SEMESTER - FALL 2024
IT-DEPARTMENT-UTAS MUSCAT

مسقط
Muscat

جامعة التقنية
والعلوم التطبيقية
University of Technology
and Applied Sciences

RESEARCH
WEEK
AI WORLD

ARTIFICIAL
INTELLIGENCE

INNOVATIVE
TECHNOLOGY

EVENTS

TECHNOLOGY

ACHIEVEMENTS

Welcome to Dr. Muna as New HOD

On behalf of the entire IT Department, we are honored and thrilled to welcome you as the new Head of the IT Department.Your proven leadership, vision, and wealth of experience are exactly what our department needs to propel us to greater success. We are confident that under your guidance, the IT Department will reach new milestones and set higherstandards of excellence.

New Department HOS

Dr. Fatima Al Abri
Head of the
Multimedia Section

appointed in
November 2024

New Department HOS

Dr. Shaima Al Amri
Head of IT handling Network
Computing, Cyber and
Information Security section

appointed in
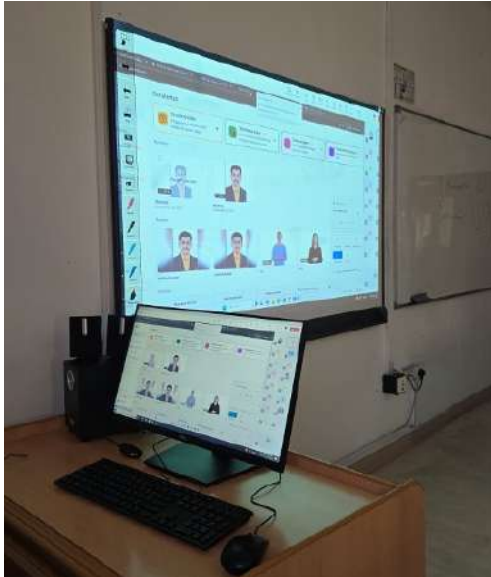October 2024

Designed by: Mr. Asaad Alalawi

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AI OPEN DAY

The AI Open Day, held on October 20, 2024, showcased a variety of activities aimed at advancing knowledge and innovation in AI. The event featured engaging lectures, interactive workshops, and an exhibition of cutting-edge AI projects developed by students and companies. Visitors had the chance to explore groundbreaking innovations, which highlighted the growing impact of AI in shaping the future

WORKSHOPS
& CONTRIBUTIONS:

Faculty members conducted workshops on diverse topics like AI, Web Design, and IR 4.0 for various organizations.

CYTHON
THE CAPTURE THE FLAG (CTF)

The Capture the Flag (CTF) competition is a popular cybersecurity event that challenges participants in areas like vulnerability analysis, cryptography, and digital forensics. Organized by the Ministry of Education and the University of Technology and Applied Sciences, it targets students, employees, and job seekers to foster national talent. The preliminary round involved 1,030 participants and lasted 48 hours from September 26-27, 2024, followed by the final round on October 6, 2024, to determine the top achievers. The competition aims to develop technical skills, encourage teamwork, and raise awareness about cybersecurity. It also prepares participants for future challenges and contributes to national security by building local expertise.

POINTS TO PONDER FOR SUCCESSFUL CAREER

The event, "Points to Ponder for Successful Career", is a platform designed to inspire and guide individuals in their journey toward achieving a fulfilling and prosperous career. This engaging session focuses on equipping participants with essential strategies, insights, and practical tools necessary to excel in today's competitive professional world. The event was on Thursday, 5th December 2024, organized by College of Computing and Information Sciences.

EVENTS SCHOOL INNOVATION CAMP

School Innovation Camp: Empowering young minds through hands-on Math Skills Development and Python Coding Sessions, fostering problem solving and programming skills for a brighter future. Students from two schools Al-Hail Private School, Al Huda Private School, Muscat participated in the event.

FEASIBILITY STUDAY INPROJECT MANAGEMENT

This guest lecture was organized for students studying courses Introduction to Software Engineering and Project management and acquisition. The aim was to inviteguest from industry so that our students could get the perspective of companies when the partake feasibility study in project management.The students got hands on real time insight into feasibility study involving technical feasibility, economic viability and man power management.

In collaboration with Omantel and Omantel Academy, the IT Department, specializing in Cyber and Information Security, organized a field visit to Omantel's headquarters on Sunday, November 17, 2024. The visit aimed to expose students to the latest technologies and ensure the curriculum aligns with industry standards. The program began with an introduction to Omantel Academy, highlighting the various programs offered to graduates, which students could leverage to enhance their career prospects post-graduation.

Following this, Mr. Mohammed Al Ajmi, Cybersecurity Senior Manager, conducted an engaging and informative workshop. He began by explaining the core functions of the Cyber Defense Center, emphasizing its critical role in safeguarding Omantel's infrastructure and services against cyber threats. Mr. Mohammed further highlighted real-world examples of attacks, and the strategies employed to counter them.
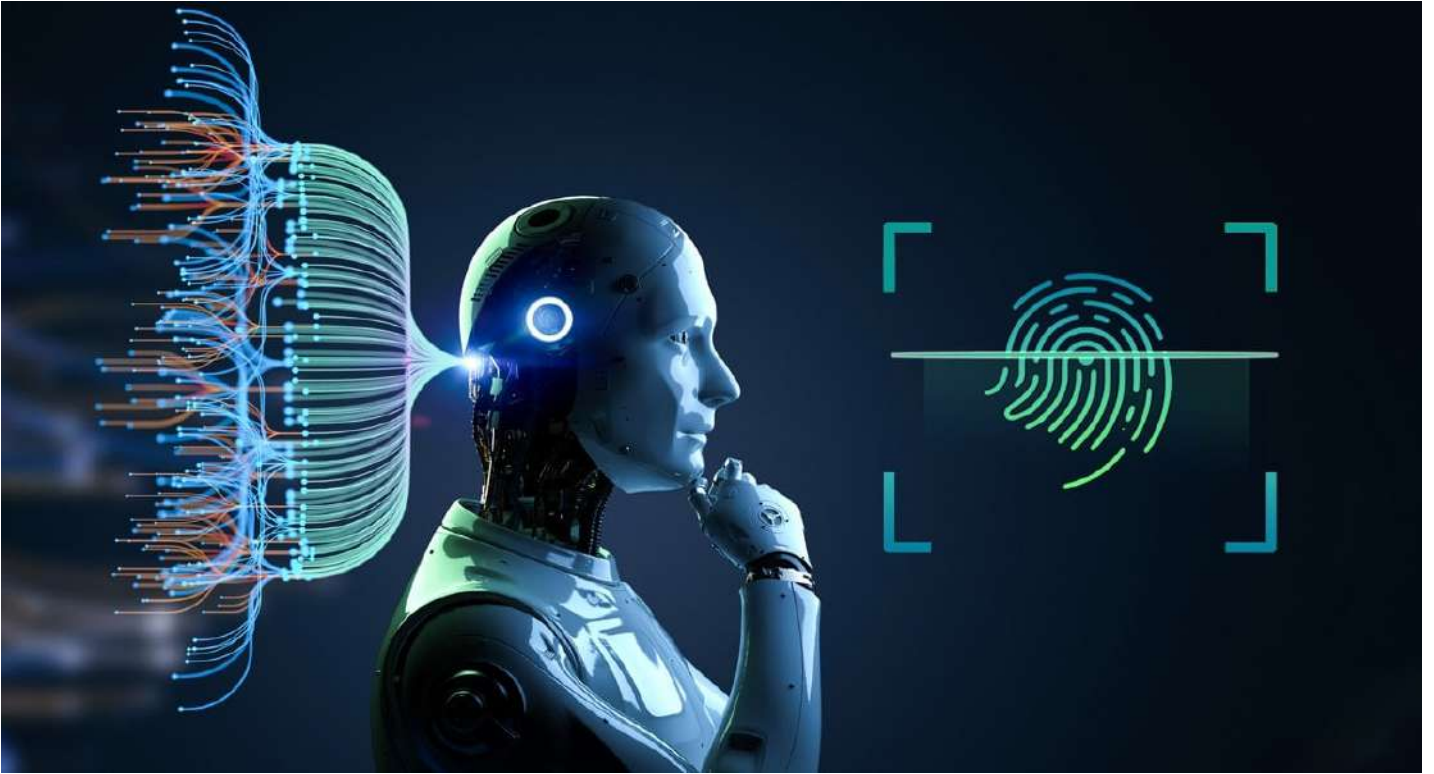

CYBER SECURITY

He shared insights into various proactive and reactive measures, including automated threat detection, artificial intelligence integration, and human expertise required for robust cyber defense. The session also covered current trends in cybersecurity, such as the rise of ransomware, phishing schemes, and emerging vulnerabilities, providing students with a comprehensive understanding of the challenges faced by modern cyber defense teams.

The session concluded with Mr. Mohammed sharing valuable advice and recommendations tailored to help students navigate the competitive job market in the cybersecurity field. He began by discussing the current demand for skilled professionals in areas such as threat analysis,

incident response, ethical hacking, and cloud security. He emphasized the importance of staying updated with industry certifications, such as CompTIA Security+, and others, which significantly enhance employability and credibility in the field. He encouraged students to cultivate a mindset of continuous learning, given the rapid evolution of threats and technologies in cybersecurity. In addition, he outlined potential career paths, including roles like cybersecurity analyst, penetration tester, SOC (Security Operations Center) analyst, and cyber defense consultant, explaining the responsibilities and skill sets required for each. He stressed the value of gaining hands-on experience, which can help students build practical expertise and stand out to employers.

CONFERENCE ON "INTELLIGENCE. USING ARTIFICIAL INTELLIGENCE"

On 27the October, Under the patronage of HH Sayyid Mohammid bin Salim AlSaid, Rakaaz IT, in cooperation with Omantel Academy organized a conference of "Intelligence using artificial intelligence" Presented by HE Dr. Maan Al-Qatamin. The conference was attended by Ms.Sakina Al-Lawati, Dr. Said AlRiyami, Dr. Muna AlRahbi and Ms. Shurooq from IT Department.

GREEN GUARDIANS

Let's Build a Sustainable Future Together!

Seed Collection Program and tree-planting event conducted on December 5, 2024, at the IT Corridor by IT Department Team. Together, we can make a difference and contribute to a greener tomorrow.

UNIVERSITY OF TECHNOLOGY AND APPLIED SCIENCE, MUSCAT HOSTED SYMPOSIUM ON SUBSTANCE ABUSE IN OMAN

A Symposium on Substance Abuse in Oman - Challenges, Awareness, and Prevention" on December 2, 2024, at UTAS Muscat. This event, organized by the Research Grant project team of College of Computing and Information Sciences, UTAS-Muscat, brought together leading experts, community members, and students to address the pressing issue of substance abuse in the Sultanate.

The symposium featured insightful presentations from renowned medical professionals, including Dr. Harith Hamood Said Al Aamri (Al Masarra Hospital), Noora Said Juma Al Zadjali (Al Masarra Hospital), Dr. Amira Abdul Mohsin Al Raidan (Prevention Committee at the National Committee for Narcotics and Psychotropic Substances), Lieutenant Colonel Salim Mubarak Al Yaqubi (Directorate General for Combating Narcotic Drugs and Psychotropic Substances), Dr. Qutba Salim Al Ghafri (Oman College of Health Sciences), Dr. Fatma Mohammed Abdullah Al Balushi (Rustaq Hospital),

Dr. Souad Hosni Salem (Shuroq Al Amal Al Alamia Rehabilitation Center), and Dr. Hanan Saif Al Sumri (Ministry of Health). A dynamic panel discussion provided a platform for experts and audience members to engage in thought-provoking conversations.

Adding to the impact of the event, students from universities, colleges, and schools participated in poster and short video competitions, showcasing their understanding of substance abuse and its consequences. Informative booths hosted by Rustaq Hospital, Shuroq Al Amal Al Alamia Rehabilitation Center, and Positive Vision Association, Oman provided valuable resources and raised awareness among attendees.

The symposium was honored by the presence of Dr. Huda Salim Al Shuaily, Deputy Vice Chancellor of UTAS, along with other distinguished university leaders including Dr. Khalid Al Abri, Deputy of the Vice Chancellor for Academic Affairs, UTAS-Muscat and Dr. Muna Saif Humaid Al Rahbi, Head of the College of Computing and Information Sciences, UTAS-Muscat.

"We are proud to have provided a platform for open dialogue and collaboration on this crucial issue," said Dr. Vinu Sherimon, the Principal Investigator of the Research Grant Project. "The symposium fostered a deeper understanding of substance abuse challenges and highlighted the importance of community-wide efforts in prevention and support."

FIELD TRIP

OAFTC Oman Air Flight Training Center - Specialization from IS , SE and data science & AI-To provide students with practical exposure to advanced simulation and training technologies used in aviation industry organized by Shaima Al Haddabi

Oman Airports for the students in Advanced Information Security course.

The visit to Oman Airports provided students with significant insights and practical exposure that are highly relevant to the industrial field, practically in cybersecurity and operational management. The key advantages:

1. Students observed how advanced cybersecurity protocols protect critical infrastructure in real-time.
2. Exposure to practical tools such as intrusion detection system, threat intelligence and security operation center.
3. Understanding of how these systems ensure operational continuity.
4. Demonstrates how compliance enhances trust and operational efficiency.
5. The trip helped students connect theoretical knowledge with industrial practice, emphasizing the importance of cybersecurity in modern infrastructure.

MS OFFICE ESSENTIALS AND QUICK SOLUATION AND PRACTICAL TECHNIQUES FOR MATHEMATICAL PROBLEMS

Conducted the session on MS Office Essentials and Quick Solutions and Practical Techniques for Mathematical problems by the Math and CS Unit for the students of Grades 8 and 9 at Al Qurum International Private School, Qurum, Muscat. Dr. Mohammed Akbar presented the time-saving shortcuts, formatting techniques, tips for managing data effectively with special focus on Navigation in MS-Word, formulas in MS-Excel and animations in PowerPoint to optimize everyday tasks. Dr. Arun Prasath has presented simple and powerful methods to approach and solve mathematical problems engaging the participants to explore the visualization techniques, pattern recognition and logical breakdowns for complex problems. Dr. Madhusudhana Rao has emphasized on practical strategies for common challenges in numerical calculations, enabling faster and more accurate solutions

FIELD VISIT TO NATIONAL CENTER FOR STATISTICS AND INFORMATION

Field Visit to National Center for Statistics and Information - Advanced diploma students who are studying the course probability and statistics attended the filed visit along with the course lecturers. The session aimed to embed students experiential learning opportunities through field visit. 17 students and 4 staff attended the event.

RESEARCH WEEK

At 8 a.m., the Research Day Program began with registration and a cordial welcome. The inaugural remarks were given by Dr. Badar of the UTAS Muscat Research Department. He outlined the event's purpose and vision. The importance of research in today's academic environment was emphasized in the Visual Journey presentation.- Three eminent academics from various universities shared their knowledge. The topics were presented by Dr. Abdelzahir Abdelmaboud, Associate Researcher at the Humanities Research Center, Sultan Qaboos University in Muscat, Oman,

under the title "AI-Driven Transformations in Healthcare: Case Studies and Impacts." The next speaker was Dr. Musab Al Rawi, he is the director of the ICESCO Chair for AI Ethics at the University of Technology and Applied Sciences in Muscat. He spoken the topic of "Ethical AI in Business Applications." The acting dean of the Arab Open University's Faculty of Business Studies, Dr. Kabaly P. Subramanian, discussed how business research and IT may work together to create a symbiotic relationship.

Presentations of research funding projects and workshops with an emphasis on current research methodologies. Particularly in the video presentation of the IT department's research accomplishment. Students from twelve groups in the research methodology course gave five-minutes project presentations on a range of subjects. Exhibitions and poster presentations are examples of activities that are carried out. Judges evaluate each activity and choose the winners.

RESEARCH WEEK AWARDEES

National and International Collaborative Projects Award

Dr. Abraham Varghese

National and International Collaborative Projects Award

Dr. Ben George Ephrem

Early Career Research Award

Mr. Shajidmon Kolamban

RESEARCH WEEK AWARDEES

High Impact Publication Award (per discipline)

Dr. Zainab Al Ansari
in the field of Computer Network

National and International Collaborative Projects Award

Dr. Vinu Sherimon

National and International Honor of Excellence Award

Dr. Fatema Sulaiman Al-Abri

Undergraduate Research Excellence Award

Sarah Said Al Khadhori

Undergraduate Research Excellence Award

Amna Juma Al Mukhaini
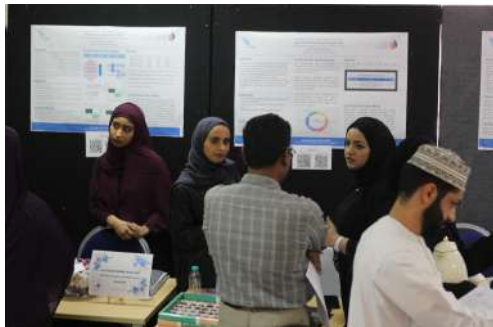
54th OMAN NATIONAL DAY

The IT Department celebrated Oman National Day with great enthusiasm and patriotic spirit last month. The workspace was beautifully decorated with Oman's flag colors red, white, and green, creating a festive atmosphere. Students dressed in traditional Omani attire, showcasing the country's rich cultural heritage. Fun activities, including a game engaged everyone and provided a chance to play physical game with your fellows. Omani heritage booths with cultural props allowed the audience to capture memorable moments. Delicious Omani sweets, dates, and Arabic coffee were served, offering a taste of tradition. The celebration successfully blended culture and technology, honoring Oman's National Day in a vibrant and meaningful way.

IT POSTER DAY

Course project students will showcase their projects and hard work. This event provides a platform to explore innovative student projects, foster academic discussions, and celebrate their accomplishments.

STAFF ACHIEVEMENTS

The TRC-approved grant for the research project "Quick Evacuation of Human in Low Vision and Nighttime During Disaster by Flood Based on Infrared Thermography and Computer Vision Using Unmanned Aerial Vehicle" has been awarded to Dr. Arun Rajesh, Mr. RVL Narayana, and Mr. Salim AL Wardi from the Cyber and Information Security specialization in the IT Department.

The TRC has approved a grant for the research project titled, "AI-driven Secure Web Application for Efficient and Reliable ASD (Autism Spectrum Disorder) Severity Level Classification and Recommendation of Appropriate Individual Educational/Rehabilitation Training Plan: A Collaborative Approach to Enhance the Quality of Life of Autistic People in Oman."
This prestigious grant has been awarded to Dr. Tripti Sharma, Dr. Praba P., Ms. Buthaina Al Rahbi, Ms. Kathija (K. J. Sasikala), and Mr. Ajith V. Abraham.

The TRC has approved a grant for the undergraduate research project titled: "A Survey on Data Models for Epidemic Management - Mathematical, Machine Learning, and Deep Learning Approaches for Disease Transmission and Diagnosis."
This grant has been awarded to Shajidmon Kolamban and his team members:
•Muna Abdullah Saud Al Harbi
•Reem Yahya Mustafa Mohamed
•Salah Salim Rashid Khanayafar Al-Hajri
•Hour Juma Nasser Al Harbi
•Taif Hilal Saif Al Shabibi

SCIENCE FESTIVAL

The participation of the Techno Group from the Department of Information Technology at the University of Technology and Applied Sciences in Muscat during the period from November 4 to 11, 2024, showcased innovative ideas and projects developed by students, focusing on sustainable environment solutions.

TECHNO DAY

TechnoDay was a dynamic event dedicated to the exciting world of game design and development. This immersive gathering brought together game developers, designers, artists, and enthusiasts to explore the latest trends, tools, and techniques shaping the future of gaming. Whether attendees were aspiring game developers or seasoned professionals, TechnoDay provided a unique platform to learn, collaborate, and innovate

A highlight of the event was an exciting Treasure Hunt game, featuring a series of cyber security-themed questions, where participants showcased their problem-solving and technical skills. Adding to the thrill, the event also included Escape Rooms designed with intricate puzzles and gaming elements, challenging participants to think creatively and work collaboratively to "break out" within the time limit. These engaging activities made TechnoDay an unforgettable experience for all who participated.

IEEE DAY AND ICIESTR SUCCESS CEREMONY

IEEE Student Branch at UTAS-Muscat, organized and conducted a joint celebration of IEEE Day and the success ceremony of the ICIESTR Conference at UTAS-Muscat. The event highlighted the contributions of participants and volunteers, fostering camaraderie and recognizing achievements.

IEEE OMAN ANNUAL GATHERING

Dr. Zainab Alansari as counselor of IEEE Student Branch at UTAS-Muscat successfully hosted the IEEE Oman Annual Gathering at UTAS-Muscat. The event brought together academia, industry leaders, and IEEE professionals, fostering collaboration and innovation through insightful sessions and discussions. It served as a platform to exchange knowledge and strengthen ties within the engineering community.

Farah Saud Al-sulaimi
Webmaster of IEEE UTAS Muscat

PANEL DISCUSSION
(Ethics Meets AI: Ensuring Fairness and Transparency in a Data-Driven World)
MODERATOR

Outdoor, Near SAC building

IEEE OMAN ANNUAL GATHERING 2024

PRESENTATION AT iCETiC '24

Dr. Zainab Alansari presented her paper titled "Enhancing Wireless Sensor Network Security: A Markov Chain-Based Trust Management Algorithm" at the 7th International Conference on Emerging Topics in Computing 2024 (iCETiC '24) held at the University of Essex, Southend-on-Sea Campus, UK. She also served as a session chair during the event.

The conference, co-sponsored by Springer and EAI, published its proceedings in the Springer Nature LNICST series, indexed in WoS/ISI and Scopus. The LNICST series has a 2022 CiteScore of 0.7, SNIP of 0.188, and SJR 2021 of 0.185 (Q4), making it a notable platform for high-quality research dissemination.

IEEE Student Branch Rebate Achievement

The IEEE Student Branch at UTAS-Muscat successfully secured a $102 rebate under the IEEE Student Branch Program. This achievement reflects the branch's active participation and compliance with IEEE standards, benefiting students and promoting technical advancement.

Representation at IEEE PowerTalks

IEEE Student Branch at UTAS-Muscat and IEEE members from across Oman represented the IEEE Oman Section at the IEEE PowerTalks Conference at the Oman Convention and Exhibition Center. They promoted innovative solutions aligned with national and global trends in technology and engineering.

Hosting IEEExtreme 18.0 Programming Competition

As an IEEE Ambassador for the Oman Section, Dr. Zainab Alansari organized and hosted the IEEExtreme 18.0, a 24-hour global programming competition, at UTAS-Muscat. The event saw participation from 17 teams representing 8 universities, showcasing the technical prowess of students in Oman.

COUNSELOR TRAINING PROGRAM AWAED

Dr. Zainab Alansari participated in the IEEE RSTI Conference in Lecco, Italy, earning a $3,000 award for her involvement in the counselor training program. This recognition underscores her commitment to advancing the IEEE mission globally.

CONFERENCE PUBLICATION IN IEEE XPLORE DIGITAL LIBRARY

As the Conference Chair for ICIESTR 2024, Dr. Zainab Alansari with the help of publication and technical program committee team, led the successful publication of conference papers in the IEEE Xplore Digital Library. The event recognized the contributions of 100 authors and 84 committee members, furthering the impact of innovative research.

AI TOOLS WORKSHOP

The IEEE Student Branch at UTAS-Muscat organized a workshop on AI tools for academic writing. The session aimed to enhance productivity and foster innovation among academics, equipping them with advanced tools for research and publication.

During **RESEARCH WEEK 2024**, Dr. Zainab Alansari conducted the workshop "Bridging the Gap: Academia, Government, and Private Sectors". The session united key stakeholders to address sectoral challenges, develop impactful research opportunities, and align projects with Oman's national development goals.

STUDENT ACHIEVEMENTS

Mohammed Al-Rawahi, Noor Al-Qasimiya, Safa Al-Sanawiya, and Rahaf Al-Hasniya won first place in the Electronic Hacking Competition during the 5th Scientific Week (Afaq) at the Military Technical College. Their success in the Boot-to-Root CTF competition showcases their exceptional cybersecurity skills.

The Baleel Team (Hajar Al-Ameriya, Malak Al-Hilaliya, Abdulaziz Al-Kalbani, Anas Al-Ghadani, and Inas Al-Zadjaliya) won second place in the Elite Projects category at the 5th Scientific Week (Afaq) at the Military Technical College for their innovative project, Sporle Filter

Saddam Al-Hadhabi from the University of Technology and Applied Sciences won second place in the Electronic Lab Hacking competition during the 5th Scientific Week (Afaq) on October 24, 2024, as part of the Military Technical College team.

Hoor Al-Wahaibi, Majid Al-Ghamariya, and Ahmed Al-Hadhrami won first place in the Best Graduation Project Competition at the 5th Scientific Week (Afaq) at the Military Technical College. Competing against 22 projects, they presented their innovative project, "Hand Gesture Recognition Using Artificial Intelligence." Their achievement reflects dedication and teamwork, promising future innovations.

Khalid Al-Khamisi won the Youth Excellence Award 2024 after competing against 66 projects this year.

The University of Technology and Applied Sciences in Muscat congratulates student Rehab bint Khalfan Al-Niyaria from the Department of Information Technology for winning the Best Innovation Award for her project "Driver Drowsiness by Using Smart Technology." This recognition was achieved during the Second Forum of Future Universities in the Era of Digital Transformation and Artificial Intelligence, held in Muscat from November 25 to 26, 2024.

IEEE Senior Member Elevation

Dr. Zainab Alansari was elevated to IEEE Senior Member, marking a significant milestone in her professional journey and recognizing her contributions to engineering and technology.

ICCDA 2024: Session Chair Contribution

Dr. Alansari served as a session chair at the ICCDA 2024, playing a key role in the success of this esteemed international conference.

IEEE Oman Leadership Training Recognition

Dr. Alansari attended the IEEE Oman Section Leadership Training Program at the Military Technical College, earning recognition for her exemplary service as a student branch counselor during the academic year 2024. Her leadership has been pivotal in fostering a collaborative community committed to teaching and innovation.

2024 MTMI International Conference: Technical Chair Contribution

Dr. Manisha Gupta served as the Technical Chair at MTMI 2024, contributing significantly to the success of this prestigious international conference.

Presentation at MTMI '24

Ms.Ranjini ,Mr. Xavier Raja & Dr.Manisha Gupta presented the paper titled "Early Detection of Palm Tree Diseases Using a Tailored Deep Learning Model and Hyperspectral Imaging Data."at the MTMI International Conference on 21st Dec2024 in Dubai. She also served as a session chair during the event.

EVENTS HIGHLIGHTS

RHS -IT Commitee members have participated in the 2 evacuation drills that was conducted this semester in Enginering, business and applied Science budlings

"MATLAB Built-in Codes for College Algebra", a workshop conducted on Sunday, 20th October 2024, organized by the Math Club, Information Technology Department, University of Technology and Applied Sciences, Muscat, Sultanate of Oman through Zoom Platform.

"MATH MARATHON 2024", a computer-based quiz competition, conducted on Thursday, 14th November 2024, organized by the Math Club, Information Technology Department, University of Technology and Applied Sciences, Muscat, Sultanate of Oman at N423 & N419

"Multiplicative Calculus Properties and Applications" a virtual talk conducted on Wednesday, 6th November 2024, 11 AM – 12 PM through Zoom platform organized by the Math Club, Information Technology Department, University of Technology and Applied Sciences, Muscat, Sultanate of Oman

"Artificial Intelligence in Higher Education – Are we ready?", a virtual talk conducted on Sunday, 1st December 2024, 11 AM – 12 PM through Zoom platform organized by the Math Club, Information Technology Department, University of Technology and Applied Sciences, Muscat, Sultanate of Oman

"Mathematics & Computational Theory" research group conducted a Workshop on Thursday, 7 November 2024, from 1:30 PM to 3 PM at MPH -PSC building to finalize the essential components necessary for the group's structure like Team Focus, Team Members, Key Research Areas, Forming Subgroups etc.

COMPREHENSIVE OVERVIEW OF EVENTS CONDUCTEDIN SEMESTER 1

2nd Workshop on Enhancing Creativity & Innovation in Teaching and Curriculum Delivery	Advisor Orientation	AI in Higher Education	Analyzing Research Data Methods
Basic SQL Operations and Their Role in Managing Normalized Databases	Behind the screens: cyber pro insights	Choosing the right statistical test for your research question	Confronting the Reality: A Symposium on Substance Abuse in Oman Challenges, Awareness, and Prevention
Exploring AI Tools for Effective Academic Writing	Guest lecture on feasibility study in PM	Hands on Workshop for SmartLearn Platform	IEEE Oman Annual Gathering
Introduction to Cloud and its Career Path	IT Course Project Poster Day 2024	IT Department Action Plan Workshops	IT Department Meeting
MATH HELP CENTER	Math Marathon 2024	MATLAB built in codes for college algebra	MS Office Essentials and Quick Solutions and Practical Techniques for Mathematical problems
Multiplicative Calculus Properties and Application	Navigating Your Part 1 Application Based Course Project: A Step by Step Guide	Peer to Peer Learning Session	PHP & MySQL: Building a Database Driven Website
Points to Ponder for Successful Career	Practical exam through E exam portal	Quality Assurance Program IT	Research Group Meeting Mathematics & Computational Theory
Satisfaction rate of those who benefited from the training by industry	Satisfaction rate of those who benefited from the training by industry	SCHOOL INNOVATION CAMP	Smart technology usage in E Finance services
Specialization awareness Week	SPSS for data analysis	STUDENT INDUCTION IT NEW INTAKE STUDENTS SEMESTER 1 2024 2025	Workshop on Enhancing Academic Advising for Student Success