UAEU كلية العلوم College of Science

جامعة الإمارات العربية المتحدة United Arab Emirates University

COLLEGE OF SCIENCE ANNUAL REPORT

2022-2023

HONOR STUDENT PROGRAM

COLLEGE EVENTS

DEAN'S MESSAGE

RESEARCH PRODUCTIVITY AND PARTNERSHIPS

www.uaeu.ac.ae/en/cos/

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Produced by the Strategic Planning Committee (College of Science)

Dr. Asma Al-Menhali (Vice Dean, COS)

Dr. Aaron Henderson (Biology)

Dr. Soleiman Hisaindee (Chemistry)

Dr. Abdulrahman Fowler (Geosciences)

Dr. Humberto Rafeiro (Mathematical Sciences)

Prof. Mofreh Ramadan Zaghloul (Physics)

Mr. Mohamed Shahid (Dean's Office)

Design: Maithaa Alshamsi (COS News Team)

cos.office@uaeu.ac.ae | https://cos.uaeu.ac.ae

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Dean's Message

Prof. Maamar Benkraouda
Dean, College of Science

Dear members of the College of Science community,

As we conclude another eventful academic year, I am thrilled to reflect on the remarkable successes and valuable lessons we have experienced together. Despite the ongoing challenges posed by the COVID-19 pandemic, we have navigated through and adapted to a less restrictive academic life, while still grappling with the potential disruptions caused by the virus in our daily routines.

Within this annual report, we take this opportunity to celebrate several significant milestones that have shaped the College of Science throughout the year.

Foremost among our achievements is the outstanding progress made in scientific research. The College has emerged as the leading college in research productivity among all other colleges. In 2022, our dedicated faculty members and students contributed with a total of 549 publications in Scopus-indexed journals, marking an impressive increase of over 7% compared to 2021. On average, each faculty member produced 4.85 papers. Notably, more than 67% of these publications were featured in Q1 journals. Our researchers were published in prestigious publications like Nature Microbiology, Science Advances, Journal of the American Chemical Society, Coordination Chemistry Reviews, Nature Communications, Astrophysical Journal Letters, and Scientific Reports.

Additionally, the College successfully strengthened its collaboration with the eminent European Center for Nuclear Research (CERN). We proudly facilitated a post-doctoral researcher from UAEU to work at ATLAS/CERN, and an accomplished undergraduate student, chosen through a competitive selection process by CERN, was sponsored to partake in the summer training program in Geneva, Switzerland. Furthermore, the Department of Physics admitted one PhD and one MSc student as part of our ongoing collaboration with CERN.

Our commitment to attracting and nurturing talented students was a top priority throughout the year. We are pleased to announce that our student body now comprises 1746 undergraduate and 239 graduate students. Moreover, we proudly graduated 266 undergraduate and 51 graduate students during this academic year.

Furthermore, I am delighted to share that one of our faculty members has been promoted to the rank of Full Professor, while eleven others have been promoted to the rank of Associate Professor. Additionally, we have made significant strides in upgrading our research infrastructure. Thanks to a generous donation from the National Center of Meteorology, the Department of Biology now boasts its own well-equipped greenhouse. Moreover, our collaboration with the College of Medicine and Health Sciences on the mice facility has resulted in the preparation and approval of the facility's accreditation proposal by the American Association for Accreditation of Laboratory Animal Care (AAALAC).

Our internship program continues to flourish, with 250 of our students gaining invaluable work experience across various institutions nationwide, thereby enhancing their preparedness for the competitive job market. Moreover, we have partnered with the Science and Innovation Park and Meta-Excellence to equip our students with the essential skills and mindset necessary for success in the job market. One hundred of our students received comprehensive training, ensuring they possess the highest caliber of skills and expertise. Twelve of our best students spent 3-week summer training at Oxford University.

As we bid farewell to this eventful academic year, I extend my heartfelt appreciation to each member of our College of Science community for their unwavering dedication, resilience, and commitment to excellence. Together, we have achieved remarkable milestones and weathered the challenges that crossed our way, emerging stronger and more determined than ever.

Wishing you all a restful break and a future filled with continued success.

Sincerely,

Prof. Maamar Benkraouda
Dean, College of Science

THE COLLEGE

VISION

A beacon of scientific innovation, a host to a vibrant and creative scientific community, and a source of scientific solutions to the UAE and beyond.

MISSION

The college aims at nurturing an innovative scientific environment that is inspiring to students, attractive to talented faculty, and conducive to strong partnerships with the community and industry.

COLLEGE ADVISORY BOARD

The College Advisory Board, composed of eminent individuals with governmental and non-governmental backgrounds, guides the College in attaining its mission and assists the College with its role in serving the nation. The Advisory Board met twice in 2022-2023, once in each semester, to review College plans and achievements. The College strategic plan was reviewed regularly in these meetings. The Advisory Board also assisted with the hiring of some of the College graduates and the establishment of a greenhouse.

Name	Affiliation
Mr. Sultan Al Hajji (Chairman)	Vice President for Public Affairs and Alumni Relations, Mohamed bin Zayed University of Artificial Intelligence.
Dr. Abdulla Ahmed Al Mandous	Executive Director, National Center of Meteorology
Mr. Saeed Mohammed Al Muhairi	Executive Director, Emirates Metrology Institute, Abu Dhabi Quality Conformity Council
Dr. Mohamed Murad Abdulla	Director, Decision Support Center, Dubai Police
Ms. Aayda Al Shehhi	Director, Radiation Safety, Federal Authority for Nuclear Regulation
Eng. Suhail Thani Al Muhairi	Infrastructure & Services Coordination Division Manager, Al Ain Municipality
Ms. Sheikha Al Maskari	Communications Advisor, Chief Innovation Officer & Founding member, UAE Space Agency
Mr. Salem Rashed Almatrooshi	Retired from ADNOC

COLLEGE ADMINISTRATION

Prof. Maamar Benkraouda
Dean

College Advisory Board

Office of the Dean
Senior Administrator (1)
Administrator (1)
Service Assistant (1)

Dr. Asma Al Menhali
Vice Dean

Dr. Sulaiman Ali Alkaabi
Asst. Dean (Student Affairs)

Academic Advisor-I (1)
Academic Advisors (2)
Secretary (1)
Administrator (1)

Dr. Ruwaya Alkendi
Asst. Dean (Research & Graduate Studies)

Administrator (1)
MSc Coordinators (6)

Prof. Khaled Amiri
Head, Department of Biology

Administrator (1)

Prof. Abbas Khalil
Head, Department of Chemistry

Administrator (1)

Prof. Hasan Arman
Head, Department of Geology

Administrator (1)

Dr. Adama Diene
Head, Department of Mathematical Sciences

Administrator (1)

Prof. Usama Al Khawaja
Head, Department of Physics

Administrator (1)

COLLEGE COUNCIL 2022-2023

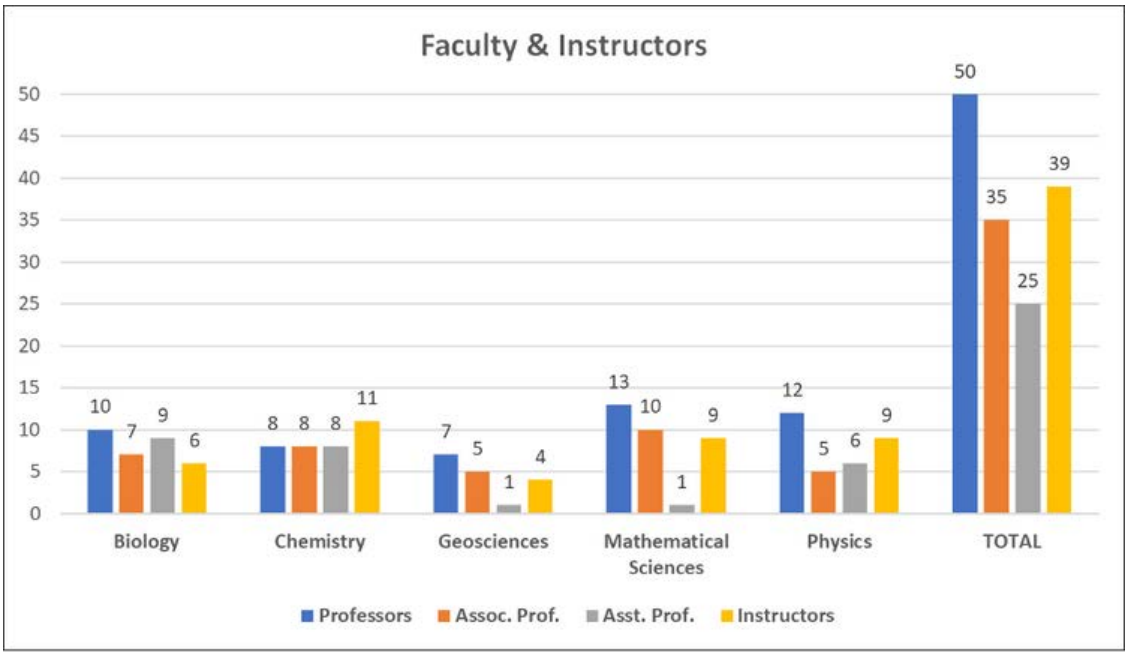
Prof. Maamar Benkraouda	Dean
Dr. Asma Al-Menhali	Vice Dean
Dr. Ruwaya Al-Kendi	Assistant Dean for Research & Graduate Studies
Dr. Sulaiman A AlKaabi	Assistant Dean for Student Affairs
Prof. Khalid Amiri	Chair, Department of Biology
Prof. Abbas Khalil	Chair, Department of Chemistry
Prof. Hasan Arman	Chair, Department of Geosciences
Dr. Adama Diene	Chair, Department of Mathematical Sciences
Prof. Usama Al Khawaja	Chair, Department of Physics
Prof. Alaa Salem	Representative of Professors
Dr. Dalal Alshamsi	Representative of Associate Professors

PROGRAM COORDINATORS 2022-2023

Prof Sabir Bin Muzaffar	Coordinator of Env. Sciences & Sustainability Program
Prof. Rabah Iratni	Coordinator of Cellular & Molecular Biology Program
Prof. Yaser Greish	Coordinator of the Chemistry Program
Prof. Salem Issa	Coordinator of the Geosciences Program
Prof. Ahmed Al-Rawashdeh	Coordinator of the Mathematics Program
Prof. Noureddine Amrane	Coordinator of the Physics Program
Dr. Aquib Moin	Coordinator of the Space Science Program

FACULTY MEMBERS

	Professors	Associate Professors	Assistant Professors	Instructors
Biology	10	9	7	6
Chemistry	8	8	8	11
Geosciences	7	5	1	4
Mathematics	13	10	1	9
Physics	12	5	6	9
TOTAL	50	35	25	39



The College has recruited 6 new faculty members (Biology: 1 Associate Professor, Chemistry: 1 Assistant Professor, Geosciences: 1 Assistant Professor, Mathematical Sciences: 2 Assistant Professors, Physics: 1 Assistant Professor) and 8 Visiting Faculty/Instructors (Biology: 2, Chemistry: 2, Geosciences: 3, Mathematical Sciences: 1, Physics: 1).

STUDENT READINESS JOURNEY

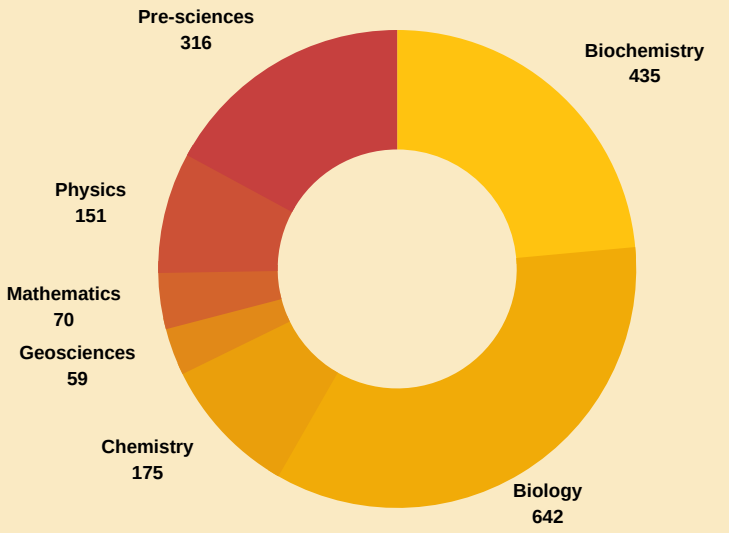
www.uaeu.ac.ae/en/cos/

ENROLLMENT IN UNDERGRADUATE PROGRAMS

Over the academic year 2022/2023, there were a total of 1848 undergraduate students in Fall 2022 and 1746 in Spring 2023.

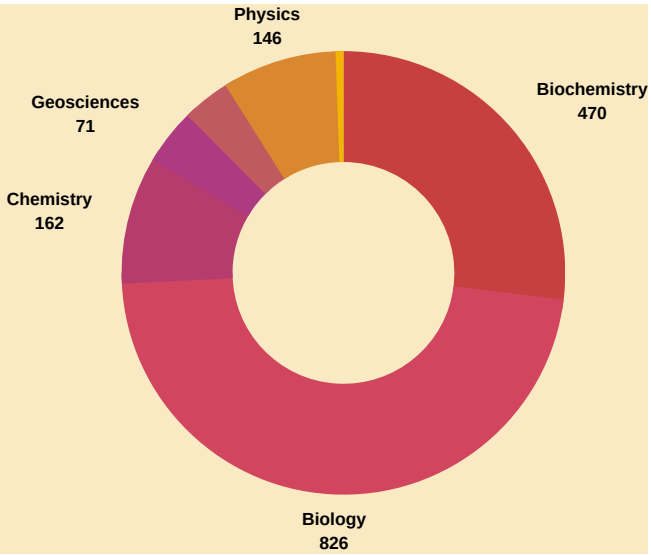
Fall 2022

Biochemistry	435
Biology	642
Chemistry	175
Geosciences	59
Mathematics	70
Physics	151
Pre-sciences	316
TOTAL	1848



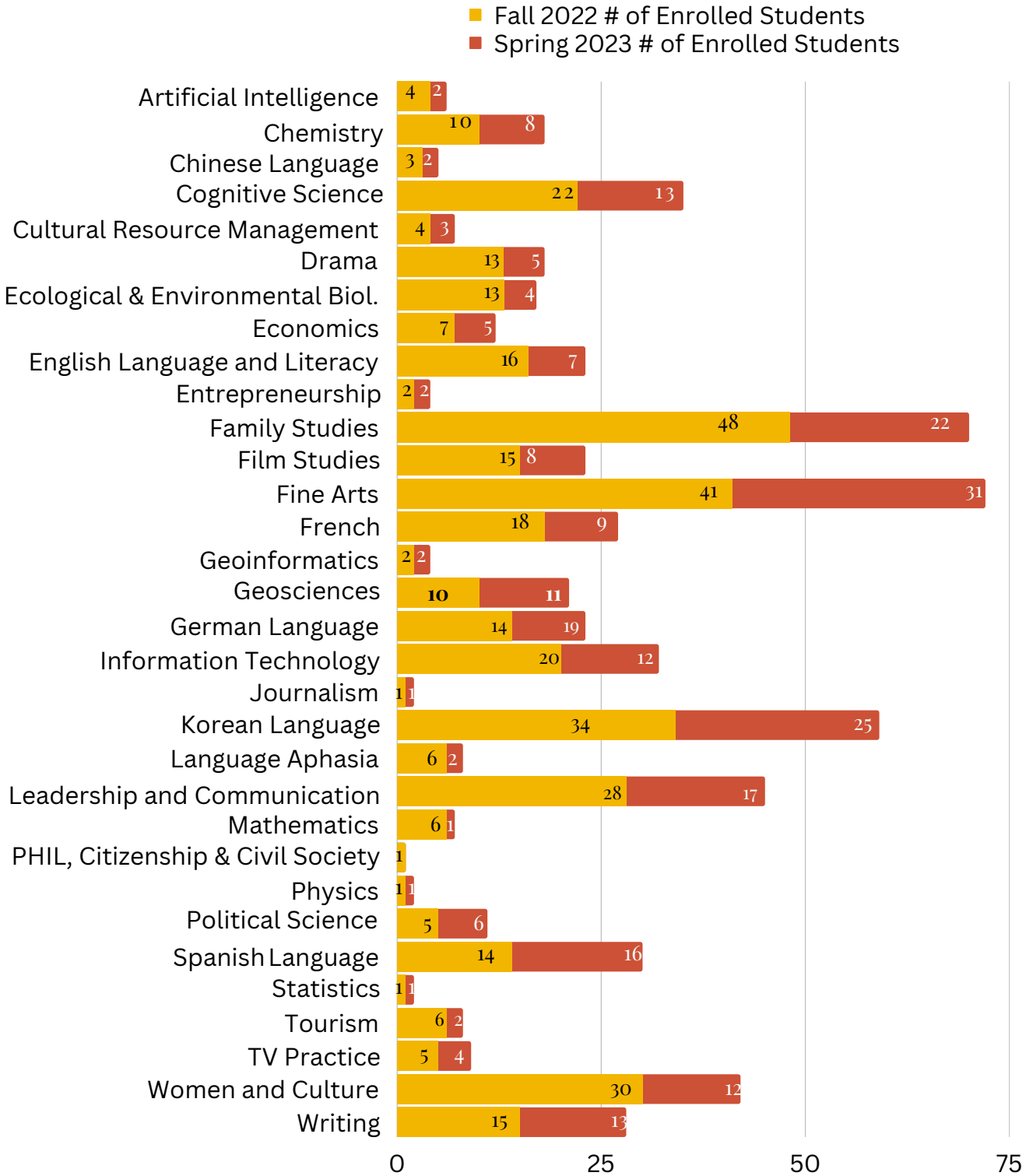
Spring 2023

Biochemistry	470
Biology	826
Chemistry	162
Geosciences	71
Mathematics	61
Physics	146
Pre-sciences	10
TOTAL	1746



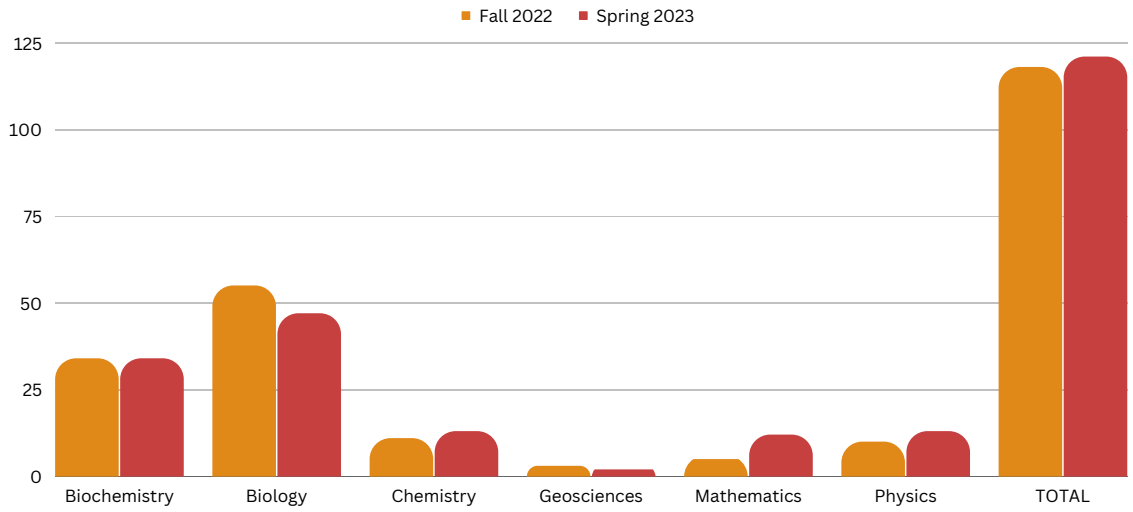
ENROLLMENT IN MINORS

The diagram shows a bar plot for the number of students enrolled in each minor program for Fall 2022 and Spring 2023. While "Family Studies" was the most popular minor in Fall 2022, "Fine Arts" was the most popular one in the Spring 2023.



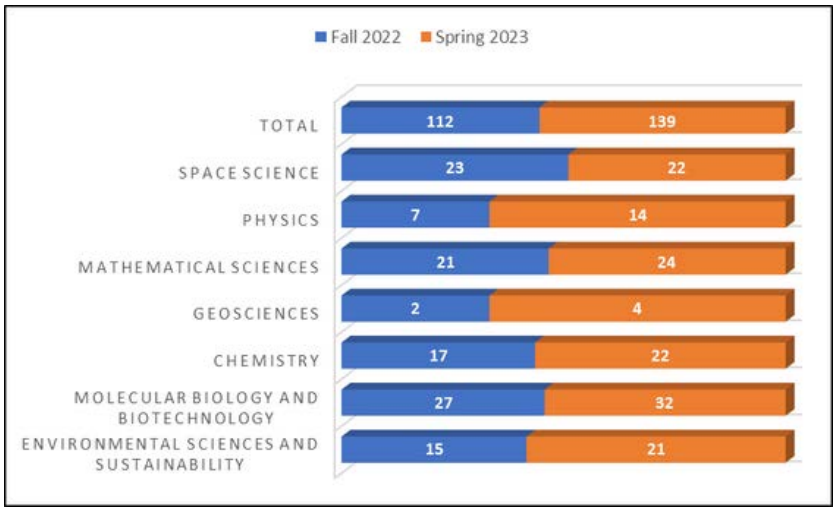
GRADUATION STATISTICS 2022-2023

COS proudly congratulates the 239 students who graduated with a BSc in AY 2022-23 (118 students in Fall 2022 and 121 in Spring 2023). The below diagram shows the graduation statistics per program for the 2022/2023 academic year.



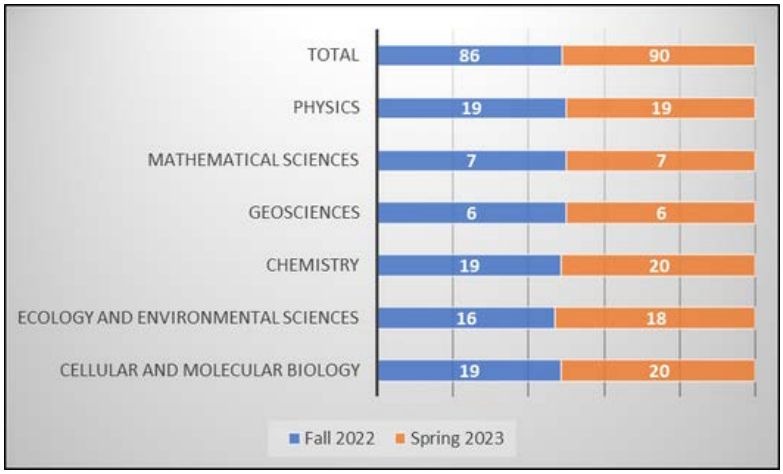
ENROLLMENT IN GRADUATE PROGRAMS 2022-2023

COS also offers a wide range of graduate programs. The total number of students in the MSc programs was 112 in Fall 2022 and 139 in Spring 2023. In addition to the students in the MSc programs, there were 86 PhD students pursuing their PhD degrees in Fall 2022 and 90 in Spring 2023.



MSc enrolment by program in Fall 2022 and Spring 2023

PhD enrolment by program in Fall 2022 and Spring 2023



STUDENT ORIENTATION

The College is keen to prepare students to be distinguished in their field of specialization and to become productive leaders in society. Therefore, the College provides its students a diverse range of orientation programs.

During the first and second semesters of this academic year, the advising unit has performed several different programs that include multiple orientation sessions and workshops to cover:

- The University/College rules and policies related to class registration, attendance, academic warning …etc.
- COS curricula and how to choose a major, concentration and minor.
- Ideal plan for the successful completion of the graduation requirements.

An online open discussion was organized for new students at the beginning of the year. Additionally, students with weak academic performance or students who need assistance with specific subjects were directed to the help centers at both College and University level.

FUTURE TEACHER PROGRAM

A group of students have been recruited to study at the COS through a special Ministry of Education scholarship called the Future Teacher Program. The program targets distinguished students with a high school score of 90% or above, who are admitted after passing a required interview. Although there are no newcomers in this academic year, 11 female students and one male majoring in Chemistry, Physics and Mathematics have graduated from this program in this academic year, with a total of 75 students completing the program since Spring 2021.

Graduates of the Future Teacher Program from Spring 2021 until Spring 2023

Major	Spring 2021		Summer 2021		Fall 2021		Spring 2022		Fall 2022		Spring 2023		Total
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	
Chemistry	3	0	0	0	17	2	4	1	2	0	3	0	32
Mathematics	0	0	11	4	9	0	3	1	2	0	4	1	35
Physics	0	0	0	0	1	0	6	1	0	0	0	0	8
Total	3	0	11	4	27	2	13	3	4	0	7	1	75

STUDENT EXPERIENCE

Life at COS is not limited to classrooms and lectures. Rather, there are many opportunities to develop the student's scientific, social, and personal skills. Students have the opportunity to participate in many beneficial programs such as:

- UAEU Youth Council for Researchers
- Honor Students Program
- Dean's List Students
- Research Projects/Activities
- University Career Program
- Department Clubs
- COS News Team
- Local and International Competitions, Internships and Trainings
- Local and International Conferences and Workshops

INTERNSHIP PROGRAM

The internship program is a mandatory requirement for all COS majors. It is an excellent opportunity for COS students to get introduced to the job market and to acquire some experience from the real work environment. Students undergo hands-on training at a chosen governmental or private sector institution for a period of 8 weeks. Based on their major, students may opt to be placed at municipalities, forensic laboratories, hospitals, environmental agencies, oil companies, food control labs, banks, and research centers.

In AY 2022-23, 280 students successfully completed the internship program (138 students in Fall and 142 students in Spring). This is higher than the previous year with a total of 256 students (137 and 119 in Fall and Spring respectively). Higher numbers were attributed to Biology and Chemistry majors.

The COS Internship Office, in coordination with the University Career Readiness Unit, organized a series of workshops under a program called "Jahez". This was delivered to the internship students before they started joining their workplaces. Jahez program aims to prepare students with the expectations of the work environment and career requirements. It is offered twice a year, with multiple 4-5 workshops each semester.

As the entire university activities have returned to normal after the COVID-19 pandemic, the internship program is now completely face-to-face. However, the workshops of Jahez readiness program were split between online and onsite attendance due to the timing conflict of some workshops with student's lab sessions.

Every semester, the internship office hosts a poster presentation day where all internship students showcase the techniques and skills they have developed. After being online for two and a half years, this event is now entirely face-to-face.

INTERNATIONAL INTERNSHIP PROGRAM

In accordance with the MOU with Akita University, Japan, the Geosciences Department at COS hosted seven Japanese undergraduate students from Akita University (Japan) from November 13–22, 2022. This scientific tour is part of their program for international internships is The visiting students attended lectures in the geosciences department as well as electromagnetic geophysical methods courses while being hosted by Prof. Hakim Saibi. Since 2018, three different student groups from Akita University have visited UAEU.

SUMMER INTERNSHIP PROGRAM

Oxford University Summer Internship

During the summer 2023, 12 students, under the supervision of Dr. Iltaf Shah, from the College of Science at the United Arab Emirates University (UAEU), joined peers from the University of Southern California (USC) for an enriching and unmatched 3-week summer internship at the prestigious University of Oxford in the UK (Ranked #1 globally-THE). Residing at the unique Somerville College Oxford, they embarked on an intensive curriculum, focusing on global health, tropical medicine, vaccinology, pharmacology, and health policy taught by Oxford's distinguished faculty.

Students also had guided tours of London Francis Crick Institute, Wellcome Trust Collections, Science Museum, Natural History Museum, Dr Jenners Museum and the Botanical Gardens. Additionally, they visited Biochemistry and Pharmacology Departments at the University of Oxford, along with other landmarks like Berkeley Castle, Blenheim palace, Stonehenge, City of Bath and Islamic institute University of Oxford. Concluding their internship, students presented their end-of-term projects to their peers from UAEU, USC and Oxford and received certificates for their completion of the program.

CERN Summer Internship Program

CERN, the European Center of Nuclear Research, has chosen one student (Adnan Alwahedi) from the Department of Physics for the summer internship 2023. Mr. Adnan completed the internship satisfactorily and delivered a presentation by the end of the program.

HONOR STUDENTS PROGRAM

During the academic year 2022-2023, the COS Honor Students Committee organized several events and activities for the benefits of honor students at COS. All these plenary meetings took place in E1 Building Auditorium with the presence and encouraging words of support from the Dean of College of Science Professor Maamar Benkraouda.

On November 28, 2022, the COS Honor Students Committee invited the honor students to learn about outsourcing opportunities. The meeting was a shared learning event, and table discussions were conducted. Attendees had the opportunities to learn about different exchange and collaboration programs between the College of Science and other universities and organizations abroad. For instance, Dr. Iltaf Shah talked about the available summer internship for the honor students to visit Oxford university, while Prof. Na'il Saleh and Prof. Hakim Saibi talked about the ACS (American Chemical Society) and the SEG (Society of Exploration Geophysicists) student chapters at UAEU, respectively. This event was part of the UAE National Day celebrations.

On April 11, 2023, the Spring semester honor ceremony was organized. The ceremony was open to all honor students at COS and approximately 250 students attended. The aim of the event was focused on preparing honor students for the job market and boosting their employability skills by creating concrete contact between students and employers. Representative employers were invited, such as from Abu Dhabi Judicial Department, Project You Company, Shavola Foods Company, and Jahez Center for Career Placement and Alumni at UAEU. Further, at this festival event, the influencer A. Alsalemi was invited to talk about different subjects from science, such as the UAE Journey in Space Industry and Artificial Intelligence. The last part of the ceremony honored students on the Dean's list for Fall 2022 by COS Dean, Prof. Maamar Benkraouda. All the attendees were invited to an Iftar party.

STUDENT EXCHANGE PROGRAM

The following students are participating in a Student Exchange Program with the University of Wisconsin-Madison, USA (top 100 world-wide). This exchange program is funded by the the Ministry of Education.

Semester	ID	Name	University
Fall 2022	202005056	Hamad Mukhtar Ahmed Alblooshi	University of Wisconsin-Madison
Spring 2023	201907093	Sanad Mubarak Binhalabi	University of Wisconsin-Madison
	201902688	Abdulrahman Salem Abdulla Alblooshi	University of Wisconsin-Madison

GRADUATE STUDENT PUBLICATIONS

In 2022, our MSc students published 10 papers in international journals, while PhD students published 40 papers. (For more information, see Appendix 1).

MSc AND PhD THESIS DEFENSES

For AY 2022-23, 36 MSc thesis and 14 PhD dissertation defenses were successfully completed for the academic year 2022-23. See Appendix 2 for detailed information.

DEAN'S LIST STUDENTS

The following students were featured in the Dean's List of Fall 2022 and Spring 2023. The College would like to congratulate them for their academic achievement and encourages everyone to strive for excelle in their academic performance.

FALL 2022

NAME	MAJOR
Haneen A. A Abufarajallah	Biochemistry
Meera Munjed Maraqa	Biochemistry
Maram Sami Suliman Elemam	Biology
Mouna Yahia Youssef	Chemistry
Noor Haytham Mohammad Abdelhadi Alsaafeen	Mathematics
Rayaan Syed Safiuddin	Chemistry
Fatima Dawood Nazim	Biochemistry
Arwa Musleh Mohammed Abdulla Qatman	Biology
Fidha Farzana Ismail	Geosciences
Esra'a Ali Ahmad Shoqeir	Chemistry
Basant Sayed Ali Sayed Elabyad	Chemistry
Sarah Hasan	Chemistry
Aisha Nedal Hussein Abdullah	Chemistry
Zahra Abdul Wahid Abdul Rasool Murad Al Zadjali	Physics
Aya Azmi Abdallah Alhamshari	Chemistry

NAME	MAJOR
Yousef Mohammad Yousef Salah	Mathematics
Yaman Mothanna Sabsabi	Mathematics
Amar Yasser Aljumaa Aldakheel	Mathematics
Ali Rashed Ali Asadouh Alhebsi	Physics
Muneb Redwan Mukhtar	Chemistry
Ali Hamdan Hamad Ali Alsheraifi	Mathematics
Omar Samir Al Awa	Biology
Saeed Ahmed Salem Saif Alsaeedi	Biology
Mohammed Amr Mohammed Elsaid Hassan Shata	Biology
Adnan Abdulwahed Mohamed Ali Alwahedi	Physics
Osama Ahmad Al Mukbel	Mathematics
Ahmad Hussien Ali Hamid Alhasbani	Biology
Mansoor Muhsin Ali Binqahal Al Nasi	Biology
Jassim Ibrahim Rashid Alqadeeb Alzaabi	Physics
Shehab Adel Eldemerdash Mohamed	Chemistry

SPRING 2023

NAME	MAJOR
Ahlam Barhumi	Biochemistry
Haneen A. A Abufarajallah	Biochemistry
Afnan F. M. Shaheen	Chemistry
Meera Munjed Maraqa	Biochemistry
Zahra Abdul Wahid Abdulrasool Murad Al Zadjali	Physics
Sara Abdul Muhsin	Biochemistry
Sahar Farid Allaban	Biochemistry
Maram Sami Suliman Elemam	Biology
Bakhita Rashed Hamad Mubarak Alameri	Geosciences
Rawan Hashem Ali AlShateri	Mathematics
Fidha Farzana Ismail	Geosciences
Maryam Rashed Ahmed Almailay Aldhanhani	Biochemistry
Sarah Ali Saeed Ali Alyammahi	Mathematics
Maitha Mohammed Mansour Saif Alshamsi	Biochemistry
Fatema Isa Hasan Isa Aljasim	Geosciences

NAME	MAJOR
Amar Yasser Aljumaa Aldakheel	Mathematics
Omar Samir Al Awa	Biology
Muneb Redwan Mukhtar	Chemistry
Hamad Khalifa Mukhtar Ahmed Alblooshi	Chemistry
Saeed Ahmed Salem Saif Alsaeedi	Biology
Ahmad Hussien Ali Hamid Alhasbani	Biology
Saeed Mohammed Ali Almulla Alyassi	Biology
Mansoor Muhsin Ali Binqahal Al Nasi	Biology
Mohammed Amr Mohammed Elsaid Hassan Shata	Biology
Yousef Mohammad Yousef Salah	Mathematics
Mohammed Abdulla Saeed Obaid Aldhaheri	Mathematics
Adnan Abdulwahed Mohamed Ali Alwahedi	Physics
Hazza Mubarak Ahmed Said	Biology
Usman Muhammad Shakir Khan	Biology
Ahmed Abdullah Ahmed AlAqel	Biology

COS NEWS TEAM (COSNT)

The COSNT participated in the organization and coverage of multiple events and activities held in UAEU; most importantly and recently, COSNT organized the annual COS Exhibition with more improvements and success. In addition, COSNT gave a helping hand to COS different departments and administration when it came to preparation of content to be used and/or published.

COSNT continuously shared the news and activities of COS through social media, which kept the community aware of the improvement and achievements of the college, its staff, and students. As a result, COS followers were doubled on Instagram, reaching to 2,200+ followers.

COSNT participated in a total of 29 activities during the year 2022-2023, including JAHEZ vs Physics, Limit Breakers by Math Club, COS Honor Students' program, and two of the math conferences, Recent Advances in Analysis and Application (RAAA) and AUA-UI Workshop on GTCA2022 (Fall 2022). In Spring 2023, COS organized different activities, coinciding with national days such as Pi Day, Happiness Day, and innovation month. COSNT actively covered crucial events including the visit of Astronaut Roberto, Era of Nuclear Energy Workshop, COS Students' Research and Innovation Competitions, and NWEC seminar with collaboration of KU and ENEC.

And by the end of the year (30-31 May, 2023), COSNT made a great effort in preparing the annual COS Exhibition, taking it to a well-organized level, having different scientific booths and other new scientific corners. COS Exhibition 2022-2023 edition attracted different ages of the society, where 14 schools have visited the exhibition, and influencers were invited to inspire our guests. The exhibition was partially funded by some enterprises, and had a great scientific context.

WORLD-CLASS PROGRAMS

COLLEGE OF SCIENCE PROGRAMS

The constituent departments of the COS offer several different programs both at the undergraduate and graduate levels. Several interdisciplinary programs are also currently being planned. The accreditation status of these programs is presented in Table 1. The COS academic programs are listed below, by departments.

BIOLOGY DEPARTMENT

BSc (Cellular and Molecular Biology, Ecological and Environmental Biology)
MSc (Cellular and Molecular Biology)
MSc (Environmental Sciences & Sustainability)
PhD (Cellular & Molecular Biology)
PhD (Ecology and Environmental Sciences)

CHEMISTRY DEPARTMENT

BSc (Chemistry)
BSc (Biochemistry)
MSc (Chemistry)
PhD (Chemistry)

GEOSCIENCES DEPARTMENT

BSc (Geosciences)
MSc (Geosciences)
PhD (Geosciences)

MATHEMATICAL SCIENCES DEPARTMENT

BSc (Mathematics)
BS-MS (Mathematics)
MSc (Mathematics)
PhD (Mathematics)

PHYSICS DEPARTMENT

BSc (Physics, track in Space Science)
BS-MS (Physics)
MSc (Physics)
MSc (Space Science)
PhD (Physics)

In addition, the following programs below are in progress: BSc in Data Science, Minor in Materials Science, MSc Track in Quantum Computing, MSc in Forensic Science.

BSc in Data Sciences

The proposed multidisciplinary program BSc in Data Science is jointly hosted by the COS Department of Mathematical Sciences, the College of Information Technology and the College of Business and Economics. It will be the first of its kind in the Middle Eastern region. Graduates of the program may pursue several careers including AI Engineer, Business Intelligence Developer, Machine Learning Engineer, AI and Big Data Analyst, AI and Data Architects, and Research Scientists. Graduates will also develop the necessary knowledge and skills to embark on postgraduate programs and advanced research degrees. The program offers a high degree of flexibility cutting across the mathematics and computing disciplinary boundaries and will also strengthen the position of the Department of Mathematical Sciences as a leading department in the UAE and in the region. The BSc in Data Science program proposal is at the last stage of the CAA initial program accreditation process.

MSc in Forensic Sciences

The proposed interdisciplinary MSc in Forensic Science arose from the need in the local, and potentially the wider, market for qualified and well-trained forensic scientists. Thus, it directly addresses one of UAEU's strategic goals of producing "successful future-ready learners" and the associated key strategic project (1.1 Offering dynamic and human capital focused program) and its KPI (Number of academic programs newly revised/established in light with job market requirements). The proposed program will be established in tight collaborations with external partners like Abu Dhabi Police and Dubai Police. MOUs for the exchange of personnel, know-how, and resources are currently being worked out.

This program will provide students with a strong foundation in physical and natural sciences and acquaints them with various relevant aspects of the legal system. The profession requires critical thinking, communication skills, the application of natural and physical sciences to legal issues, and ethical responsibility. The MSc program in forensic science which will be offered by UAEU will be unique and almost the only forensic science MSc program offered in the Gulf region.

Minor Programs

The following is a list of Minor Programs offered by the COS:

- Minor in Chemistry
- Minor in Mathematics
- Minor in Physics

New Minor program in Geosciences

The Department of Geosciences has submitted a proposal for a new minor in geosciences program. The proposal has been approved and the program is to be offered in Fall 2023. Below is the program description:

"The department of geosciences offers a minor program in geosciences for science students enrolled in any non-major geosciences program. The minor consists of 18 credit hours, at least 9 of which will be upper division work to be taken from a basket of courses. The minor is designed to provide the students with a strong foundation in fundamental principles of geosciences. The minor aims at developing knowledge and skills in problem solving and critical thinking".

PROGRAM REVIEW AND ACCREDITATION STATUS

COS has taken many steps to provide its students with world-class programs. All the current programs, undergraduate and graduate, are accredited (locally and/or internationally).

Table 1. Accreditation Status for the COS Undergraduate Programs.

Program	Accreditation Body	Duration
BSc in Biology	Royal Society of Biology	2019-2024
BSc in Chemistry	Royal Society of Chemistry	2022-2025
	Canadian Society of Chemistry	2017-2025
BSc in Biochemistry	Canadian Society of Chemistry	2017-2025
BSc in Geosciences	ABET-ANSAC	2022-2026
BSc in Mathematics	ABET-ANSAC	2022-2026
BSc in Physics	ABET-ANSAC	2020-2026

Course transformation into online delivery mode

The department of Biology submitted a proposal for the transformation of the general education course GESU121 “sustainability” into an online delivery mode. The proposal is under review, and it is expected that the course will be offered online in the academic year 2023-2024. Converting the course delivery mode into online aims at enhancing students’ learning, by allowing greater flexibility for students and providing them with access to multimedia resources and tools, personalized learning experiences, and opportunities for collaboration and networking.

RESEARCH PRODUCTIVITY AND PARTNERSHIPS

RESEARCH HIGHLIGHTS

Prof. Na'il Saleh

Prof. Na'il Saleh (Department of Chemistry) published an article in Nature Communications. The paper talks about the development of nanostructured organic materials has garnered much interest in industry and academia because of their applications in drug delivery, catalysis, nanoreactors, and molecular capture agents. To be effective, precise structural control of such materials is required. This, of course, puts a premium on the ability to control structural parameters during their synthesis. However, the precise structural control of nanostructures is not easy and requires the simultaneous adjustment of several parameters and/or possibly different processing techniques to achieve any morphology. Here, molecular switches can be of use, particularly those that use light as an energy source to trigger molecular structural conversions. Using light to drive such changes is both convenient and economical.

While it is not uncommon to see such systems at work in small organic molecules that change their self-assembly under the influence of light, using such systems for extended networked structures such as covalent organic frameworks (COFs) are purely academic. By anchoring spiropyrans to the interior of the quasi-hexagonal pores of a TTA-SPDF COF, we succeeded in developing a photo-switchable extended network material that undergoes a change from a sea urchin-type particle morphology to vesicles upon UV irradiation. Moreover, we permanently fixed the COF morphology to the vesicle form, even after changing the radiation source. The resulting vesicles had a diameter of 50 nm, which perfectly fits the requirements for applications as drug transporters and nanoreactors for catalysis. This strategy can be extended to various materials, making it possible to develop precise and, more importantly, tunable, nanostructured organic networked materials such as COFs.

Dr. Mohammad Alam

Dr. Mohammad Tauqeer Alam's lab at the UAE University (Department of Biology), together with Charité – Universitätsmedizin Berlin (Germany) have published a research article in the CELL journal (Cell. 2023, 5;186(1):63-79. e21). The study reports that when cells exchange more metabolites with each other, particularly methionine amino acid, they live longer. Specifically, methionine amino acid was shown to be secreted by younger yeast cells which were then consumed by older cells. In return, the methionine consumer cells released glycerol metabolite, which is needed for building cell membranes that plays a part in protecting cells. Glycerol availability affected methionine-producing cells, causing them to live longer.

RESEARCH HIGHLIGHTS

Dr. Adel Najar

Dr. Adel Najar (Department of Physics) and colleagues published an article in Advanced Science on Inorganic perovskite solar cells. Inorganic perovskite solar-cell devices are efficient and low-cost due to their fabrication methods and flexible designs. The distorted lead iodide octahedra of all-inorganic perovskite based on triple halide mixed CsPb(I2.85Br0.149Cl0.001) framework have made a tremendous breakthrough in its black phase stability and photovoltaic efficiency. However, their performance still suffers from severe ion migration, trap-induced nonradiative recombination, and black phase instability due to lower tolerance factor and high total energy. In this work, a combinational passivation strategy to suppress ion migration and reduce traps both on the surface and in the bulk of the CsPhTh3 perovskite film is developed, resulting in improved power conversion efficiency (PCE) to as high as 19.37%. The involvement of guanidinium (GA) into the CsPhTh3 perovskite bulk film and glycocyamine (GCA) passivation on the perovskite surface and grain boundary synergistically enlarges the tolerance factor and suppresses the trap state density. In addition, the acetate anion as a nucleating agent significantly improves the thermodynamic stability of GA-doped CsPbTh3 film through the slight distortion of PbI6 octahedra. The decreased nonradiative recombination loss translates to a high fill factor of 82.1% and open-circuit voltage (VOC) of 1.17 V. Furthermore, bare CsPbTh3 perovskite solar cells without any encapsulation retain 80% of its initial PCE value after being stored for one month under ambient conditions.

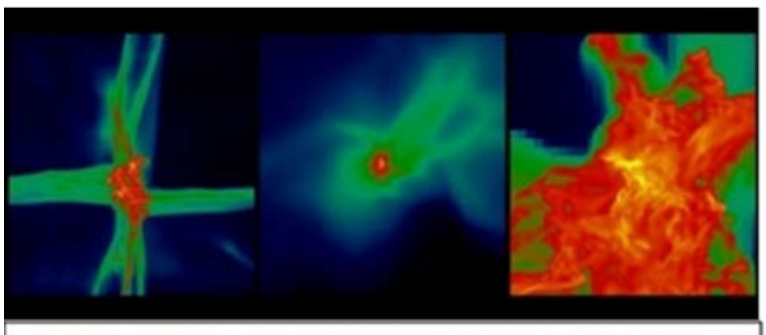
Dr. Alejandro Perez

Dr. Alejandro Perez Paz (Department of Chemistry) in collaboration with the experimental groups of Profs. Thomas Pichler (Univ. of Vienna, Austria) and Lei Shi (Sun Yat-sen University, China) published a paper in NanoLetters (Nano Lett. 2021, 21, 2, 1096–1101, https://doi.org/10.1021/acs.nanolett.0c04482). Carbyne chains are novel 1D allotropes of carbon with remarkable elastic, electrical and optical properties. In this work, we show how selecting narrow single-walled carbon nanotubes (SWCNT) makes it possible to grow long pristine carbyne polymers inside these nanoreactors. From the temperature-controlled Raman measurements we determined relevant thermodynamic parameters related to the carbon-carbon bond formation. Molecular dynamics simulations were conducted to give atomistic insight into the nucleation and growth mechanism of the chains inside the SWCNTs. Overall, this study paves the way of using SWCNTs as nanoreactors for the synthesis of undefected polyyne chains.

RESEARCH HIGHLIGHTS

Dr. Muhamed Abdul Latif

Dr. Muhamed Abdul Latif (Department of Physics) published a research article in Nature Journal together with Whalen, D.J., Khochfar, S., Herrington, N.P. and Woods, T.E. The paper talks about how quasars powered by supermassive black holes formed less than a billion years after the Big Bang is still one of the outstanding problems in astrophysics, 20 years after their discovery. Cosmological simulations suggest that rare cold flows converging on primordial haloes in low-shear environments could have created these quasars if they were 104–105 solar masses at birth but could not resolve their formation. Semi-analytical studies of the progenitor halo of a primordial quasar found that it favors the formation of such seeds but could not verify if one appeared. Here we show that a halo at the rare convergence of strong, cold accretion flows creates massive black holes seeds without the need for ultraviolet backgrounds, supersonic streaming motions, or even atomic cooling. Cold flows drive violent, supersonic turbulence in the halo, which prevents star formation until it reaches a mass that triggers sudden, catastrophic baryon collapse that forms 31,000 and 40,000 solar-mass stars. This simple, robust process ensures that haloes capable of forming quasars by a redshift of $z > 6$ produce massive seeds. The first quasars were thus a natural consequence of structure formation in cold dark matter cosmologies, and not exotic, finely tuned environments as previously thought.



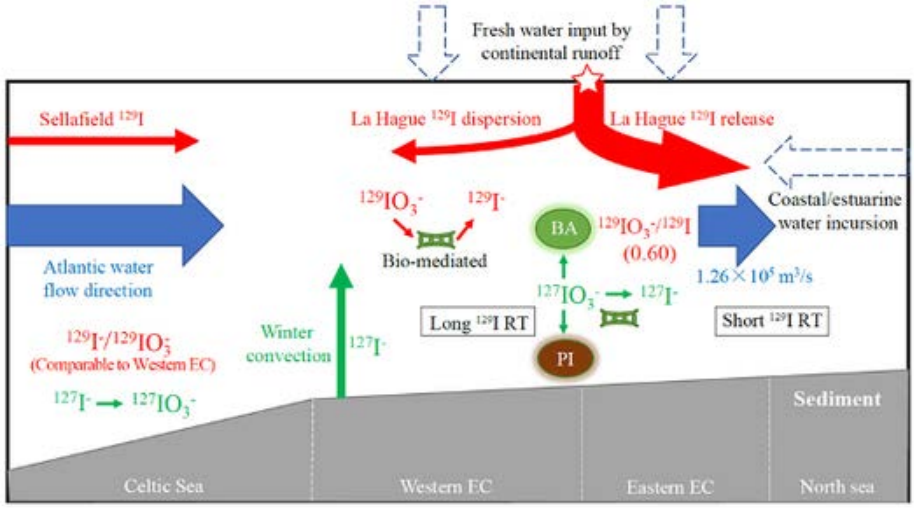
Figures from the simulation showing the gas at the onset of catastrophic collapse. (Latif et al., Nature, 2022).

RESEARCH HIGHLIGHTS

Prof. Ala Aldahan

Prof. Ala Aldahan (Department of Geology) co-authored a pioneering study published in Water Research presenting the distribution and transformation of the radioactive isotope iodine-129 (I-129) in the English Channel. This isotope is released to the sea from many nuclear fuel reprocessing facilities and the species ratios of iodide and iodates can be used to trace water sources and transport pathways. Iodine is also incorporated in the organic compounds and the speciation ratio can be used to trace their sources. Samples of seawater were chemically separated and measured using accelerator mass spectrometry. The results indicate an overall insignificant species transformation, especially in the eastern Channel, where a constant value of iodate to iodide is observed. This behavior of iodine can be used to characterize the radioactive wastewater signal from the English Channel. Estimates of inventories for I-129 and its species and fluxes from the English Channel to the North Sea add important information to the global geochemical cycle of iodine.

A diagram illustrating water masses mixing and iodine species transformation in the English Channel and adjacent areas. The star represents the La Hague facility. PI: particulate iodine; RT: residence time; BA: biological assimilation.



RESEARCH HIGHLIGHTS

A Fractional Order Numerical Study for the Influenza Disease Mathematical Model

The United Arab Emirates University research team developed a Fractional-order Numerical Mathematical Model for influenza disease by designing the computational frameworks based on Levenberg-Marquardt backpropagation neural networks. The methodology is based on the dataset for different variants of the model, which is generated by the reference Adams method, which is a built-in solver in the Mathematica package. To know more about the work, please read: https://lnkd.in/da9Xg7B5. This work has been performed by the joint efforts of Dr. Zulqurnain Sabir, Dr. Salem Ben Said, and Prof. Qasem Al-Mdallal from the Department of Mathematical Sciences at the College of Science.

Dr. Salem Ben Said **Prof. Qasem Al-Mdallal** **Dr. Zulqurnain Sabir**

MEMORANDUM OF UNDERSTANDING (MOUs)

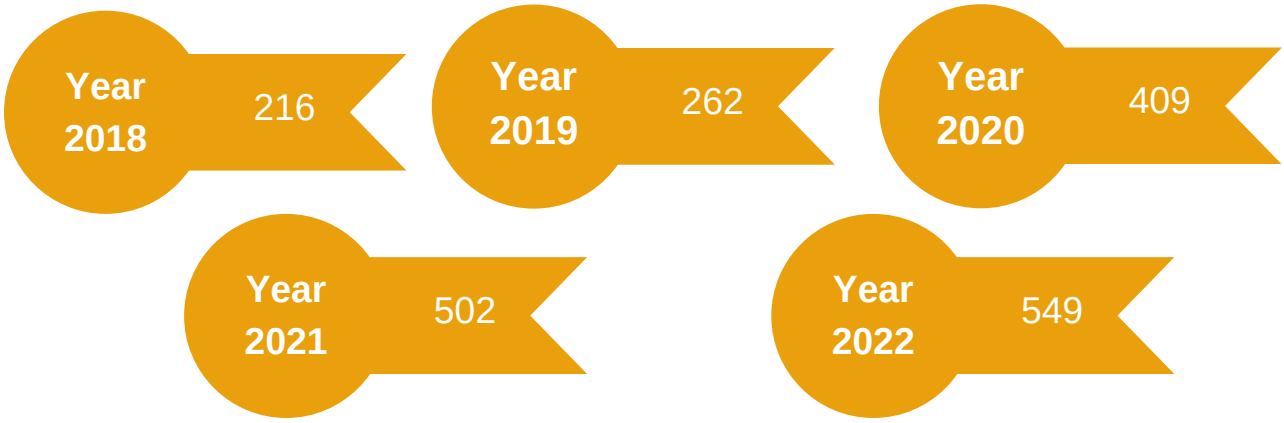
During the period 2022-2023, COS has signed or is in the process of establishing MoU's with the following entities to facilitate joint collaboration and cooperation between them.

- Dubai Municipality
- Dubai Police
- Università degli Studi di Sassari, Italy
- Universiti Teknologi MARA (UiTM), Malaysia
- New York University, Abu Dhabi

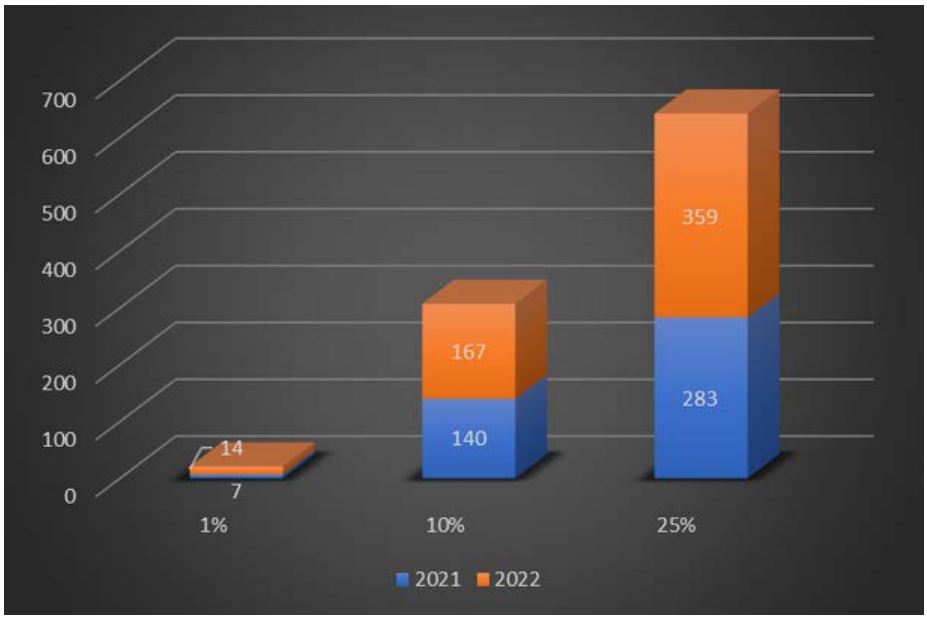
RESEARCH PUBLICATIONS

The COS leads among the colleges of UAEU in terms of total number of publications in Scopus-indexed journals with 502 publications in 2021 and 549 publications in 2022. The College is proud of its researchers' hard work and dedication in attaining this milestone.

Total COS publications between 2018-2022



COS remains on top in terms of annual research awards for papers published in the top journals (1%, 5%, 10%, and 25%) for both 2021 (184 papers) and 2022 (354). For full details, see Appendix 3.



COS publications based on journal rankings in 2021 and 2022.

NEW RESEARCH GRANTS

COS Faculty members have been quite successful in being awarded several internal research grants. In terms of internal grants, this includes 18 UPAR, 3 Strategic Research, 2 AUA, 4 NFRP, 18 SDG, 2 start-up and 51 SURE PLUS grants (see Appendix 4).

Research grants were awarded to COS faculty members this academic year.

Grant Type	Number	Amount
Start-up Grant	2	850,000.00
University Program for Advanced Research (UPAR)	18	7,561,690.00
Strategic Research Program	3	1,100,000.00
Asian Universities Alliance (AUA)	2	950,000.00
SDG (Sustainable Development Goals)	29	1,058,000.00
National Faculty Research Program (NFRP)	4	1,395,600.00
SURE PLUS 2023	51	1,833,000.00
TOTAL	**109**	**14,748,290.00**

Faculty members participated in International Conferences.

Department	Number of conferences attended
Biology	11
Chemistry	10
Geosciences	15
Mathematical Sciences	54
Physics	31
TOTAL	**121**

PATENTS AWARDED

In 2022-2023, 1 US patent was awarded and 4 were registered.

Title	Country	Application Number	Inventor(s)
System and Method for Production of Fatty Acid Ethanolamides	USA	17/121,569	Mohammed Kalim Akhtar and Dhanya Vijay
Crocin-Sorafenib Combination Therapy for Liver Cancer	Australia	2020315215	Amr Amin
Method And System for Gas Identification by Simultaneous Permeation Through Parallel Membranes	US	17/707,182	Sayed A.M. Marzouk and Abdullah J. Abu Namous
Forming acousto-optic lenses using spherical acoustic waves in fluids	US	17/814,696	Usama Al Khawaja and Laila Sakkaf
Remote Ground Resistivity Meter	US	17/978,803	Hakim Saibi

INTERNATIONAL RESEARCH COLLABORATIONS

COS has been actively involved in establishing and building on several international collaborations during 2022/2023. Multiple research projects and other activities are currently ongoing as part of these collaborations with:

- **UAEU-UC Berkeley**
- **UAEU-Chinese Academy of Science Collaborative Research Project**
- **UAEU-CERN**

COLLABORATION WITH CAS

Following are the projects that are progressing well:

Project: Detection and determination of carbamate pesticides and related metabolites in camel milk products of UAE (UAEU-Chinese Academy of Science Collaborative Research Project

Prof. Mohammed Almeetani, Department of Chemistry

A method was developed, validated and used to detect 11 carbamate pesticide residues in raw and pasteurized camel milk samples collected from the UAE using UHPLC-MSMS. An optimized liquid-liquid extraction was used to extract carbamate pesticides from the highly complex milk samples. The detection limit of all studied carbamates was down to 0.01 μg kg-1. A total of 17 camel milk samples were studied, and no carbamate residues were found in one sample only. The remaining 16 samples contained at least one carbamate residue, but the detected concentration for all residues was below the Codex-recommended MRL (< 10 μg kg-1) except ethiofencarb residue in three samples was at the borderline. The health risk of carbofuran, carbaryl, and propoxur was assessed for camel milk consumers by calculating hazard index (HI) values in pasteurized and raw camel milk and found less than one, therefore camel milk consumers are not at risk.

Project: Toward high efficiency and large-scale production of flexible perovskite solar cells (UAEU-Shaanxi Normal University & Chinese Academy of Sciences Collaborative Research Project)

Dr. Adel Najar, Department of Physics

Dr. Adel Najar

In the quest for efficient and sustainable energy sources, perovskite solar cells (PSCs) have emerged as a game-changing technology, revolutionizing the field of photovoltaics. However, the stability issue of PSCs restricts their further development for commercialization. We developed different strategies to keep moisture and oxygen out of the perovskite films and reduce defects by using surface passivation. Initially, we studied the residual solvent effect on two kinds of metal halide perovskite films obtained by different annealing processes: hot air annealing (HAA) and hot bench annealing (HBA). The PSCs champion devices based on different annealing approaches for HAA and HBA has a power conversion efficiency (PCE) of 22.49% and 20.98%, respectively. Then, a combinational passivation strategy to suppress ion migration and reduce traps both on the surface and in the bulk of the CsPhTh3 inorganic perovskite film was developed, resulting in improved PCE to as high as 19.37%. In addition, we use S-benzyl-L-cysteine-based passivator (BMBC), to post-treat CsPbI3-xBrx films. Our studies revealed that the combination of multiple Lewis-base functional groups (NH-, S- and C=O) in BMBC is highly essential in achieving efficient passivation via a Lewis base-acid interaction, which energetically coordinating with the undercoordinated Pb sites to suppress VI, and thus reducing surface trap density within the CsPbI3-xBrx films. These merits offered an excellent PCE of 21.8% for the BMBC- CsPbI3-xBrx PSCs, the highest for all-inorganic PSCs so far, which was published recently in Advanced Materials.

UAEU-ATLAS/CERN COLLABORATION

Prof. Salah Nasri
Department of Physics

Since August 2021, the United Arab Emirates University (UAEU) has taken a significant stride towards advancing fundamental research through its collaboration with the European Organization for Nuclear and Particle Physics Research (CERN) in Geneva, Switzerland. The UAEU-ATLAS group, part of the ATLAS Collaboration at CERN, is led by Prof. Salah Nasri and comprises of Dr Mohamed Belfkir (postdoc), Isaac Bamwidthi (PhD student), and Abdullah Mahboub (Master student). The primary research of the group includes Higgs Physics, Beyond Standard Model, and dark matter searches. The group is now well recognition for its active involvement in the search for the dark matter photon candidate in the Higgs boson decay with full Run-2 data. The research findings were published in the prestigious JHEP journal (2023) and presented by Dr Mohamed Belfkir at the Santander2023 Dark Matter conference. Moreover, the collaboration of UAEU-ATLAS group and a research team at Stanford University is spearheading a pioneering search for double Higgs boson production in the boosted regime via the vector-boson-fusion (VBF) production mode. The results of this ongoing investigation are expected to be published in prestigious journals Physical Review Letters (PRL) and will be presented at the EPS conference in August 2023.

The year 2022 marked a momentous occasion with the esteemed visit on the August 29 of His Excellency Omar Bin Sultan Al Olama, the Minister of State for Artificial Intelligence, Digital Economy, and Remote Work of the UAE, to the ATLAS experiment. This visit served as a catalyst for establishing a new level of collaboration in forging stronger ties and expanding the scope of collaboration between the UAEU-ATLAS team and CERN. Subsequently, on September 2022, a delegation from UAEU which included Prof. Ahmed Murad, the Associate Provost, Prof. Maamar Benkraouda, the Dean of the College of Science (CoS), Prof. Taied Znati, the Dean of the College of Information Technology (CIT), and Prof. Salah Nasri, visited CERN to extend the existing collaboration to unprecedented horizons and explore the possibility of constructing a Tier-2 computing center at the CIT. Notably, this Tier-2 centre would be the first of its kind in the Gulf Cooperation Council (GCC) region.

NEW FACILITIES

Green House

Greenhouse at the Department of Biology has begun operations on November 21, 2022, in its current location, near the shared labs. Dr. Abdulla Ahmed Al Mandous, Executive Director of the National Center of Meteorology - which funded the project, as well as the Vice Chancellor of UAEU, the Dean and Vice Dean of the College of Science, the Head of the Biology Department, and other dignitaries, attended the inauguration ceremony.

Geoscience Museum

On April 12, 2023, Prof. Ahmed Murad, Associate Provost for Research, and Prof. Maamar Benkraouda, Dean of the college, opened the Geosciences Museum in Building E4 after its renovation. There are 10 sections containing more than 460 geological local and international samples of minerals, rocks fossils. In addition, displays pertaining to the role of geosciences in industry such as oil and ceramics, as well as field geological tools and devices that are exhibited in 35 showcases. The opening ceremony was organized by Prof. Hassan Arman, Head of the Department of Geosciences, and faculty and students.

MERITS AND AWARDS

FACULTY AWARDS

KHALIFA AWARD FOR EDUCATION

Prof. Qasem Al Mdallal of the Department of Mathematical Sciences received the Khalifa Award for Education (Cycle 2023:6) in the category of Distinguished University Professor.

Prof. Qasem Al Mdallal

KHALIFA INTERNATIONAL AWARD FOR DATE PALM AND AGRICULTURAL INNOVATION
&
RASHID BIN HUMAID CULTURAL & SCIENCES AWARD

Prof. Synan AbuQamar of Department of Biology was conferred the prestigious Khalifa International Award for Date Palm and Agricultural Innovation. Prof. Synan also received Second Place in the Environmental Sciences category for the Rashid Bin Humaid Cultural & Sciences Award (2022). The title of the winning project is 'Improving the efficiency of phytoremediation of soil contamination with toxic metals using beneficial bacteria in the United Arab Emirates: An environmental study'.

Prof. Synan AbuQamar

CHANCELLOR'S INNOVATION AWARD (8TH CYCLE) & UNIVERSITY EXCELLENCE AWARD IN SERVICE

Prof. Sayed Marzouk of the Department of Chemistry received the Chancellor's Innovation Award in the category of technology (8th Cycle - 2022/2023). His project was titled Development and Successful Commercialization of Cells for Use in Chemical Analysis.

Additionally, for the academic year 2022, Prof. Sayed Marzouk has won the University Excellence Award in Service.

WASC INSTITUTIONAL ACCREDITATION COMMITTEE

H.E. Zaki Anwar Nusseibeh, Chancellor of United Arab Emirates University, honored Prof. Sayed Marzouk among the WASC Institutional Accreditation Committee, in which he was the representative of the College of Science.

ABU DHABI DEPARTMENT OF HEALTH

Dr. Abdessamad Tridane of the Mathematical Science Department was recognized by the Abu Dhabi Department of Health on October 31, 2022 for his efforts to assist the Department of Health during the COVID-19 pandemic and commitment as a member of the epidemiological committee.

The Hamdan Bin Rashid Al Maktoum Foundation also presented Dr. Abdessamad with a commendation for outstanding academic achievement. Dr. Tridane is a mentor in the Global Talent Mentoring program of the World Giftedness Center and is currently engaged in a project to model pollution and mobility in Hong Kong.

Membership of Arab-German Young Academy of Sciences and Humanities (AGYA)

Dr. Mohamed Qenawy was selected as an active AGYA' member from among more than 500 applicants from the Arab region. AGYA aims to establish a community of outstanding Arab and German researchers, who are at an early stage of their academic careers and supports joint innovative projects in various fields of research, science policy, and capacity building across different disciplines in the Sciences and Humanities. Dr. Qenawy developed extensive knowledge of materials science, wide range of laser spectroscopy techniques and synchrotron-based-X-ray spectroscopy techniques.

Dr. Mohamed Qenawy
Department of Chemistry

COLLEGE EXCELLENCE AWARDS

The College is proud to recognize the following faculty members for their contributions to the institution (2022-2023).

Dr. Iltaf Shah

Prof. Khaled El-Tarabily

Prof. Qasem Al Mdallal

Prof. Farrukh Mukhamedov

NAME	DEPARTMENT	AWARD CATEGORY
Dr. Iltaf Shah	Chemistry	Teaching
Prof. Qasem Al Mdallal	Mathematical Sciences	Scholarship (Theoretical Science)
Prof. Khaled El-Tarabily	Biology	Scholarship (Experimental Science)
Prof. Farrukh Mukhamedov	Mathematical Sciences	Service

FACULTY PROMOTIONS

Dr. Salem Ben Said of the Department of Mathematical Sciences was promoted to Full Professor.

Dr. Salem Ben Said

The following faculty members were promoted to the rank of Associate Professor.

Dr. Oliver Manlik
Department of Biology

Dr. Nayla Munawar
Department of Chemistry

Dr. Khalid Muhammed
Department of Biology

Dr. Alejandro Perez
Department of Chemistry

Dr. Fathy Hassan
Department of Chemistry

Dr. Muhammad Abdul Latif
Department of Physics

Dr. Rim Fares
Department of Physics

Dr. Roland Young
Department of Physics

Dr. Naslim Neelamkodan
Department of Physics

Dr. Haila Aldosari
Department of Physics

COLLEGE TROPHY COMPETITIONS 2023

During the College Trophy Competitions 2023, Dr. Khalid Mohammad and Dr. Amit Kumar from the Department of Biology finished second in the Tennis tournament. Dr. Khaled Al Bloushi of the Geosciences Department won first place in the Chess competitions, and Dr. Ayman AlSayed of the Chemistry Department won first place in the Table Tennis tournament.

STUDENT AWARDS

College Trophy Competitions 2023

Our sports teams participated in the College Trophy Competitions 2023 and won several competitions in both male and female categories, particularly in Beach Volleyball, Chess, Table Tennis and Volleyball. This victory was a clear demonstration of the exceptional talent and competitive spirit of our students.

Best Poster Award

Miss Dina Ashraf, a Chemistry PhD student has won the Best Poster Award in Chemistry at the Khalifa University Graduate Student Research Conference (19-20 March 2023).

University Reading Competition 2023

Miss Alshaima Jasim Al Naqbi (Department of Physics) won the first place in University Reading Competitions 2023.

Alshaima Jasim Alnaqbi
Department of Physics

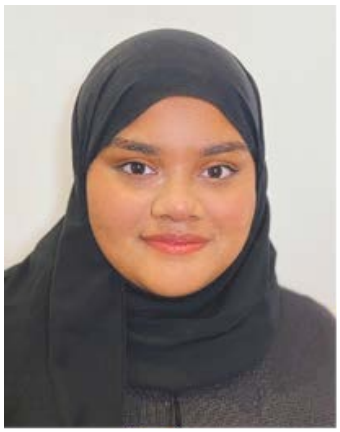
Top Project Award

Miss Afraa Mazen Taj Elddin of the Department of Biology won the Royal Society of Biology's (RSB) Top Project Award in Biological Sciences 2023. Ms. Afraa was supervised by Professors Khaled El-Tarabily and Synan AbuQamar.

Afraa Mazen Taj Elddin
Department of Biology

SEG | DGS MIDDLE EAST CHALLENGE BOWL COMPETITION

Students from the Department of Geosciences obtained third place in the SEG-DGS Middle East Challenge Bowl and 4th place in the Imperial Barrel Award Competition that took place in Bahrain on 20th February 2023 . Congratulations to the participants in these esteemed competitions, both students and mentors.



Rayan Sayed Al Deen

Balqees Al Balooshi

UAEU Short Story Contest 2023

Students Gameilah Abdulgaber (Department of Chemistry) and Alyazia Alqemzi (Department of Biology) won the Short Story Contest 2023 under the theme 'Human Innovation: AI & the Human Experience', conducted by the Department of Languages and Literature as part of the Innovation Month 2023 activities.

Gameilah Abdulgaber

Alyazia Alqemzi

Sharjah Award for Voluntary work

Ms. Reem Abdul Fattah from the Department of Mathematical Sciences has won the first place (University students' category) in the 20th edition of the Sharjah Award for Voluntary work.

Reem Abdul Fattah

COLLEGE EVENTS

COLLEGE OF SCIENCE EXHIBITION 2023

The 2023 College of Science (COS) Exhibition imprinted a glorious chapter, capturing hearts and minds, in the colorful tapestry of the academic year. This important event was planned by the College of Science News Team (COSNT), and served as their monument commitment and careful preparation of the event. This magnificent event highlighted memories of inspiration, celebrating achievements and fostering collaboration. 14 Schools from across Abu-Dhabi, Dubai, and Al-Ain, including the People of Determination Center, all united, transcending boundaries and embracing diversity. The 2023 COS Exhibition garnered significant acclaim and widespread media attention from esteemed publications like Al- Bayan magazine, Al-Ittihad Magazine, and Al Khaleej magazine, as well as captivating coverage by Al Fujairah TV. It unfolded as a vibrant tapestry intricately woven with passion, intellect, and an unwavering faith in the profound impact of science.

END OF THE YEAR GATHERING

Organized by the College of Science News Team (COSNT), COS community gathered in a splendid event, celebrating a tapestry of achievements and milestones that adorned its journey. With pride, we honored the faculty and students whose patents and publications illuminated the academic landscape, advancing us to new horizons of knowledge. Winners of the Graduate Research and Innovation Competition embodied the spirit of inquiry and innovation, igniting inspiration in our midst. We showcased the enduring impact of the College of Science, celebrating students' vibrant activities during national and international days, fostering cultural exchange and communal engagement. Each Club's unwavering dedication and tireless efforts were acknowledged, and their collective achievements were woven into our success. Yet, as we rejoiced, we bid farewell to departing faculty members, grateful for the wisdom they imparted and their indelible mark upon our institution.

GRADUATE STUDENTS RESEARCH & INNOVATION COMPETITIONS (INNOVATION WEEK 2023)

In relation to the Innovation Competitions activities, the College of Science and the Physics department organized an event entitled “Space Exploration beyond Planet Earth”. We hosted Astronaut Roberto Vittori from the European Space Agency, and Astronomer Robert Wittenmyer from the University of Southern Queensland in Australia. Roberto made us discover the history of Space exploration and life on the International Space Station, and Robert took us on a journey to explore planets outside our own Solar system.

The other innovation activities conducted are: Undergraduate and graduate students research competitions, administrative staff innovation competitions, workshops, and seminars.

Below are the winners of the Undergraduate & Graduate Students Research & Innovation Competitions. Administrative Staff Innovation Competitions winners were also honored by the College.

UNDERGRADUATE STUDENTS

1	Balqees Mohamed	Geosciences
2	Nouf Alblooshi	Geosciences
3	Shama Almheiri	Geosciences
4	Riham Elnahas	Chemistry
5	Sebe Albalkhi	Chemistry
6	Basant Elabyad	Chemistry
7	Aya Alhamshari	Chemistry
8	Esraa Ali Shoqeir	Chemistry
9	Ragad Altahan	Chemistry
10	Maitha Salem Marzuq Alshamsi	Biology
11	Asma Obaid Muqrin Alameri	Biology
12	Fatima Ali Mohamed Almarzooqi	Biology
13	Shouq Amiri	Biology
14	Alya Alblooshi	Biology
15	Alia Alharmoudi	Biology
16	Basmallah Mohsen Khalaf	Biology
17	Leen Alrawas	Mathematics
18	Rawdha Albeshr	Mathematics
19	Shahd Almazrouei	Mathematics
20	Rahaf Abuzarqa	Mathematics

GRADUATE STUDENTS

1	Taimun Qaisar	Mathematics
2	Khalid Elhaj	Geosciences
2	Shahana Seher Malik	Biology
4	Wadha Khalifa Salem Rashed Alfalasi	Physics
5	Abdulmuizz Adamson	Chemistry

ADMINISTRATIVE STAFF

1	Mohamed Shahid	Dean's Office
2	Abla Alkaabi	Dean's Office
3	Noushad Valappil	Dean's Office
4	Khawla Alshamsi	Chemistry
5	Raja Al Meskari	Biology
6	Mahra Alhanei	Mathematics
7	Halima Al Meqbali	Biology
8	Mohamed Taher	Biology

COS RETREAT

COS organized a retreat meeting on 29th of September 2022 at Al Ain Rotana Hotel to discuss and develop its Strategic Plan 2021-2023. The retreat was attended by senior administration including Prof. Maamar Benkraouda (Dean of the COS), Dr. Asma Almenhali (Vice Dean of College of Science), Dr. Ruwaya Alkendi (Assistant Dean for Research & Graduate Studies), Dr. Sulaiman Kaabi (Assistant Dean of Student Affairs), Chairs of the Departments (Prof. Abbas Khaleel, Dr.. Adama Diene, Prof. Khaled Amiri, Prof. Hasan Arman, Prof. Usama AlKhawaja), and Strategic Plan committee members (Prof. Abdel Rahman Fowler, Prof. Mofreh Zaghloul, Dr. Soleiman Hisaindee, Dr. Aaron Henderson, Dr. Humberto Rafeiro,) and other participants (Prof. Mohamed Syam, Prof. Chbili Nafaa, Prof. Saleh Thaker, Dr. Ziad Moussa). Senior administrative participants and Department Chairs delivered talks pertaining to their sections followed by a Q&A session.
The retreat discussed current status and future plans of the College.

STUDENT ACADEMIC HONORS & AWARDS CEREMONY

The College of Science in collaboration with the Honor Students Committee organized an Honors Ceremony, discussing the importance of honor program and awarding the outstanding honor students of Fall 2022. The COS Dean delivered a welcome speech followed by an overview of the Honors Program by Dr. Abdelouahid Samadi. Dr. Elizabeth Whitehouse from SSU also addressed the audience as a guest speaker.

INTERNATIONAL BIOLOGY OLYMPIAD

The 3rd International Biology Olympiad Camp was held from May 29-30 (two full days) and consisted of different activities including the preparation of bulk chemicals by scientific assistants (supervised by Prof. Pradeep Burma, Prof. Saman Khani, Dr. Mayank Gururani and Prof. Sabir Bin Muzaffar), conducting 'mock' Ecology and Ethology and Bioinformatics practical exams. The bulk chemicals prepared were used to conduct 'mock' exams between June 05-09 as part of the streamlining of 'Biochemistry' and 'Molecular Biology' experiments.

A coordination meeting between participating entities with different logistical tasks, chaired by the Undersecretary of the Ministry of Education, was held on May 29, 2023, at the Crescent building. The event was covered on various social media. A team of international subject experts created questions for the two theory exams and practical questions covering Biochemistry, Molecular Biology, Bioinformatics and Ecology/Ethology. The International Biology Olympiad Camp members met regularly to review and finalize the questions.

The upcoming events were as follows:

June 5-9: IBO camp in E3 for preparation of Exam halls (Food Court, Sports Hall, and G3 Exam Hall) by UAEU/MOE staff.

June 25-28: Bulk preparation for of chemicals for all 300 students, movement of chemicals and materials to exam halls (Male Food court/Shorts Hall/G3 Hall) conducted by Scientific assistants and leaders from UAEU.

July 02-11: The International Biology Olympiad Academic Committee will present the exam questions to country representatives, debate and finalize the exam questions, followed by the implementation of the exam on the following day.

INTERNATIONAL CHEMISTRY OLYMPIAD

The 55th International Chemistry Olympiad (ICHO) was held in July-2023 in Zurich, Switzerland. ETH University hosted the students in the captivating landscapes of Switzerland. This prestigious event gathers the brightest young minds from around the world to showcase their passion for chemistry and engage in thrilling academic challenges. ETH University, renowned for its contributions to the field of chemistry, will provide the perfect setting for this international gathering. We are happy to announce the training camp for the UAE national team for the 55th ICHO to be held in Switzerland. A training camp was held in UAE University science labs for physical chemistry, Organic chemistry, Analytical chemistry and Biochemistry. The nation building is a responsibility that UAE University has always proudly participated in as UAE's first and best University in the area of sciences. The UAE University is very proud to collaborate with the Ministry of Education on this important project to develop skills and capacity in the UAE. UAE team will be led by Dr. Fathy Hassan from UAE University along with Mr. Abdallah & Mr. Sachin from the Ministry of Education.

CONFERENCES, SYMPOSIA & SEMINARS

Workshop on Recent Advances in Analysis and Applications (19-20 October 2022)

The Department of Mathematical Sciences at UAEU organized a workshop on Recent Advances in Analysis and Applications, which took place in October 19-20, 2022. The workshop focused on significant recent developments in real analysis, including fractional calculus, as well as concurrent progress in their application to PDEs and numerical analysis. The goal of the workshop was to bring together researchers who work in both theoretical and applied mathematical analysis-related fields. It will foster interactions, open new avenues for future research, and promote new collaborations. Seven keynote speakers from well-known universities attended and presented their papers.

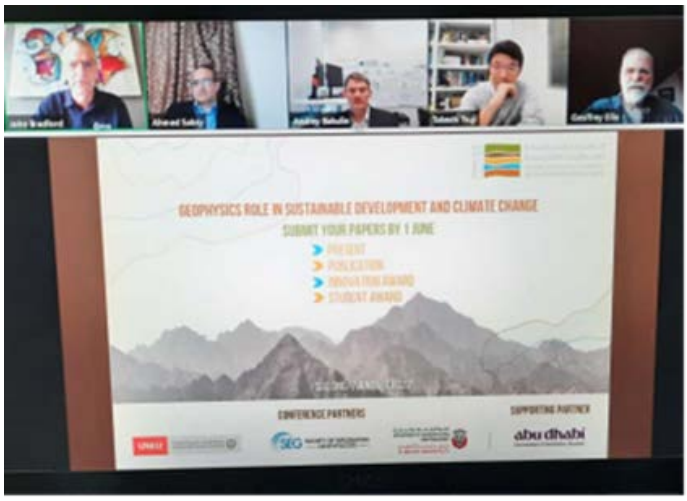
AUA-UAEU Workshop on Graph Theory, Combinatorics and Applications (GTCA 2022) in collaboration with University of Indonesia (13-15 November 2022)

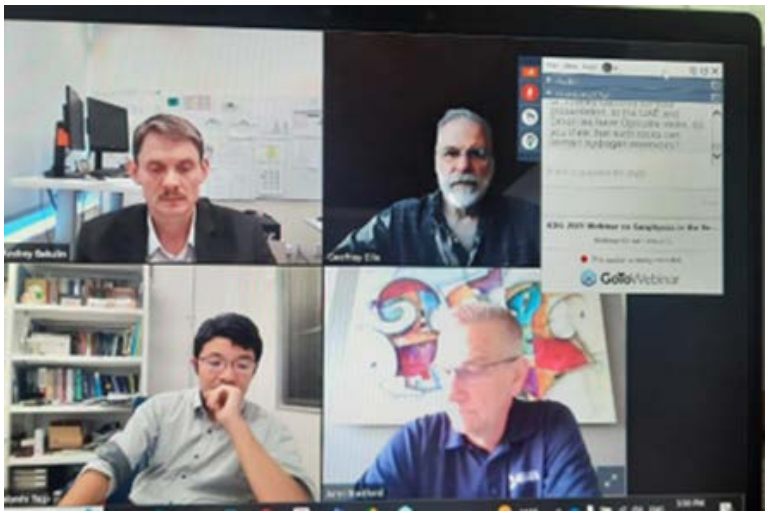
The UAEU Department of Mathematical Sciences in collaboration with the University of Indonesia, (Jakarta, Indonesia) and supported by Asian Universities Alliance (AUA) organized a three-day workshop on Graph Theory, Combinatorics and Applications (GTCA 2022) from 13-15 November 2022. This was the second workshop of the series. The 1st Workshop (GTCA 2019) was held on October 9-10, 2019, and hosted by UAEU. GTCA 2022 was a F2F event which attracted 50 researchers from 25 countries including leading Universities from Europe, USA, Canada, and Asia. 47 talks were delivered during the workshop in three parallel sessions. The workshop focused aims to create a platform for exchanging the latest research results and ideas, sharing advances and latest trends in research methods. It also promotes collaborations. Eight keynote speakers presented their work.

ICEG 2023 Webinar (23 May 2023)

The first webinar of ICEG 2023 was conducted on 23rd May 2023 on the topic of 'Geophysics in the Energy Transition' covering areas on geothermal, hydrogen, CCUS and more. Panelists include Ahmed Sabry (SLB), Geoffrey Ellis (US Geological Survey), Andrey Bakulin (Saudi Aramco) and Takeshi Tsuji (University of Tokyo) with moderator John Bradford (Colorado School of Mines). The below topics were addressed:

- Identifying potential for geothermal and CCUS (evaluation for Storage).
- Geophysics applications in natural hydrogen exploration.
- Smart DAS uphole acquisition system enables seismic monitoring of large CCUS projects in a desert environment.
- Portable Active Seismic Source (PASS) for continuous monitoring of CO2 storage and geothermal reservoirs.





ChatGPT Seminar

Ph.D student Mr. Khalid ElHaj (under the supervision of Dr. Dalal Alshamsi) presented a seminar on the latest advancements in AI technologies on May 12, 2023. He provided an overview of large language models (LLMs) and their importance in AI research with special focus on ChapGPT. He discussed the advantages of ChatGPT (such as natural language understanding and human-like responses) and its disadvantages (including bias and lack of real-world understanding). Arguments both for and against ChatGPT were presented, including concerns over misuse and ethical considerations. The presentation also addressed the impact of ChatGPT on research productivity.

Nonlinear Physics Group Conference

The Nonlinear Physics Group at the Department of Physics organized a three-day conference titled "Conceptual Results in Nonlinear Physics," which was held in February 20-23, 2023. The conference was held both face-to-face and virtually. Several speakers from prestigious universities attended and discussed their papers.

Workshop on AI Applications

An online key workshop on artificial intelligence was held Thursday, 15 June 2023, by Mr. Khaled Elhaj, a PhD student at the Department of Geosciences, as part of the COS Honor Students Committee's preparations to create a new COS Artificial Intelligence Club the following semester.

Departmental Seminars

The various COS departments organized several scientific seminars featuring both internal and external speakers from international institutions. The number of seminars organized are as follows: Department of Biology (9) seminars, Department of Chemistry (8), Department of Geosciences (12), Department of Mathematical Sciences (14) and the Department of Physics (10). For detailed information, see Appendix 5.

Solar Eclipse Event

On October 25, 2022, a partial solar eclipse was observed in the UAE. Dr. Naslim Neelamkodan, Dr. Sreejith Karthikeyan, and Ms. Batool Ilyasi, from the Department of Physics, coordinated a solar eclipse viewing event for students at UAEU. Depending on the position of the moon in relation to the sun and earth, one can observe this rare astrophysical phenomenon at various phases, including its beginning, peak, and termination. Around 37% of the eclipsed sun was observed in Al Ain, from 2:44 PM to 4:56 PM. The photographs below display the various eclipse phases as captured by Dr. Sreejith Karthikeyan. Students also engaged in safe eclipse viewing techniques using tools including Sun Spotters, Eclipse Glasses, Solar Filters, and Pin Hole Cameras.

From the 12 o'clock position, the various phases of the solar eclipse event between 2:44 PM and 4:56 PM were illustrated in clockwise format. The center image shows the maximum eclipsed sun around 37% at Al Ain, United Arab Emirates.

Green Comet Observation

The Green Comet observation was held on February 16, 2023, in the Al Sweihan, UAE University farm, Al Ain by the College of Science (COS) and the Physics Club, in collaboration with the Emirates Astronomical Club. The Green Comet, C/2022 E3 (ZTF), is a long-period comet that last visited the inner solar system around 50000 years ago during the ice ages. Images of this unusual comet were captured as it passed close to the Earth on its latest visit. This comet has a dim dust tail and a solid green glow around its nucleus caused by the Sun's radiation interacting with diatomic carbon. The orbital path suggests that this comet may never be able to return to the inner solar system.

Poster Exhibition Day

Students from all departments showcased their experiences in the internship training program at various institutions during the Fall 2022 semester.

UAE National Day Celebrations

On the occasion of UAE National Day, the COS Honor Students Committee organized round-table talks featuring the following speakers:

- Oxford University Summer Internship (Dr. Iltaf Shah, Department of Chemistry)
- Intern Training Opportunity (Dr. Badria Almurshidi, Department of Biology)
- SEG student chapter at UAEU (Prof. Hakim Saibi, Department of Geosciences)
- ACS-UAEU Chapter (Prof. Na'il Saleh, Department of Chemistry)
- Choices that will Change your Life (Ms. Wadha Al Falasi, PhD Student)

COS Participation in National Service Career Fair 2023

Dr. Abdelouahid Samadi represented COS at the National Service Career Fair 2023 which was held in Abu Dhabi National Exhibition Center on March 6-8, 2023. This exhibition aimed to open channels of communication between graduates from the national and reserve service in the armed forces and the exhibitors from the government and private sectors to find job opportunities for the graduates, as well as to provide an opportunity for those who wish to continue their education.

Social Breakfast

A social breakfast was held on Friday, March 10, 2023, in which more than 100 faculty and staff members of the College of Science gathered.

Social Gathering

The departments of Geosciences and Mathematical Sciences of the COS celebrated their program accreditation by ABET (Accreditation Board for Engineering and Technology). A dinner summit at Mercure Hotel in Jabal Hafit, in the presence of the Dean of the COS, on November 24, 2022. The Heads of Geosciences and Mathematical Sciences departments praised the work of all the teams for their tremendous efforts to make ABET accreditation successful.

American Chemical Society (ACS)-UAEU Chapter

The UAEU joined other ACS student chapters in the UAE with the aim to promote chemistry in UAEU and to foster a greater sense of community and opportunities between science students, engineering students, and medical students.

Physics Department Internship Poster Exhibition

The Department of Physics has organized a poster presentation day for internship students during the summer semester on Tuesday, June 20, 2023, from 9:30 am to 11:30 am. in F1-Building. There are seven students who have presented their internship work from the following locations:

1. Mohammed Bin Rashid Space Centre (MBRSC), Dubai
2. National Space Science and Technology Center (NSSTC), UAEU
3. Tawam Hospital, Al-Ain.

VISITS

CERN Visit (21-23 September 2022)

The purpose of the visit of the UAEU delegation that included the Associate Provost, Prof. Ahmed Murad, the Dean of the College of Science, Prof. Maamar Benkraouda, the Dean of the College of IT, Prof. Taieb Znati, and Prof. Salah Nasri from the Department of Physics, to the European organization for nuclear research (CERN) was to strengthen our already-existing scientific collaboration and extend it to newer horizons. In particular, the delegation explored the possibility of building a Tier-2 computing center at the College of IT in UAEU that will be connected to the ATLAS/CERN computing grid and the international community of scientists. The aim is to provide adequate computing power for simulation and analysis tasks needed for the UAEU-ATLAS research group, as well as scientists from other departments to use it as a computation platform. This will be the first Tier-2 center in the region. Furthermore, the delegation discussed the possibility for organizing scientific activities, such as bootcamps for undergraduate and high school students, as well as UAEU-CERN workshops and Master-Classes given by CERN renown affiliated scientists to UAE student community.

Visits of Italian National Laboratories and Companies

The The Associate Provost for Research Prof. Ahmed Ali Murad and Dean of COS Prof. Maamar Benkraouda visited the following important research labs:

- Gran Sasso National Lab in L'Aquila, Italy.
- STMicroelectronics Company in Milan, Italy.
- Elettra Synchrotron in Trieste, Italy.

The visit was intended to foster research and training collaboration. Several agreements are being finalized.

Visit of Prof. Cherifa Abdelbaki from Tlemcen University, Algeria.

Prof. Cherifa Abdelbaki from Tlemcen University, Algeria paid a visit to the Department of Geosciences on December 7, 2022. Her visit was intended to recognize and discuss future water resources collaboration with the Department of Geosciences, with a particular emphasis on the environmental effects, mitigation, and protection strategies from flash floods. She went on a tour of the campus and the Department of Geosciences labs accompanied by Prof. Hasan Arman and Dr. Saber Hussein.

Visit of Prof. Shinya Kanemura from Osaka University, Japan.

Professor Shinya Kanemura from Osaka University in Japan, one of the world's leading theoretical particle physicists, visited the Department of Physics at UAEU where he gave a seminar on "Higgs Boson as a Probe of New Physics" on September 15, 2022. He is a collaborator of Prof. Salah Nasri from the Department of Physics. This visit was also an opportunity to initiate new research projects between the UAEU High Energy group and the Osaka University Particle Physics group led by Prof. Kanemura.

Visit of Prof. Shengzhong Frank Liu, Shaanxi Normal University-China

Prof. Shengzhong Frank Liu, Director of Shaanxi Engineering Lab. for Advanced Energy Technology at Shaanxi Normal University-China, and Associate Director of Solar Energy Department at Dalian Notional Laboratory for Clean Energy in China visited the Physics Department from January 20 till February 2, 2023. During his visit, Prof Liu conducted several research meetings with faculty from Physics, Chemical, and Electrical Engineering departments. Also, Prof. Liu gave a presentation in Physics Department about “Perovskite - A Wonder Material for Photo-electronics”.

FANR Visit

Delegates from COS visited FANR Labs for Environmental Radiochemistry and calibrations to discuss the possible research collaboration between FANR and the College of Science in Abu Dhabi (08 June 2023).

Marine Research Vessel GAYWUN

During the NAFTEX exhibition, a group of Marine Biology course students from the Biology Department, College of Science at United Arab Emirates University (UAEU), visited the Marine Research Vessel GAYWUN (22 February 2023), which belongs to the Environmental Agency of Abu Dhabi. GAYWUN is the first equipped marine research vessel in UAE's history. The ship research equipment demonstration and explanations about the ship's facilities and capabilities by Prof. Waleed Hamza (UAEU) and the ship crew have inspired the students for pursuing a future career in Marine Research.

LEAVING FACULTY MEMBERS

Eight faculty members left the College and UAEU by the end of the academic year of 2022-2023. They will be truly missed in the college! We wish them well in their future endeavors.

Prof. Usama Al Khawaja
(Head of the Physics Department)

Dr. Ehab Malkawi
Department of Physics

Prof. Ihab Obaidat
Department of Physics

Dr. Ahmed Alzamly
Department of Chemistry

Dr. Mohamed Alzaabi
Department of Chemistry

Dr. Saber Hussein
Department of Geosciences

Dr. Sulaiman Ali Alkaabi
Department of Geosciences

Dr. Kamal Ali
Department of Geosciences

COMING EVENTS

Seventh International Conference on Engineering Geophysics (ICEG 2023)
16–19 October 2023 - Al Ain, UAE

The United Arab Emirates University (UAEU) and Al Ain City Municipality (AAM), in partnership with the Society of Exploration Geophysicists (SEG), are proud to announce the seventh edition of the International Conference on Engineering Geophysics (ICEG). This edition will take place 16–19 October 2023 on the grounds of the UAEU in the Conference Auditorium of the Crescent Building. The success of the first six editions of the ICEG was reflected by the number of participants and the great interest and positive feedback from both local authorities and the international geo-community working with geophysical methods applied to engineering, environmental, archaeological, geotechnical, and forensic problems. Overwhelming encouragement from this community led to the seventh edition, and a decision to maintain the broad and active areas of near surface-related specialties.

The United Arab Emirates continues to build a sustainable, balanced, and diversified economy intended to ensure stability and prosperity with innovation and excellence as priorities. This conference has been designed and operated with those attributes and guidelines as drivers. These priorities speak to social responsibility and strongly signal the need for effective and technically sound engineering geophysics supporting regional growth. Therefore, the conscientious and rigorous application of engineering geophysics has become mandatory prior to approval of any construction project in Abu Dhabi Emirate.

The objectives of the ICEG 2023 will concentrate on innovation, creativity, advances, and new approaches in the field of engineering/environmental geophysics and related fields that have global impact. In addition to the core engineering/environmental and geotechnical focuses of this coming event, special sessions in related applications of archaeology, monitoring, energy, and forensic geophysics will be included. Furthermore, international experts at the cutting edge of their disciplines will deliver keynote presentations on their latest research, experiences, future goals for engineering/environmental geophysics, and raising public awareness on the critical role of near-surface geophysics.

Panel Sessions
- Mining innovations with geophysics for net zero emissions
- Role and contribution of near-surface geophysics to sustainable future

Conference Theme: Geophysics Role in Sustainable Development and Climate Change

UAE Microbiome 2023

Microbiome: Human, Plant, and Environmental Health - Applications and Challenges
"UAE Microbiome 2023".
Date: November 21-22, 2023
Location: Abu Dhabi National Exhibition Center (ADNEC), Abu Dhabi, United Arab Emirates.

Microorganisms such as Bacteria, Archaea, Eukarya, and viruses, live in communities called microbiomes and often interact with their surroundings. Changes in microbiome structures can have direct and indirect impacts on human, animal, plant, and environmental health, thus occupying a vital position in the One-Health framework. Therefore, understanding the role of the microbiome in the One-Health framework is an emerging research domain. Advances in Next-Generation Sequencing technologies and computational approaches have paved the way to explore the microbiome and its applications in diverse fields, including diseases, biomedicine, crop production, environmental cleanup, and ecological interactions.

Moreover, the microbiome research community is growing in the Middle East, especially in the UAE. Therefore, it is appealing and necessary to bring like-minded researchers together to facilitate the exchange of innovative ideas and provide a platform to establish collaborative connections. The proposed UAE Microbiome 2023 conference will be one of the first microbiome-themed meetings ever hosted in the Middle East region. The conference will focus on the challenges and hurdles that researchers working in the microbiome field must recognize and navigate to successfully utilize the microbiome's potential for humanity. Additionally, the meeting will showcase groundbreaking research advancements carried out by leading scientists around the globe. Since a wide range of research studies implicate microbiome dysfunction in human, plant, and environmental health, the conference will have three sessions highlighting recent developments in these areas. Through this conference, we aim to integrate local and international researchers with common scientific objectives across a broad cross-section of sub-disciplines within the field of the microbiome.

2nd International Workshop on “Delay Differential Equations and Applications to Immunology and Infectious Diseases”

23-24 November 2023.

The aim of this workshop is to bring together researchers with an interest in delay differential equations and their applications to immunology and infectious diseases, mathematical modeling, host-pathogen interactions, and disease progression through computational analysis and delay differential equations. There will be a round table discussion on open problems and questions in the context of infectious diseases, cancer, and chronic diseases, as well as future directions in multidiscipline research.

Potential topics include but are not limited to the following:

- Models of host-pathogen interactions
- Models of cancer immune response
- Models of immunological regulation
- Therapy and vaccination models
- Models of multiscale immunoepidemiology
- Optimal control with therapy
- Immune response, signaling pathways, and regulatory networks.
- Mathematical analysis and biological interpretation of deterministic and stochastic DDEs models.

This workshop will present new theoretical and numerical methods, enhance interdisciplinary interaction between mathematics and life sciences, and stimulate collaborations in immunobiological modeling.

Keynote Speakers:

Prof. Gennady Bocharov
Marchuk Institute of Numerical Mathematics, Russian Academy of Sciences, Moscow

Prof. Andreas Meyerhans
Infection Biology Laboratory, Department of Medicine and Life Sciences, Universitat Pompeu Fabra, Barcelona, Spain.

AUA-UAEU Academic Conference on Mars and Planetary Science
20-21 November 2023
United Arab Emirates University, Al Ain

The successful arrival of the Emirates Mars Mission (EMM) in orbit around Mars in February 2021, followed by subsequent public data releases by the EMM team, has stimulated considerable interest in Mars and other planetary science in the UAE.

We are hosting a two-day in-person academic conference with the support of the Asian Universities Alliance (AUA), to bring together researchers working on Mars and other planetary science topics from within the UAE and from other AUA member institutions with similar research priorities.

The meeting will be primarily in-person, but we will accommodate a hybrid format for remote attendance for attendees who are unable to attend in person.
Topics that the conference will cover include:

- Science using data from the Emirates Mars Mission
- Other Mars surface and atmospheric science
- Other planetary science within the UAE
- Extrasolar planets

The goals of the conference are to share knowledge between researchers within the UAE and other AUA universities, build new links and collaborations between universities and other entities, make students aware of opportunities in the field of planetary science, and showcase science using data from the Emirates Mars Mission.

The target participants are faculty, researchers, project officers, and students working in planetary science in UAE or other AUA universities, or in relevant UAE non-University organizations.

APPENDICES

APPENDIX 1

GRADUATE STUDENTS' PUBLICATIONS

#	Student Name	Program	Title of the Research paper	Authors	Name of Journal Vol./page
1	Afra Saif Alhumaidi	Chemistry	Bioinspired Asymmetric Surface Property of Functionalized Mesh to Maximize the Efficiency of Fog Harvesting2	Hesham F. Al Maghraby, Afra Alhumaidi, Mohamed A. Alnaqbi, Fathy Hassan, Mohsen Sherif, Tai Yanlong, Yaser E. Greish	Chem Nano Mat 1.e202200327
2	Afra Saif Alhumaidi	Chemistry	Development of Chemically Functionalized Mesh Membranes for an Enhanced Fog Harvesting Efficiency	Afra Alhumaidi, Hesham F. El Maghraby, Mohamed A. Alnaqbi, Fathy Hassan, Yaser E. Greish	Carbohydrate Polymers. Submitted
3	Stephan Bruns	Ecology and Environmental Science	Fussy eaters, bait loss and escapees: How reliable are baited-hook assessments of shark abundance in shallow, coastal waters?	Aaron C. Henderson; Camilla Smith; Stephan Bruns	Journal of Experimental Marine Biology and Ecology Volume 556, 151794
4	Priya Antony Pereppadan	PhD in Cellular and Molecular biology	A Molecular Modeling Investigation of the Therapeutic Potential of Marine Compounds as DPP-4 Inhibitors	Priya Antony, Bincy Baby, Hamda Mohammed Aleissaee and Ranjit Vijayan	Marine Drugs Mar. Drugs 2022, 20(12), 777;https://doi.org/10.3390/md20120777
5	Priya Antony Pereppadan	PhD in Cellular and Molecular biology	Dynamics of the interaction between the receptor-binding domain of SARS-CoV-2 Omicron (B.1.1.529) variant and human angiotensin-converting enzyme 2	Priya Antony, Amie Jobe and Ranjit Vijayan	PeerJ 10:e13680 https://doi.org/10.7717/peerj.13680
6	Priya Antony Pereppadan	PhD in Cellular and Molecular biology	Synthesis and biological applications of some novel 8-Hydroxyquinoline urea and thiourea derivatives	Mohammad A.Khasawneh, Ayesha AlKaabi, Abdelouahid Samadi, Priya Antony, Ranjit Vijayan, Lamya Ahmed Al-Keridis, Haythem A. Saadeh and Nael Abutaha	Arabian Journal of Chemistry Volume 15, Issue 7 https://doi.org/10.1016/j.arabjc.2022.103905
7	Rana Elfitiany	PhD in Chemistry	*Leptadenia Pyrotechnica* (Forsk.) Decne: From Edibility to Drug Discovery (A Comprehensive Review)	Rana Ahmed El-Fitiany & Mohammad A. Khasawneh	Food Reviews International pp 1-53 10.1080/87559129.2022.2126853 https://www.tandfonline.com/doi/full/10.1080/87559129.2022.2126853
8	Reem Klaib and Hajer Alabdouli	Graduation project in collaboration with NSSTC	Glacier-Surface velocities in Gangotri from Landsat8 satellite imagery	Reem Klaib, Hajer Alabdouli and Mritunjay Singh	IEEE 5th International Conference on Image Processing Applications and Systems (IPAS), 2022 at Genova, Italy
9	Khalid ElHaj	PhD in Geosciences	A multi-isotopic evaluation of groundwater in a rapidly developing area and implications for water management in hyper-arid regions.	Gómez-Alday, J. J., Hussein, S., Arman, H., Alshamsi, D., Murad, A., Elhaj, K., & Aldahan, A.	Science of The Total Environment
10	Khalid ElHaj	PhD in Geosciences	Modeling and Prediction of Groundwater Level Fluctuations Using Geoinformatics and Artificial Neural Networks in Al Ain City, UAE.	ElHaj, K., Issa, S., Alshamsi, D., Cherkose, B.A.	Book of Proceedings for the International Conference on Water Resources Management and Sustainability: Solutions for Arid Regions
11	Amie Jobe	Cellular and Molecular Biology	Dynamics of the interaction between the receptor-binding domain of SARS-CoV-2 Omicron (B. 1.1. 529) variant and human angiotensin-converting enzyme 2	Priya, Antony, Amie Jobe and Ranjit Vijayan	Peer J
12	Shahana Seher Malik	PhD in Cellular & Molecular Biology	Contrasting genome patterns of two pseudo-monas strains isolated from the date palm rhizosphere to assess survival in a hot arid environment	Shahana Seher Malik, Naganeeswaran Sudalaimuthuasari, Biduth Kundu, Raja S AlMaskari, Sunil Mundra	World Journal of Microbiology and Biotechnology
13	Shahana Seher Malik	PhD in Cellular & Molecular Biology	Increasing Consumption of Antibiotics during the COVID-19 Pandemic: Implications for Patient Health and Emerging Anti-Microbial Resistance	Shahana Seher Malik, Sunil Mundra	Antibiotics
14	Amna Salem Saleh Mousa Altaee	Biology	Biocontrol potential of endophytic actino-bacteria against fusarium solani, the causal agent of sudden decline syndrome on date palm in the UAE	Aisha A. Alblooshi, Gouthaman P. Purayil, Esam Eldin Saeed, Gaber A. Ramadan, Saeed Tariq, Amna S. Altaee, Khaled A. El-Tarabily, Synan F. Abuqamar	Journal of Fungi
15	Miranda Procter	PhD	Microbiome of *Citrullus colocynthis* (L.) Schrad. Reveals a Potential Association with Non-Photosynthetic Cyanobacteria	Miranda Procter, Biduth Kundu, Naganeeswaran Sudalaimuthuasari, Raja S. AlMaskari, Esam E. Saeed, Khaled M. Hazzouri, Khaled M.A. Amiri	MDPI Microorganisms
16	Narender Kumar	PhD in Physics	Electronic Band Gap Tuning and Calculations of Mechanical Strength and Deformation Potential by Applying Uniaxial Strain on MX2 (M = Cr, Mo, W and X = S, Se) Monolayers and Nanoribbons	Anjna Devi, Narender Kumar, Abu Thakur, Arun Kumar, Amarjeet Singh, and P. Kumar Ahluwalia	ACS Omega
17	Narender Kumar	PhD in Physics	Temperature Control of Yellow Photoluminescence from SiO2-Coated ZnO Nanocrystals	Narender Kumar, Vijo Poulose, Youssef Taiser Laz, Falguni Chandra, Salma Abubakar, Abdalla S. Abdelhamid, Ahmed Alzamly and Na'il Saleh	Nanomaterials
18	Narender Kumar	PhD in Physics	Magnetization in CNT induced by nitrogen doping and enhanced by transversal electric field application	Narender Kumar, Saleh, N. & Tit, N.	Journal of Material Science

19	Narender Kumar	PhD in Physics	Investigation of Atomic Layer Futuristic Memory Devices of Binary Chalcogenides WX2 (X = S and Se): First-Principles Study	Narender Kumar; Na'il Saleh; Arun Kumar; Mohan Lal Verma; Pranay Ranjan	IEEE
20	Mubbashra Sultan	PhD Geoscience	Modelling and visualizing urban growth trajectory in Abu Dhabi using time series satellite imagery	S. Issa, M. Al Ameeri, H. Abouhaligah, N. Alkaabi, M. Sultan and B. Dahy	Proceedings of the 39th International Symposium on Remote Sensing of Environment (ISRSE-39) "From Human Needs to SDGs", 24–28 April 2023, Antalya, Turkey.
21	Abdu Kareem Kalathil Soopy	PhD in Physics	Zn-Porphyrin doped MAPbBr3 single crystals within minutes by novel crystallization method	Abdul Kareem K. Soopy, Bhaskar Parida, and Adel Najar	Frontiers in Optics + Laser Science 2022
22	Abdu Kareem Kalathil Soopy	PhD in Physics	Zn-Porphyrin Blended Anti-Solvent Treatment for Grain Boundary Passivation of Perovskite Solar Cells	Bhaskar Parida, Abdul Kareem Kalathil Soopy, Hiba Shahulhameed, and Adel Najar	Frontiers in Optics + Laser Science 2022
23	Abdu Kareem Kalathil Soopy	PhD in Physics	Recent Developments in Upscalable Printing Techniques for Perovskite Solar Cells	Bhaskar Parida, Arjun Singh, Abdul Kareem Kalathil Soopy, Sambasivam Sangaraju, Madhulita Sundaray, Satrujit Mishra, Shengzhong (Frank) Liu, Adel Najar	Advanced Science
24	Reem H. Alzard	PhD in Chemistry	Titania Derived from NH2-MIL-125(Ti) Metal–Organic Framework for Selective Photocatalytic Conversion of CO2 to Propylene Carbonate	Reem H. Alzard, Lamia A. Siddig, Nada Alhatti, Israa Abdallah, Latifa Aljabri, Afra Alblooshi, and Ahmed Alzamly	Comments on Inorganic chemistry
25	Reem H. Alzard	PhD in Chemistry	Visible-Light-Driven Photocatalytic Coupling of Neat Benzylamine over a Bi-Ellagate Metal–Organic Framework	Reem H. Alzard, Lamia A. Siddig, Abdalla S. Abdelhamid, and Ahmed Alzamly*	ACS-Omega
26	Reem H. Alzard	PhD in Chemistry	A new mode of luminescence in lanthanide oxalates metal–organic frameworks	Reem H. Alzard, Lamia A. Siddig, Na'il Saleh, Ha L. Nguyen, Quynh Anh T. Nguyen, Thi H. Ho, Viet Q. Bui, K. Sethupathi, P. K. Sreejith & Ahmed Alzamly	Scientific reports/ Nature
27	Reem H. Alzard	PhD in Chemistry	Lanthanide(III) (Er/Ho) coordination polymers for a photocatalytic CO2 cycloaddition reaction	Reem H. Alzard, Lamia A. Siddig, Abdalla S. Abdelhamid, Alejandro Perez Paz, Ha L. Nguyen, K. Sethupathi,d P. K. Sreejithd and Ahmed Alzamly	Dalton transactions/ Royal society of chemistry
28	Qamar Dallashi	MSc in Mathematics	An Efficient Method for Solving Second-Order Fuzzy Order Fuzzy Initial Value Problems	Qamar Dallashi and Muhammed I. Syam	Symmetry-volume 14
29	James Kegere	MSc in Mathematics	Reticular Chemistry and Applications: Metal-Organic frameworks for CO2 capture and conversion	J Kegere, and HL Nguyen	De Gruyter https://doi.org/10.1515/9781501524721-007.
30	James Kegere	MSc in Mathematics	Immobilized Bacterial Cells on Electrospun Nanofibers for Crude Oil Spills Treatment and Bioremediation	J Kegere, A Alblooshi, HL Nguyen, MA Alnaqbi	ChemNanoMat https://doi.org/10.1002/cnma.202200441
31	Biruk Abera Cherkose	PhD in Geosciences	Deep electrical structure of the northern UAE: An investigation along the Dibba zone and the foreland basin using magnetotellurics	Biruk Abera Cherkose, , Hakim Saibi , Khalid Al Bloushi , Mohammed Y. Ali , Maxim Smirnov	Tectonophysics Vol: 845
32	Areej Mustafa Jaradat	Environmental Sciences	Current and Future Distribution Modeling of Socotra Cormorant Using MaxEnt	Areej Jaradat, Taoufik Ksiksi, Sabir bin Muzaffar	Diversity, 14, 840.
33	Beenish Sarfraz	Ph.D.-Cellular and Molecular Biology	Phytoremediation of Lead Contaminated Soil Using Sorghum Plant in Association with Indigenous Microbes.	Tabassum, I., Mazhar, S., & Sarfraz, B	Scientific Inquiry and Review
34	Beenish Sarfraz	Ph.D.-Cellular and Molecular Biology	Combined Effect of Honey, Neem (Azadirachta Indica), and Turmeric against Staphylococcus Aureus and E. Coli Isolated from a Clinical Wound Sample.	Saleem, W., Sarfraz, B., & Mazhar, S.	BioScientific Review
35	Beenish Sarfraz	Ph.D.-Cellular and Molecular Biology	Biotechnological Applications of Microaerophilic Species Including Endophytic Fungi	Sarfaraz, B., Iqtedar, M., Abdullah, R., Kaleem, A	Springer
36	Beenish Sarfraz	Ph.D.-Cellular and Molecular Biology	Perspectives on Current Information and Future Potential for Antibiofilm Approaches in Health Care Systems	Aisha Waheed Qurashi, Sumaira Mazhar, Beenish Sarfaraz, Nauman Aftab, and Iram Liaqat	Nova Science Publishers
37	Beenish Sarfraz	Ph.D.-Cellular and MolecularBiology	Major Physical Strategies for Controlling Biofilm Formation	Beenish Sarfraz, Aisha Waheed Qurashi, Sumaira Mazhar, Aisha Sultan, and Iram Liaqat	Nova Science Publishers
38	Amanpreet Behl	Cellular and molecular Biology	Threat, challenges, and preparedness for future pandemics: A descriptive review of phylogenetic analysis based predictions	Amanpreet Behl, Ashrit Nair, Sanika Mohagaonkar, Pooja Yadav, Kirtida Gambhir, Nishant Tyagi, Rakesh Kumar Sharma, Bhupendra Singh Butola, Navneet Sharma	Infection, Genetics and Evolution
39	Saba Usman	Ph.D.-Cellular and Molecular Biology	Antibiotic resistance pattern and pathological features of avian pathogenic Escherichia coli O78:K80 in chickens	S Usman, A Anjum, M Usman, MS Imran, M Ali, M Moustafa, MS Rehman, T Hussain, F Sarwar, A Azad, I Hussain, J Naseer, U Tiwana, S Hafeez	Brazilian Journal of Biology
40	Saba Usman	Ph.D.-Cellular and Molecular Biology	Pathology and molecular characterization of Eimeria tenella from clinically infected broiler chickens in district Lahore, Pakistan.	Sultan, R., Aslam, A., Tipu, MY., Rehman, H., Usman, S., Anjum, A., Imran, MS., Usman, M., Iqbal, MZ.	Pak J Zool.

APPENDIX 2

MASTER AND PhD THESIS DEFENSES (AY: 2022-2023)

No	Student Name	ID	Program	Thesis Title	Supervisor
1	Fatmah Rashed Alkindi	201410629	Chemistry	Modified Titania derived from Ti – Oxo Clusters: Synthesis, Structure, and Photocatalytic Activity	Dr. Ahmed Alzamly
2	Shamma Esmaeel Jamali	202070576	Physics	Orbit Propagation and Determination algorithms for satellite ground stations	Dr. Mahammad Mehedy Masud
3	Laith Jehad Ahmad Abudawood	202070163	Molecular Biology & Biotechnology	Effect of Carnosol on G Protein-Coupled Receptor Signaling in Cancer Cells.	Dr. Mohammed Akli Ayoub
4	Maryam Naveed Muhammad Tariq	201250430	Molecular Biology & Biotechnology	Heterodimerization between the chemokine receptors, CXCR4 and CCR7, and its role in cancer.	Dr. Mohammed Akli Ayoub
5	Ahmed Adnan Mohammed Mashli	201050213	Environmental Sciences	Maternal Effects on Growth Parameters of Chloris gayana under CO2 Enrichment Conditions	Prof. Taoufik Ksiksi
6	Ayade Abdelmalk	202070342	Mathematical Sciences	Numerical methods for locating zeros of polynomial systems using resultant metrics	Prof. M. Syam
7	Alanoud Abdulla Saeed Al Shamsi	201300708	Environmental Sciences	Improving the growth performance of the mangrove *Avicennia marina* seedlings using plant growth promoting bacteria	Prof. Khaled A. El-Tarabily
8	Amira Hamdy Hassan	201970294	Molecular Biology & Biotechnology	Screening for Endophytic Actinobacteria to Enhance Growth and Salinity Tolerance of Tomato Plants in the United Arab Emirates	Prof. Synan AbuQamar
9	Alaa Hamdan	202070504	Mathematical Sciences	On the projections of commutative unital C*-algebras	Prof. Ahmed Al Rawashdeh
10	Tasnim Mazen AlHamad	200631703	Mathematical Sciences	On the valuation of options in a high volatility regime-switching market	Prof. Youssef EL-Khatib
11	Shaymaa Dadoa	201540069	Mathematical Sciences		Dr. Abdessamad Tridane
12	Reem Maher Mohammad	201150543	Physics	First-principles calculations on the electronic structure, mechanical, vibrational, and thermal properties of the Co_3BiN antiperovskite alloy	Dr. Noureddine Amrane
13	Latifa Al Nuaimi	201102094	Chemistry	A microscopic investigation of chemically modified membranes for potential oil-water separation applications	Dr Yaser Greish
14	Fatima El Alem	201640414	Chemistry	Correlation between the preparation methods and physicochemical characteristics of $MgAl_2O_4$ as a support for Ni catalysts in partial oxidation of methane	Dr Abbas Khalil
15	Hamda Mohammed AlDhaheri	201200255	Mathematical Sciences	Mathematical models for Thalassemia	Dr. Sehjeong Kim
16	Khulood Gamal Saleh	201735270	Mathematical Sciences	The reproducing kernel method for solving integro-differential and Volterra integral equations	Prof. Muhammed Syam
17	Aysha Awad Alshamsi	201603682	Mathematical Sciences	A support theorem for a wave equation	Dr. Salem Ben Said
18	Zeeshan Khalid	202070680	Mathematical Sciences	Valuation of Asian options in a high volatility market with jumps	
19	Qamar Dallashi	202070450	Mathematical Sciences	Reproducing kernel method for solving method for solving Fuzzy initial value problems	Prof. Muhammed Syam
20	Mohammed Abduljawad	202070586	Space Science	Performance assessment of a multi-GNSS Leo-based navigation augmentation system for rapid positioning accuracy	Dr. Abdul Halim Jallad
21	Fatima Ali Abdulla Alkaabi	201501485	Space Science	Generating synthetic satellite images of Mars dust storms based on radiative transfer models, as a follow-on application of MarsWRF dust cycle simulations	Dr. Abdelgadir Abuelgasim
22	Hind Hassan AlRiyami	202070624	Space Science	Feasibility study on the characterization of Mars atmospheric and surface features in spacecraft images by machine learning and similar automated methods	Dr. Abdelgadir Abuelgasim
23	Mariya Abdulkhaleq	202070559	Space Science	Design and assessment of a LEO GNSS mini-constellation for positioning, navigation, and timing (PNT)	Dr. Mohammed Abdel-Hafez
24	Meirah Ali Alzeyoudi	201402790	Space Science	The three-dimensional visualization of Mars dust storms based on deriving digital elevation maps from satellite imagery	Dr. Abdelgadir Abuelgasim
25	Maitha Mohammed AlNueimi	201215380	Environmental Science	Biohydrogen production of a co-culture consisting of halophytic Cyanobacterium *Phormidium keutzigianum* and activated sludge bacteria using different exogenous carbon substrates and salt concentration	Dr. Ashraf
26	Mar Mark Essa Sukaiti	700035655	Mathematical Sciences	Invariants of 3-braid and 4-braid links	Prof. Nafaa Chbili
27	Yassine El Mahi	201640008	Molecular Biology & Biotechnology	Anti-pancreatic cancer activity of Rhus coriaria (Sumac)	Prof. Rabah Iratni
28	Showq Hijazi Abdelaziz	202070012	Molecular Biology & Biotechnology	Screening and genomic characterization of multi-drug resistant (MDR) bacteria from hospital wastewater	Dr. Sunil Mundra
29	Sultana Al Zubai	201401946	Molecular Biology & Biotechnology	Understanding the intracellular positive regulatory interactions in the metabolic network	Dr. Mohammad Alam
30	Maisan Al Wattar	202070672	Environmental Science	Assessment of microplastics consumed by fishes in the United Arab Emirates waters of the Arabian Gulf	Prof. Sabir Bin Muzaffar

31	Shima Al Badi	201450012	Environmental Science	Investigating heavy metal contamination in the liver, gills, and muscles of sole and halibut in the territorial waters of Fujairah	Prof. Sabir Bin Muzaffar
32	Fatima Al Nuaimi	201503249	Chemistry	Fabrication, characterization and analytical of planar solid metal and planar cavity electrodes	Prof. Sayed Marzouk
33	Ola Abu Draz	201050096	Chemistry	Preparation of copper oxide nano-architectures for fog harvesting applications.	Dr. Fathy Hassan
34	Afra Alhumaidi	201602897	Chemistry	Fog harvesting using chemically functionalized porous membranes	Prof. Yaser Greish
35	Islam Majed Albazlamit	202070673	Physics	Using the Hirata method to investigate the integrability and new exact solutions of the non-autonomous nonlinear Schrodinger equation	Dr. Usama
36	Shaimaa Abdulaziz Alblooki	202070600	Space Science	Cloud tracking winds on Mars using EMM-EXI imaging	Dr Roland Young

PhD Dissertations (2022/2023)

No	Student Name	ID	Program	Thesis Title	Supervisor
1	Shaijal Babu Thru Ppoyil	201790749	Ecology and Environmental Science	Combined Impacts of CO2 enrichment and Water Stress on Growth and Physiology of Plants Inoculated with ACC Deaminase Producing Rhizobacteria	Prof. Taoufik Ksiksi
2	Rana Habib	201790241	Ecology and Environmental Science	Sources and Distribution of Microplastics in The United Arab Emirates	Dr. Ruwaya Al Kendi
3	Shaima Raji	201890080	Cellular and Molecular Biology	Impacts of Intermediate and Long-Term Vitamin D Deficiency on The Murine Gastric Epithelial Cell Composition and Acid Secretion	Dr. Asma Al Menhali
4	Saba Khan	201990195	Physics	AB-initio investigation of 2D materials for gas sensing, energy storage and spintronic applications	Dr Nacir Tit
5	Hammad Mueen Arbi	201990023	Physics	Metal oxide-based materials for high performance supercapacitors	Dr Ihab Obiadat
6	Laila Yahya	201050232	Physics	Lax integrability and solution methods for the nonlinear schrodinger equation with external potentials: exact solutions and applications	Dr Usama ALKhawaja
7	Khadega Abobaker Al-Maqdi	200935138	Chemistry	Hybrid enzyme/nano-support biocatalysts for efficient wastewater remediation	Dr Iltaf Shah
8	Manal Ali Hassan Alhefeiti	201001168	Chemistry	Development of innovative multi-drug approaches to counteract illicit drug abuse in the UAE population	Dr Iltaf Shah
9	Laila Montserrat	201890082	Ecology and Environmental Science	Pathogen risk assessment on Arabian felines in the United Arab Emirates	Dr Sabir Muzaffar
10	Mohamad Ismail AlKhaaldi	942413116	Cellular and Molecular Biology	Characterization and genomic analysis of two *Escherichia coli* O157:H7 bacteriophages isolated from pigeon's faeces	Dr Khaled Trabily
11	Aysha Al Neyadi	200907889	Cellular and Molecular Biology	Molecular mechanisms of natural and synthetic compounds against breast and colon cancer	Rabah Iratni
12	Reem Alzard	201150489	Chemistry	Lanthanides in mixed metal oxides to metal-organic frameworks: Synthesis, characterization, and photocatalytic performance	Dr. Ahmed Alzamly
13	Lamia Siddiq	201050663	Chemistry	Synthesis, characterization, and photocatalytic activity of photoactive MOFs and M-HOF under visible light	Dr. Ahmed Alzamly
14	Nusrin Habeeb	201890058	Physics	Unraveling the origins of GRB190114C: An investigation of progenitor models through observational analysis	Dr. Aquib Moin

APPENDIX 3

FACULTY PUBLICATIONS IN TOP JOURNALS (2021)

No	Faculty /Student	Department	Rank of Journal
1	Ala Aldahan	Geosciences	1%
2	Alejandro Perez Paz	Chemistry	1%
3	Khaled Amiri	Biology	1% (coauthor)
4	Sunil Mundra	Biology	1% (coauthor)
5	El Hadi Sadki	Physics	1% (coauthor)
6	Khaled Abbas El-Tarabily	Biology	5% (3 papers)
7	Synan AbuQamar	Biology	5% (2 papers)
8	Mohammed Akli Ayoub	Biology	5%
9	Ahmed Alzamly	Chemistry	5%
10	Naslim Neelamkodan	Physics	5%
11	Saleh Thaker Mahmood	Physics	5%
12	Noureddine Amrane	Physics	5%
13	Ranjit Vijayan	Biology	10% (8 Papers)
14	Khaled El Tarabily	Biology	10% (7 Papers)
15	Khalid Muhammad	Biology	10% (2 Papers)
16	Mohammed Ayoub	Biology	10% (2 Papers)
17	Synan AbuQamar	Biology	10%
18	Amr Amin	Biology	10%
19	Sayed Marzouk	Chemistry	10%
20	Fathy Mohamed Hassan	Chemistry	10%
21	Nayla Munawar	Chemistry	10%
22	Ala Aldahan	Geosciences	10%
23	Hasan Arman	Geosciences	10%
24	Hakim Saibi	Geosciences	10%
25	Qasem Al-Mdallal	Mathematical Sciences	10% (5 Papers)
26	Muhammed Syam	Mathematical Sciences	10%
27	Farrukh Mukhamedov	Mathematical Sciences	10%
28	Jianhua Gong	Mathematical Sciences	10%
29	Salah Nasri	Physics	10% (9 Papers)
30	Nacir Tit	Physics	10% (3 Papers)
31	Ihab Obaidat	Physics	10% (2 Papers)
32	Maamar Benkraouda	Physics	10%
33	Claus Peter Gebhardt	Physics	10%
34	Muhammad Abdul Latif	Physics	10%
35	Khaled El Tarabily	Biology	25% (14 Papers)
36	Sabir Bin Muzaffar	Biology	25% (4 Papers)
37	Khalid Muhammad	Biology	25% (3 Papers)
38	Ranjit Vijayan	Biology	25% (3 Papers)
39	Synan AbuQamar	Biology	25% (3 Papers)
40	Mohammad Ali Al Deeb	Biology	25% (3 Papers)

41	Rabah Iratni	Biology	25% (3 Papers)
42	Asma Al Menhali	Biology	25% (3 Papers)
43	Mayank Anand Gururani	Biology	25% (2 Papers)
44	Mohammed Ayoub	Biology	25% (2 Papers)
45	Sofyan Alyan	Biology	25%
46	Sunil Mundra	Biology	25%
47	Iltaf Shah	Chemistry	25% (6 Papers)
48	Mohamad Toutounji	Chemistry	25% (2 Papers)
49	Alejandro Perez Paz	Chemistry	25% (2 Papers)
50	Ziad Ali Moussa	Chemistry	25% (2 Papers)
51	Na'il Ibrahim	Chemistry	25%
52	Ahmed Alzamly	Chemistry	25%
53	Hasan Arman	Geosciences	25% (4 Papers)
54	Hakim Saibi	Geosciences	25% (4 Papers)
55	Saleem Issa	Geosciences	25%
56	Ala Aldahan	Geosciences	25%
57	Sulaiman Ali Al Kaabi	Geosciences	25%
58	Qasem Al-Mdallal	Mathematical Sciences	25% (13 Papers)
59	Muhammad Imran	Mathematical Sciences	25% (8 Papers)
60	Farrukh Mukhamedov	Mathematical Sciences	25% (3 Papers)
61	Fathalla Ali Rihan	Mathematical Sciences	25% (3 Papers)
62	Abdessamad Tridane	Mathematical Sciences	25% (2 Papers)
63	Kanat Abdukhalikov	Mathematical Sciences	25% (2 Papers)
64	Mohamed El Bachraoui	Mathematical Sciences	25%
65	Salem Ben Said	Mathematical Sciences	25%
66	Ushangi Goginava	Mathematical Sciences	25%
67	Muhammed Syam	Mathematical Sciences	25%
68	Viktor Bodi	Mathematical Sciences	25%
69	Usama Al Khawaja	Physics	25% (3 Papers)
70	Ihab Obaidat	Physics	25% (3 Papers)
71	Adel Najar	Physics	25% (2 Papers)
72	Nacir Tit	Physics	25%
73	Saleh Thaker Mahmood	Physics	25%
74	Tariq Ali	Physics	25%
75	Manal Al Hefeiti	PhD Student	25%

APPENDIX 4

RESEARCH GRANTS AWARDED IN 2022

Strategic Research

No.	Name	Department	Title
1	Saleh Mahmood	Physics	Design of Smart Gas Sensors for Human Breath Analysis Using 2D MXene-based Hybrid Nanomaterials
2	Abbas Khalil	Chemistry	Novel coking resistant catalysts for combined dry reforming and partial oxidation of methane to syngas
3	Nacir Tit	Physics	Exploring Half-metallicity of TM-doped TMD Monolayers in Selective Gas-sensing and Energy-storage Applications: DFT Study

Asian Universities Alliance (AUA)

No.	Name	Department	Title
1	Mayank Gururani	Biology	Functional characterization of Arabidopsis Nitrilase family genes under abiotic stress
2	Hakim Saibi	Geology	Deep Learning Inversion of Electromagnetic data: Case study Magnetotelluric data inversion from Western Abu Dhabi, UAE
3	Nacir Tit	Physics	Exploring Half-metallicity of TM-doped TMD Monolayers in Selective Gas-sensing and Energy-storage Applications: DFT Study

UAEU Program for Advanced Research (UPAR)

No.	Name	Department	Title
1	Mefreh Abdel Gawad Zaghloul	Physics	Efficient Multiple-Precision Computation of Special Functions for Applied Scientists
2	Muhammad Abdul Latif	Physics	Origin of first supermassive black holes
3	Mohammad Alam	Biology	Identifying microbial markers for gut microbiome associated diseases using systems biology approaches
4	Nafaa Chbili	Mathematical Sciences	Towards the Classification of Quasi-alternating links
5	Mayank Gururani	Biology	Study on the mechanism of brassinosteroids regulating symbiotic nodulation in soybean
6	Sayed Marzouk	Chemistry	Development and Characterization of Novel Cells for Planar Electrodes
7	Muhammad Imran	Mathematical Sciences	Graph Based Matrices and Invariants: Properties and Applications
8	Oliver Manlik	Biology	Identifying the genes that matter for adaption to climate change: Gene expression in a marine copepod in response to climatic variables
9	Viktor Bodi	Mathematical Sciences	Algebraic-geometric aspects of the theory of super-algebras and supermanifolds over various ground fields
10	Alexandr Zubkov	Mathematical Sciences	Representation theory of supergroup with applications to cryptosystems
11	Youngwook Kim	Biology	Satellite remote sensing and models for quantifying water cycle variables and species habitat suitability in arid ecosystems
12	Salem Ben Said	Mathematical Sciences	Stochastic neural network procedures to solve nonlinear singular and biological differential models
13	Qasem Al Mdallal	Mathematical Sciences	Numerical investigation of an eco-friendly green glycol based nanofluid for heat transfer enhancement around a rotationally oscillating circular cylinder: A renewable energy application
14	Kanat Abdukhalikov	Mathematical Sciences	Quantum error-correcting codes and their constructions
15	Fathalla Hamed	Physics	Fabrication of Ti3C2Tx MXene based energy storage cathodes
16	Abdessamad Tridane	Mathematical Sciences	Mathematical Modeling of the population mobility during a pandemic via local and nonlocal diffusion
17	Haila Aldosari	Physics	Development of Ohmic Contacts to Beta Gallium Oxide Thin Films
18	Jianhua Gong	Mathematical Sciences	Geometry, Dynamics and Moduli spaces of Kleinian Groups.

Start-up

No.	Name	Department	Title
1	Abdelouahid Samadi	Chemistry	New Azo-8-Hydroxyquinolione (Azo-8HQ) Derivatives: Synthesis, characterization, metal chelating properties, and spectroscopic study, for the treatment of the Alzheimer's Diseases.
2	Sameer Mirza	Chemistry	Elucidate the role of RUVBL2/ REPTIN in HER2+ve breast cancer and therapy resistance.

National Faculty Research Program (NFRP)

No.	Name	Department	Title
1	Haila Aldosari	Physics	Synthesis and Characterization of Metal Tellurides Nanostructures as a Novel Electrode Material for Energy Storage Applications
2	Asma Salem Awadh Al Menhali	Biology	Transcriptomic Analysis for Vitamin D Deficient Mouse Stomach
3	Yusra Al Aldhaheri	Biology	Phytochemical Analysis and Screening of traditional medicinal plants from UAE for anti-cancer activity
4	Khalid Ahmad Al Bloushi	Geosciences	Surface and Groundwater Intrusion into Dibba Al Fujairah Marine Ecosystem and its Impact on Benthic Fauna Biodiversity

Sustainable Development Goals (SDG)

No.	Name	Department	Title
1	Saber Mohamed Hussein	Geosciences	Assessment of groundwater quality for irrigation purpose in Dibba Plain, UAE
2	Hakim Saibi	Geosciences	Audio-Magnetotelluric Measurements in Al-Ain for Groundwater Aquifer Detection
3	Mayank Gururani	Biology	Assessment of modulated antioxidant defense by exogenous application of acetate in Oat plants under salinity stress
4	Mohammad Al Deeb	Biology	Studying insecticide damage to animal development and reproduction as a threat to biodiversity using the fruit fly (Drosophila melanogaster)
5	Muhammed Syam	Mathematical Sciences	The Effects of the Flipped Classroom and Peer Instructional Models on Learning Mathematics
6	Dalal Saif Sulaiman Alshamsi	Geosciences	Groundwater governance using Aritificial Intelligence and statistical modelling
7	Hasan Arman	Geosciences	Water and rock interaction: slaking behaviour of carbonate rocks and their possible impact of land use sustainability
8	Khalid Ahmad Al Bloushi	Geosciences	Reassessment Al Ghomour Hot Spring in Fujairah, UAE Using Geophysical Techniques.
9	Qasem Al Mdallal	Mathematical Sciences	Performance analysis of ternary hybrid nanofluid with forced convection form a heat spinning cone towards various industrial applications: A numerical study
10	Thies Thiemann	Chemistry	Purification of produced water from oil production in UAE and Kuwait
11	Nayla Munawar	Chemistry	Terrestrial microorganisms: cell factories for the production of novel biomolecules for health and environmental remedies.
12	Ala Adin Aldahan	Geosciences	Stable Isotopes of Water Molecules and Applications in Environmental Analyses
13	Ranjit Vijayan	Biology	Desert plants: A source of sustainable leads for drug discovery
14	Youngwook Kim	Biology	Remote Sensing of Land Indicators to achieving Sustainable Development Goal 15
15	Amir Gabr	Biology	Electrical Resistivity Tomography Contribution to investigate and Artificially Recharge the Clean water to the Quaternary Aquifer at a Pilot Area, Northwestern Gabal Hafit, Al-Ain, UAE
16	Fathy Hassan	Chemistry	Bio-Inspired Forest of Copper Oxide Nanowires on Copper Foam as Efficient Fog Harvester
17	Iltaf Shah	Chemistry	Development of novel bacterial peroxidase-TiO2\ZnO hybrid catalysts for the degradation of emerging pollutants
18	Mohamed Lotfy	Biology	Effect of Ultraviolet Radiation on Drosophila Melanogaster Gene Expression
19	Synan AbuQamar	Biology	Actinobacteria on Land for Sustainable Agriculture: Molecular and Microscopy Analyses
20	Khaled El Tarabily	Biology	A Novel Application of Bacteriophages to Reduce the Population Densities of Legionella pneumophila in Water to Reduce the Application of Chemical Treatment.
21	Khalid Muhammad	Biology	Fighting allergy by transcriptional alteration of B cells
22	Oliver Manlik	Biology	Investigating founder effect of a bird population on World Islands, Dubai: Does new bird colony have reduced genetic diversity?
23	Muna Bufaroosha Alfalasi	Chemistry	Undergraduate Chemical Synthesis Experiments Using Microwave-Assisted Method for Students in Areas of Conflict
24	Taoufik Ksiksi	Biology	Degraded Desert Ecosystems: A Novel Approach to Rely on Native Vegetation, Using Marginal Waters for Restoration.
25	Mohammad Fazale Haque	Biology	Digital Herbarium for the Flora of United Arab Emirates: Novel database towards future plant conservation, biodiversity and sustainability
26	Saber Abdelbaki	Chemistry	A study on the removal of hypochlorite and its DBPs from sanitized water through treatment with iodide and subsequent adsorption of their reaction products on cheap adsorbents.
27	Bahaa Eldin Amin Mahmoud	Geosciences	Classification of UAE rocks with potential economic value: the mafic rocks of Wadi Al Qor, North Hatta area
28	Shaikha Alneyadi	Chemistry	Tailoring new covalent organic framework for highly efficient iodine capture
29	Mohammed Almeetani	Chemistry	Detection and Quantitation of chiral Pharmaceutical Drugs in Ground Water and Treated Wastewater of UAE using Liquid Chromatography with Cyclodextrin Sensitized Fluorescence Detection

SURE PLUS 2023

No.	Name	Department	Title
1	Ziad Moussa	Chemistry	Controlled Regioselective Synthesis of Potentially Bioactive Imidazolidineiminodithiones and Thiazolidinethiones
2	Muhammed Syam	Mathematical Sciences	An Efficient approach to investigate the solution of clock reaction models in science
3	Shaikha Alneyadi	Chemistry	Self-Healing Covalent Organic Frameworks for Acid Vapor Sensing
4	Nafaa Chbili	Mathematical Sciences	Graph Spectra and Automorphism Groups
5	Alaa Ahmed	Geosciences	Hydro-geophysical Investigation of the Quaternary Aquifer, Hyper-Arid Region
6	Qasem Al Mdallal	Mathematical Sciences	A numerical study on the thermal response of biodegradable nanofluid past a cylinder: A comparative analysis
7	Synan AbuQamar	Biology	Effect of Endophytic Actinobacteria on Fungal Pathogens of Mango in the United Arab Emirates
8	Mayank Gururani	Biology	Identification and Validation of Genes Associated with Chloroplast Biogenesis and Photosystem II Repair Through Transcriptome Analysis of Arabidopsis mutants lacking in FTSH5 metalloprotease.
9	Khalid Muhammad	Biology	Molecular modulation of B cells by Vitamin-D analogue
10	Youssef El Khatib	Mathematical Sciences	On Ornstein-Uhlenbeck process and its applications
11	Ushangi Goginava	Mathematical Sciences	Matrix Transformation of sequences
12	Mohammad Alam	Biology	Characterizing intracellular inhibitory interactions within the metabolic network of Saccharomyces cerevisiae
13	Farrukh Mukhamedov	Mathematical Sciences	Construction of quadratic stochastic processes
14	Amit Kumar	Biology	Characterization of ecological strAtegies for reSource aCquisition and mitigAtion of Drought strEss of local grassland species of the UAE (CASCADE)
15	Sunil Mundra	Biology	Exploring the Potential of Endophytic Bacteria in Enhancing Plant Growth and Productivity in Arid Environments
16	Mohammad Fazale Haque	Biology	Exploring the potential of silicon dioxide nanoparticles and brassinosteroid assisted regulation of oxidative stress and antioxidant enzymes of cucumber plants under salt stress
17	Abdallah Rababah	Mathematical Sciences	Hermite-Fejér Interpolation over Roots of Chebyshev-IV Polynomials
18	Hasan Arman	Geosciences	Comparative Study on Strength Characteristics of Carbonate Rocks from Al Ain, United Arab Emirates
19	Salem Ben Said	Mathematical Sciences	Stochastic computing numerical paradigms for the biological based mathematical models
20	Soleiman Hisaindee	Chemistry	Kinetics and thermodynamics of oil adsorption on wax-coated cellulose
21	Nayla Munawar	Chemistry	Microbial degradation or biotransformation of sucralose: a green cure for an emerging environment pollutant.
22	Nail Ibrahim	Chemistry	Chemically Engineered Hydrogels Utilizing Supramolecular Approach
23	Mohamed Hajji	Mathematical Sciences	Time Series Forecasting Using Deep Neural Networks
24	Amr Fawzy	Biology	Investigating the Anti-cancer Effects of Safranal against Pancreatic Cancer
25	Mohammad Khasawneh	Chemistry	Bio-fabrication of Salvadora persica-based zinc metal nanoparticles and evaluation of their physicochemical characters and biological capacity
26	Iltaf Shah	Chemistry	Toxicity of Undeclared Hormones in Cosmetics and Herbal Medicines
27	Thies Thiemann	Chemistry	Evaluation of plastic debris along roads and roadsides in the Al Ain area
28	Mohammed Kalim Akhtar	Chemistry	Evaluating the growth of Vibrio gazogenes PB1 and production of prodigiosin using different carbon sources
29	Sameer Mirza	Chemistry	Elucidate the role of (RUVBL1, RUVBL2, PIH1D1 and RPAP3) R2TP complex in Ewing Sarcoma.
30	Mohamed Qenawy	Chemistry	Ln-based Metal Organic Frameworks (Ln-MOFs) with Long-Lifetimes for Catalytic Applications
31	Osman Abdelghany	Geosciences	Biostratigraphy of the Middle Cretaceous Nahr Umr Formation, Northern Oman Mountains, Ras El Khayimah Emirate, UAE
32	Ranjit Vijayan	Biology	In silico exploration of the binding mode of anticancer peptides and their targets
33	Saber Abdelbaki	Chemistry	Fe2+-Azide-EDTA system as a novel route for the conversion of vitamin B1 and its phosphorylated metabolites into strongly fluorescent probes
34	Hakim Saibi	Geosciences	Recycling and Filtering of wastewater from car-washing facilities in the UAE
35	Khaled El Tarabily	Biology	The use of plant growth promoting endophytic and rhizosphere actinobacteria as a tool to improve the efficacy of soilless agriculture technology in the UAE
36	Taoufik Ksiksi	Biology	Predicting Distributions, Habitat Preferences and Associated Conservation Implications for Critically Important UAE Floral Genera Under a Changing Climate

37	Noureddine Amrane	Physics	Hematene: A New Promising 2D Material for Water Splitting and Photocatalysis, Insights from First-Principles Calculations
38	Mohammad Al Deeb	Biology	Evaluating deleterious effects of two insecticides cypermethrin and thiamethoxam on the nervous system of Drosophila melanogaster and the protective effects of Thymoquinone
39	Nacir Tit	Physics	Enhancement of Hydrogen Storage using Functionalized MoSe2/Graphene Bilayer: DFT Study
40	Naser Qamhieh	Physics	Fabrication and characterization of Low-cost gas sensor for petroleum industry applications
41	Fathy Hassan	Chemistry	Nitrogen-doped Carbon Nanotubes boosting the Energy of High-Power Supercapacitors
42	Alaa Eldin Salem	Geosciences	Study the Interaction Mechanism of G-Quadruplex DNA with Human Serum Albumin
43	Yaser Mohamed Greish	Chemistry	Development of Metal Oxide Nanoparticles-loaded Polymeric Membranes for Sustainable Environmental Applications
44	Mohammed Almeetani	Chemistry	Carbosulfan and its metabolites in date fruits using Solid phase extraction and LC-MS/MS
45	Abdulla Mahboob	Chemistry	Is the Andes virus becoming more infectious? Implications for anti-Bioterrorism research
46	Abdessamad Tridane	Mathematical Sciences	Mathematical modeling vaccination and mobility during a pandemic: The impact of immigration and losing immunity.
47	Laya Rajendran	Chemistry	Solvent Extraction of Lycopene from Tomatoes and its Characterization
48	Adel Najar	Physics	Effect of Metals porphyrin passivation on FAMAPbI3 Perovskite Solar Cells
49	Haila Aldosari	Physics	Synthesis and Characterization of 2D Molybdenum Ditelluride Thin Films
50	Mohamed Lotfy	Biology	The Potential Role of Crocin on Insulin Signaling and Antioxidant Gene Expressions in Diabetic Rats
51	Jianhua Gong	Mathematical Sciences	Quantum Calculus and Coefficients Inequalities for the Bi-univalent Functions

APPENDIX 5

DEPARTMENTAL SEMINARS

Department of Biology

#	Title	Name of the Speaker	Affiliation	Date
1	Functional Genomics of Symbiotic Nitrogen Fixation: from Fundamental Science to Engineering Better Crops	Dr. Igor Kryvoruchko	Department of Biology, UAEU	15/09/2022
2	Microbial cross-feeding using systems biology approaches	Dr. Mohammad Tauqeer Alam	Department of Biology, UAEU	06/10/2022
3	Re-innovating the chemical biology of small-molecule plant hormone cytokinin into pharmaceutical compounds	Dr. Muhammad Naseem	Department of Life & Environmental Science, Zayed University, UAE	13/10/2022
4	Environmental Microbiome: assembly, drivers, ecosystem services from small to global scale	Prof. Brajesh Singh	Hawkesbury Institute of Environment, Western Sydney University, Australia	05/12/2022
5	Anthropogenic factors drive long-term decline in shorebirds	Prof. Sabir Bin Muzaffar	Department of Biology, UAEU	08/02/2023
6	Of dolphins and bees: Detecting the Genetic Basis of Fitness in Wildlife Populations	Dr. Oliver Manlik	Department of Biology, UAEU	21/02/2023
7	Saving lives: The vital importance of blood bank services in healthcare	Mr. Hamad Al Mulla Al-Blooshi	SEHA, Al Ain, UAE	14/02/2023
8	Belowground revolution to ensure food security in 21st century	Dr. Amit Kumar	Department of Biology, UAEU	05/04/2023
9	Elasmobranch Research at UAE University	Dr. Aaron Henderson	Department of Biology, UAEU	18/04/2023

Department of Chemistry

#	Title	Name of the Speaker	Affiliation	Date
1	Developing RNA-based gene targeting therapies against emerging respiratory viruses and viral cancers	Dr. Adi Idris	Mid-career Research Fellow Menzies Health Institute Queensland, Griffith University, Australia	16/09/2022
2	Accelerate your Scientific Research and Education through JoVE	Mr. Farouq Abdo	Curriculum Specialist TL for MENA region- Jove	23/09/2022
3	Chemistry in the Cinema	Dr. Plinio Innocenzi	Visiting faculty, Chemistry Department, UAEU	27/10/2022
4	Incorporation of low-dimensional materials in hybrid matrices for sensing and optical applications, Speaker:	Dr. Luca Malfatti,	LMNT- Department of Biomedical Sciences, University of Sassari, Italy	26/01/2023
5	Advancing Solid-state NMR: Making the Invisible Visible.	Dr. Asif Equbal	Assistant Professor, Department of Chemistry, New York University, Abu Dhabi, UAE	08/02/2023
6	Title: X-ray Photoelectron Spectroscopy (XPS) Fundamentals and Applications.	Dr. Jennifer Mann	University of California, San Diego, USA	09/03/2023
7	ACS National Meeting at UAEU	UAEU Student ACS Chapter	UAEU, UAE	17/03/2023
8	Platform Biotechnology as the Basis to Create an Emirati Drug Discovery Engine in the UAE	Dr. Kambiz Shekdar	Rockefeller University Alumnus & Biotech Inventor Secondcell Bio CEO	23/03/2023

Department of Geosciences

#	Title	Name of the Speaker	Affiliation	Date
1	Introduction to INPEX Scholarship Foundation Program	JODCO/ INPEX, Oil company, Japan	JODCO/ INPEX, Oil company, Ja	13/10/2022
2	Geospatial Technologies for Water Resources Management	Prof. Salem Issa	Department of Geosciences, UAEU	25/10/2022
3	The crucial role of the Earth sciences in the rational search for life in the Solar System Department) (Organized by the Geosciences Dept.)	Dr. David Remolar	Senior Researcher at the National Space Science and Technology Center, UAEU	11/11/2022
4	Research capabilities and possible research areas between NWEC and UAEU and the region (Webinar)	Prof. Juan Castro	Development institute of the University of Castilla-La Mancha	28/11/2022
5	70-year Environmental Radioactivity, Radioecology and Tracer Studies in Denmark	Prof. Jixin,	Denmark Technical University	05/12/2022
6	Water and Climate Change Programs	Prof. Chérifa Abdelbaki	Coordinator at the Pan African University, Algeria	08/12/2022
7	Era of Nuclear Energy: operation, monitoring, environmental adaptation, and waste disposal sites	Mark Kearney, Nourah Alyammahi, Xiaolin Hou, Jixin Qiao, Ala Aldahan		02/02/2023
8	Recent Developments in Water Resources	Dr. Dalal, Dr. Mohamad Hamouda and Prof. Mohsen Sherif	NWEC	08/02/2023
9	Hydrogeology of Tebessa, Batna area, Eastern Algeria	Prof. Tarek Derias		02/03/2023
10	Importance of Biostratigraphy in Petroleum Exploration	Prof. Mohamad Gameil,	King Abdulaziz University, Saudi Arabia	21/03/2023
11	Opportunities within the Ambitious UAE Nuclear R&D Program	Dr. Saeed Alameri	Nuclear Engineering Department, Khalifa University	04/04/2023
12	Large Language Models Repercussions and Adaptation, Chat GPT as an example	Khalid Galal El Haj	Ph.D. Fellow, Department of Geosciences, UAEU	12/05/2023

Department of Mathematical Sciences

#	Title	Name of the Speaker	Affiliation	Date
1	Comparison of stream ciphers: DH3 versus OTP	Geza Horvath	University of Debrecen	15/09/2022
2	Properties of the Dirichlet kernel and its applications on some ultra metric structures	Nacima Memic	University of Sarajevo	06/10/2022
3	Tame and wild automorphisms of free algebras	Ivan Shestakov	Sobolev Institute of Mathematics, Sao Paulo University (Brazil)	18/10/2022
4	Comparison of a finite automata-based stream cipher with classical quasigroup-based stream ciphers	Pal Domosi	University of Debrecen	01/11/2022
5	Matrix summability of Walsh-Fourier series	Karoly Nagy	UAEU	24/11/2022
6	On orbital graphs of affine groups	Attila Maroti	Alfréd Rényi Institute of Mathematics	17/01/2023
7	Recent results on spaces of infinitely differential functions and their traces	Alexander Goncharov	Bilkent University	19/01/2023
8	Distance Revisited and an Application of the Brønsted Order	Mohamed Amine Khamsi	Khalifa University	16/02/2023
9				
10	Mathematical immunology: models, methods and applications	Gennady Bocharov	Marchuk Institute of Computational Mathematics (Moscow, RF) Moscow Center of Fundamental and Applied Mathematics at INM RAS	22/02/2023
11	"What is life?": Open quantum systems approach	Andrei Khrennikov	Linnaeus University, International Center for Mathematical Modeling in Physics and Cognitive Sciences	23/02/2023
12	On the geometric equivalence of some algebras with their filter powers	Mohammad Shahryari	Sultan Qaboos University	02/03/2023
13	Dynamical entanglement and localization in disordered oscillator systems	Houssam Abdul-Rahman	NYU Abu Dhabi	17/03/2023
14	Blocks of rational supermodules over some quasi-reductive supergroups in positive characteristic	Frantisek Marko	Pennsylvania State University, USA	06/04/2023

Department of Physics

#	Title	Name of the Speaker	Affiliation	Date
1	Higgs as a Probe of New Physics	Prof. Shinya Kanemura	Osaka University, Japan	15/9/2022
2	Boron Nitride from 0D to 2D Advanced Materials	Prof. Plinio Innocenzi	Chemistry Dept., UAEU	29/9/2022
3	Understanding Accretion in Black Hole X-ray Binaries with Optical Telescopes	Dr. Payaswini Saikia	NYUAD, UAE	20/10/2022
4	Computation, Database, and Discovery of 2D Materials	Prof. Y.P. Feng	NUS, Singapore	11/11/2022
5	Green Synthesis of Advanced Functional Materials using Laser-driven Process and their Applications for Energy Harvesting, Energy Storage, and Photonics	Prof. M.A. Gondal	KFUPM, KSA	9/12/2022
6	Origin of First Supermassive Black Holes	Dr. M. Abdul-Latif	Physics, UAEU	25/1/2023
7	Perovskite – A Wonder Materials for Photo-electronics	Prof. S. (Frank) Liu	Dalian University, China	31/1/2023
8	Applications of 2D Materials in Clean Energy Storage	Dr. Tanveer Hussain	New England University, Australia	17/2/2023
9	Non-equilibrium Green's Functional Formalism for Predictive Modelling in Nano- and Molecular Electronics	Dr. Golibjon Berdiyorov	QEERI, HBKU, Doha, Qatar	3/3/2023
10	Lattice Dynamics and Thermal Properties of Solids: Recent Progress.	Prof. Abdullah Qteish	Yarmouk University, Irbid, Jordan	17/3/2023

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cos.office@uaeu.ac.ae | https://cos.uaeu.ac.ae

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Dr. Asma Al-Menhali (Vice Dean, COS)

Dr. Aaron Henderson (Biology)

Dr. Soleiman Hisaindee (Chemistry)

Dr. Abdulrahman Fowler (Geosciences)

Dr. Humberto Rafeiro (Mathematical Sciences)

Prof. Mofreh Ramadan Zaghloul (Physics)

Mr. Mohamed Shahid (Dean's Office)

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Maitha Alshamsi (COS News Team)