Evaluation Committee
- Member of the College of Engineering Council.
- Head of innovative teaching and Laptop committee.
- First Year Engineering Advising Committee (Member, 99/2009)
- Member of College curriculum Committee

EE Department: Active member in the following committees:

- Head of Academic Promotion committee, 2013-14
- Member of faculty evaluation committee, 2011-2013
- Department Curricula committee. (Member, 99/Present)

- EE Annual Report Committee (Member, 99/2000)
- ABET Outcome assessment committee. (Member, 99/Present)
- New applicant screening and Nomination committee.
- Educational outcome assessment committee (chair, 2003/2005)
- Department ABET committee (2003/Present)

SCIENTIFIC CONSULTATION & PROFESSIONAL DUTIES

	 Vice Chair of IEEE-UAE MTT-S Chapter 2013-
	 IEEE Senior Member
	 External examiner for the University of Sharjah R
	 Member of the Program Technical Committee of '
1998 - present	International Energy Conference (IEC 2000), Org

Branch. 2006- present

U.A.E. University, U.A.E

- Research Center.
- The First ganized by the College of Engineering at UAE University, May, 2000.

Chair of the UAE Standardization and Metrology Authority-Electrical

Presnet

- Member of The Applied Computational Electromagnetic Society conference technical committee (ACES).
- External examiner for many master theses at UAE university...
- Member of IEEE-MTT technical committee.
- Served as technical committee member in many international conferences.

MEMBERSHIP AND AFFILIATIONS:

- Senior Member of IEEE-AP and MTT.
- Member of the editorial board of IEEE Transaction on Microwave Theory and Techniques (MTT).
- Member of the editorial board of IEEE Transaction on Antennas and Propagation (AP).
- Member of the editorial board of the Applied Computational Electromagnetic Society journal (ACES).
- Member of the editorial board of the IET Microwaves, Antennas & Propagation
- Member of the editorial board of the International Journal of Modelling and Simulation
- Member of the editorial board of the Journal of Electromagnetic Waves and Applications Progress in Electromagnetic Research (PIER, PIER B,C,M, PIER Letters)

LIST OF PUBLICATIONS 2011-2014:

Book Chapters:

Evaluation of Mobile Learning Project at the UAE University: College of Engineering Case Study, Chapter 5, in the Book: Assessing the Role of Mobile Technologies and Distance Learning in Higher Education, IGI publishing company, 2015.

DOI: 10.4018/978-1-4666-7316-8, ISBN13: 9781466673168, ISBN10: 1466673168, EISBN13: 9781466673175

Publications in specialized refereed international periodicals

- [1] M.Oussalaha, M.Alakhras, and M. Hussein, "Multivariable fuzzy inference system for fingerprinting indoor localization", Fuzzy Sets and Systems, Elsevier, pp 1-25, 2014.
- [2] Mahmoud Al Ahmad, Ali H. Al Marzouqi and Mousa Hussien, "EXIT EXAM AS ACADEMIC PERFORMANCE INDICATOR," TOJET, volume 13 issue 3, pp 58-67, July 2014.
- [3] Razan Nejm, Mousa Hussein and Ahmed Ayesh, "A Study of the Surface Plasmon Enhancement Using ARC on Thin Film Si Solar Cell Performance," SOJ Materials Science & Engineering, Open Access, 2 (1), 5, 2013.
- [4] A-K. Hamid and M. I. Hussein, "TM Scattering by a Perfect Electromagnetic Conducting Strip," Journal of Applied Physics A, Materials Science & Processing, Vol 103, Number 3, pp. 571-573, 2011

Publications in refereed Conferences:

- [1] M. I. Hussein, "Scattering by a Cylindrical Dielectric Shell with DNG Metamaterial," META 2014 CONFERENCE, 20 23 MAY 2014, SINGAPORE
- [2] Razan Najm, Mousa Hussein, Ahmed Ayesh, "A Study of the Surface Plasmon Enhancement using ARC on Thin Film Si Solar Cell performance", the 10th HONET-CNS International Conference, Maqusa, Cyprus, 11-13 Dec., 2013.
- [3] Razan Najm, Mousa Hussein, Ahmed Ayesh, "Design Consideration for Plasmonic Solar Cells Based on Ag Nanoparticles", the 4th International Conference on Metamaterials, Photonic Crystals and Plasmonics META, April 2013, Sharjah, UAE.
- [4] Razan Najm, Mousa Hussein, Ahmed Ayesh, "Characteristic of Plasmonic Solar Cells absorption efficiency based on Ag Nanoparticles", The 5th International Workshop on Advanced Materials (IWAM-2013), February 24-26, 2013, Ras Al Khaimah, UAE
- [5] M. ALAKHRAS, M. Hussein, M. Oussalah, "Multivariable Fuzzy Inference with Multi Nearest Neighbour for Indoor WLAN Localization Based on RSS Fingerprint", UKSim-AMSS 15th International Conference on Modelling and Simulation, 10-12 April 2013, Cambridge University, UK.
- [6] M. I. Hussein, M. Ismaeel Shekfa and Y. Haik, "Pathogen Detection Using Single Tunnel Junction Sensor (STJ) with Magnetic Nano Particles," ICEAA 2012conference, Cape Town, South Africa, Sept. 2-5, 2012.
- [7] M. I. Hussein. "Plane Wave Scattering from DNG Metamaterial of Semi-elliptical Boss above a Conducting Plane," ICEAA 2012conference, Cape Town, South Africa, Sept. 2-5, 2012.
- [8] M. I. Hussein, "Scattering properties of elliptical cylinder coated by loosy DNG metamaterial," PIERS 2011 Symposium, Marrakesh, Morocco, March 20-23, 2011.