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Center for Advanced Materials

# NEWSLETTER

Issue | 7

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Contact us at



November 2024

**Published by:**

CAM Newsletter and Press Committee

# Welcome message

## CAM Welcomes Prof. Aiman Erbad as New Vice President for Research and Graduate Studies



Center for Advanced Materials (CAM) is delighted to welcome Prof. Aiman Erbad as our new Vice President for Research and Graduate Studies. Prof. Erbad brings a wealth of experience and a proven track record of leadership in both academic and research capacities, which will undoubtedly enrich our thriving community.

Prof. Aiman Erbad is a Professor of Computer Science and Engineering at the College of Engineering in Qatar University. In 2005, Prof. Erbad obtained an MSc in Embedded Systems and Robotics from the University of Essex (United Kingdom).

In 2012, he obtained his PhD in Computer Science from the University of British Columbia, Vancouver (Canada). Prof. Erbad served as the Head of the Information and Computing Technology Division at the College from Sept 2021 to May 2024. Prior to this, he was the Director of Research Planning and Development at Qatar University from 2018 to 2020. He also served in Qatar University as the Director of Research Support responsible for all grants and contracts from 2016 to 2018, and as the Computer Engineering Program Coordinator from 2014 to 2016. Prof. Aiman Erbad has extensive academic and technical experience in the areas of edge intelligence, cloud computing, Internet of Things (IoT), blockchain, and private and secure networks.

Prof. Erbad received the Platinum award from HH The Amir Sheikh Tamim bin Hamad Al Thani at Education Excellence Day 2013 (PhD category). He received four international best paper awards and more than 12 major research grants from Qatar National Research Fund programs at Qatar Research, Development, and Innovation Council. He is an editorial board member in four international journals. He published more than 200 papers in top conferences and journals and helped organize many international IEEE and ACM conferences. Prof. Erbad obtained a Master in Business Administration (MBA) in 2023 and currently serves as a board member in Qatar Mobility Innovations Center (QMIC).

# Achievements

## Awards & Certificates

## Awarded Grants

### Climate Change and Environment Call (CCEC)-QRDI

LPI	Title
Dr. Patrik Sobolciak	Multifunctional self-powered nano-based unit for water pollutants filtration and monitoring.
Dr. Dong Suk Han	Integrating Solar-Thermoelectric Power and Wastewater for a Circular Industrial Approach to Sustainable Hydrogen Production.

### Undergraduate Research Experience Program (UREP)-31st cycle-QRDI

LPI	Title
Dr. Ahmed Bahgat Radwan	Facile Synthesis of CuNi Nanoalloy Coated Mesoporous Carbon for Electrosynthesis of Ammonia.
Dr. Abdul Shakoor	CRYSTAL-Q: Investigating Novel Fluorophosphate Crystal Structures for High-Performance Lithium-ion Batteries.
Dr. Noora AL-Qahtani	Assessment of Microplastic, Phthalate Acid Esters, and Heavy Metal Leaching from Disposable Cups with Hot Beverages: Impact on Human Health and the Environment.

### Highschool Research Experience Program (HSREP)-QRDI

LPI	Title
Dr. Noora Al-Qahtani	Green Energy Revolution: Sustainable Approaches for Converting Biomass and Food Waste to Biofuels.
Dr. Abdul Shakoor	Investigating the role of Copper (Cu) in improving the energy density of Sodium-Ion batteries for EV Applications.
Dr. Mohamed Abbas	Transforming Eggshell Waste into Valuable Products: A Sustainable Approach for Biomedical Applications.
Dr. Khadija Zadeh	Enhancement of flame Retardancy of Polymer composites using Domestic wastes in Qatar.
Dr. Khalid bani Melhem	An exploratory and descriptive study of the situation of plastic waste and microplastic pollution on the beaches of Doha city.

### External Grant: FOVI-ANID research grant (Country: Chile)

LPI	Title
Dr. Kishor Sadasivuni	Advanced hydrogel -biochar nanocomposite for the controlled release of macro and micronutrient nanoparticles for sustainable agriculture.

## Graduate Sponsorship Research Award (GSRA)-QRDI

LPI	Title
Dr. Kishor Sadasivuni	Design and Development of Metal Oxide Photoelectrodes for Wastewater Dye Removal.
	Coatings for Mitigating Soiling and Enhancing Reflection for Photovoltaic (PV) Systems in Desert Climate.

## Highlighting Excellence: 16<sup>TH</sup> NATIONAL SCIENTIFIC RESEARCH WEEK AND INNOVATION 2024 (NSRIW24)



We are thrilled to celebrate Dr. Noora Al-Qahtani's research achievements, which have garnered top awards in the National Competition for Scientific Research and Innovation. Her collaborative efforts between university and school students led to two projects winning first place in their categories.

The first project, "Chitosan-based Hydrogel Beads for Heavy Metal Removal in Wastewater Treatment", won in the Earth and Environmental Sciences category at the Preparatory Stage level. This eco-friendly solution aligns with Qatar Vision 2030 by using chitosan to remove heavy metals from wastewater. The second project, "Unveiling Bottled Water's Perils", earned first place in Chemistry and Materials Sciences at the General Secondary Stage level. This study examines phthalate ester leaching from bottled water in Qatar's heat, offering key insights for public health



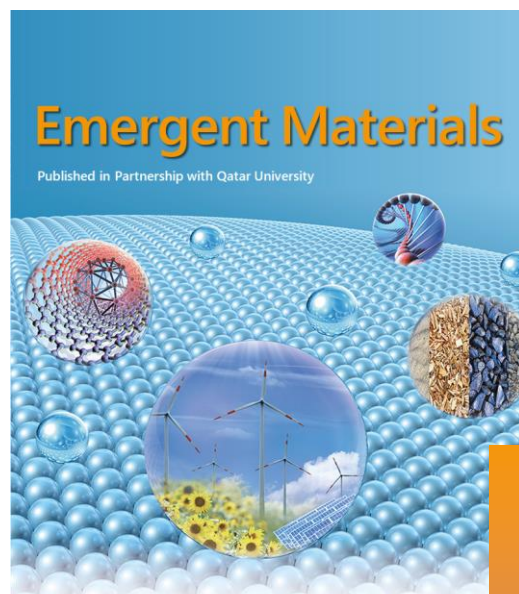
## Qatar University Student Wins Second Place in 2024 Research Poster Competition

In the 2024 Research Poster Competition, hosted by Qatar University in collaboration with Qatar Chemical Company Ltd., chemical engineering student Marwa Alani, guided by Dr. Noora Al-Qahtani, earned second place for her project, "Eco-Conscious Approaches: Harnessing Chitosan Polymer for Purifying Sewage."



# Emergent Materials Journal Celebrates Major Milestone at Euromembranes 2024

At the opening ceremony of Euromembranes 2024, Pavel Izák, Head of the Scientific Committee from the Institute of Chemical Process Fundamentals, Czech Academy of Sciences, acknowledged the participation of Qatar University's Emergent Materials Journal as an academic partner. The journal recently celebrated its first-ever Impact Factor of 4.8, highlighting its rapid growth and global impact. By expanding its reach, Emergent Materials Journal has created an inclusive platform for pioneering research from scientists worldwide.



Impact factor 2023:

**4.8\***

PUBLISH WITH US

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## VISIT US

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EmergentMaterials

Emergent Materials

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<https://www.springer.com/journal/42247>

## ABOUT US

**Emergent Materials** is a multidisciplinary, peer-reviewed journal that publishes reviews, mini-reviews, communications, progress reports, original research articles, current opinion mini-articles (on invitation only), and research news on materials at the forefront of physics, chemistry, biology, and engineering of advanced materials.

**Our mission** is to advance the understanding and application of novel materials through high-impact research and innovative discoveries. We cover a broad spectrum of topics, ranging from the synthesis and characterization of emerging materials to their transformative applications in technology and industry.

Emergent Materials publishes articles that focus on but are not limited to topics such as:

- Energy conversion and storage
- Materials for water treatment and desalination
- Biomaterials (e.g. for regenerative medicine)
- Construction, pavement, and building materials
- Optical materials
- High entropy alloys
- Biosensors and other smart devices
- Polymer composites
- Biowaste conversion and valorization
- Carbon allotropes
- Low-carbon technologies
- Additive manufacturing

## OVERVIEW

Impact Factor  
**4.8** (2023)

5-year Journal Impact Factor  
**4.3** (2023)

Cite Score  
**7.4** (2023)

**Ranked Q1** in the category  
(ceramics and composites)

Acceptance Rate  
**25%**

Submission to First Decision  
**11 days**

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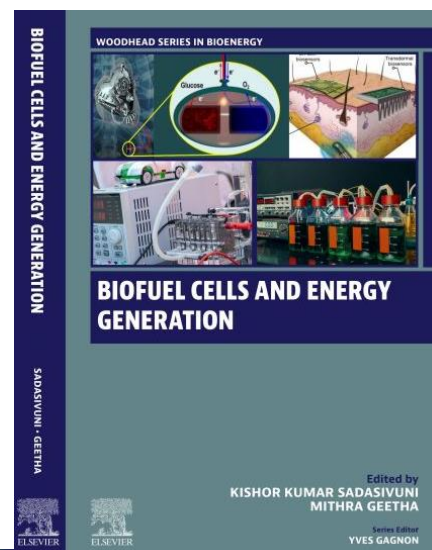
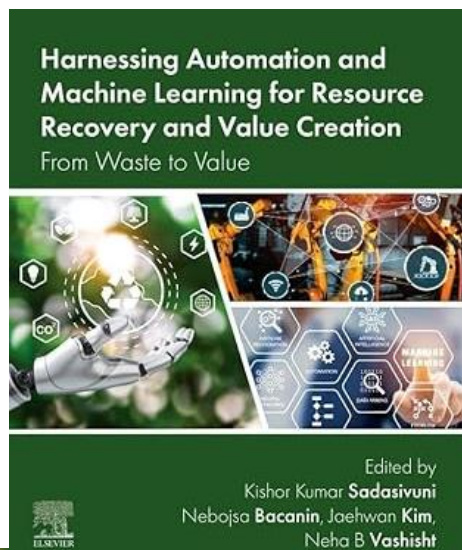
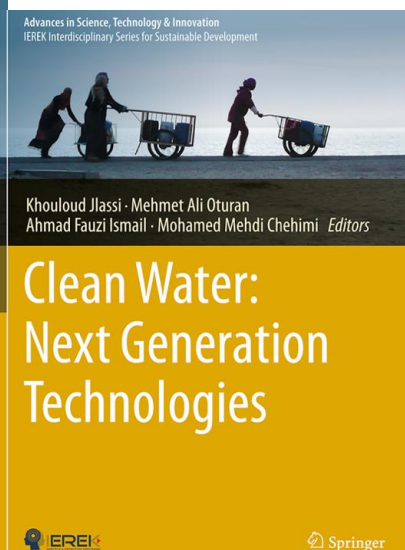
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Corresponding author	Title	Journal	Impact factor
Dr. Khalid Bani Melhem	Trehalose-conjugated lentil-casein protein complexes prepared by structural interaction: Effects on water solubility and protein digestibility.	Food Chemistry, 447 (2024): 138882.	8.5
Dr. Igor Krupa	Advancements in radiative cooling structures for atmospheric water harvesting: A comprehensive review.	Applied Energy, 377 (2025): 124576	10.1
Dr. Mohammad R. Irshidat	Comprehensive evaluation of microstructure and mechanical performance of sustainable ambient-cured alkali-activated composites	Journal of Sustainable Cement-Based Materials, 13 (2024): 1552-1566	4.7
Dr. Peter Kasak	Biolubricant synthesis by additization and chemical modification from lipid-rich brackish <i>Coelastrella</i> sp. using a biorefinery approach.	ACS Sustainable Chemistry & Engineering, 12 (2024): 7289–7299	7.1
Dr. Dong Suk Han	A solar desalination charger for water treatment and value-added chemical production.	Energy and Environmental Science, 17 (2024): 4488-4497	32.4
Dr. Abdul Shakoor	The Potential of Plasma-derived Hard Carbon Coatings for Sodium-Ion Batteries.	Journal of Energy Storage, 84 (2024): 110844	8.9
Dr. Khoulood Jlaasi	Carbon-supported catalysts for carbon dioxide methanation: A review.	Journal of CO <sub>2</sub> Utilization, 85 (2024): 102881	7.2
Dr. Mohamed Abbas	Nanoparticles in cancer theragnostic and drug delivery: A comprehensive review	Life Sciences, 352 (2024): 122899	5.2

## BOOKS EDITED

- Clean Water: Next Generation Technologies. Khoulood Jlassi, Mehmet A. Oturan, Ahmad Fauzi Ismail, and Mohamed Mehdi Chehimi, eds. Springer, 2024.
- Harnessing Automation and Machine Learning for Resource Recovery and Value Creation: From Waste to Value. Kishor Kumar Sadasivuni, Nebojsa Bacanin, Jaehwan Kim, Neha B Vashisht, ISBN: 9780443273742, Elsevier publishes, 2025.
- Biofuel Cells and Energy Generation Kishor Sadasivuni, Mithra Geetha, ISBN: 9780443216022. Elsevier publishes, 2025.





## PEOPLE Interview with CAM Researcher



### Prof. Igor Krupa

Research Professor / Center for Advanced Materials, Qatar University

#### Please introduce yourself.

I graduated in Technical Physical and Analytical Chemistry at the Faculty of Chemical Technology of Slovak Technical University in Bratislava, Slovakia. Then, I obtained PhD degree in Macromolecular Chemistry from the Polymer Institute of Slovak Academy of Sciences in 1999, where I worked till August 2012. In 2012, I was appointed as QAPCO Polymer Chair at CAM QU. My research interests include polymer composites, nanocomposites and blends, sol-gel technologies, photo-actuating materials, phase change materials, recycling, and water treatment.

#### What inspired you to pursue academic research?

My original inspiration came in childhood with questions about what is in a box, so I always decomposed (successfully) and composed (less successfully) something. This is what I still do, maybe more professionally. The motivations are always based on a curiosity about what it is about. However, it may also come from a practice focusing on specific and concrete problems. It is a good balance for research work.

#### Do you believe international collaboration enhances the quality of your research? How so?

I am proud to say that our team is one of the teams where most of the research work is performed at CAM using local technical and human sources with a minor contribution from external partners. This is not to say I underestimate a strong partnership with scientists abroad; I did a lot of good work with international partners. However, there must be a sense of respect for the development of local, sustainable expertise.

#### Many scientific achievements and publications have marked your career. Could you highlight the most prominent ones?

I don't think that many; there would be more. A few examples include i.) an appointment as QAPCO Polymer Chair at CAM for six years, ii.) obtaining the award "The Second-Best Researcher in Plastics Excellence Award 2016 from the Gulf Petrochemicals & Chemicals Association (GPCA)", and iii.) the founding of a robust research infrastructure (an investment of over 150,000 USD from project sources).

#### What major challenges do you face in your current research, and how do you overcome them?

The major human challenge is how to overcome one's own inability. Except that, the most important thing is maintaining my research team, which means, in other words, ensuring continuous financing of the research.

## How do you evaluate Qatar University's role in supporting your research projects?

The support of research from QU through internal grants is moderate, and most of the financial support comes from grants from QNRF, which is a core for hiring RAs and postdocs. The Research Office offers solid project and financial management, and CAM is one of QU's best-equipped institutions, making our work easier.

## How do your research efforts contribute to addressing key issues in Qatar?

All the research my team and I work on is focused on multiple aspects of polymeric materials and their application in various fields, such as general energy conversion, management, and water treatment. They are often performed with active industrial partners in these areas (QAPCO, ConocoPhillips, AGRICO).

## What are your future research plans?

I am not a big fan of long-term planning. However, some plans are needed. In general, I want to continue our current research with my team. A new topic we are developing deals with the 3D printing of thermoplastic composites and the development of radiative cooling structures. However, my future plans are closely linked with maintaining my research team, which means ensuring continuous research financing.

## What advice would you give to students interested in entering the research field?

There is nothing easier than giving good advices, so there are some. Students who want to seriously deal with research in natural sciences and engineering in the future should first get strong knowledge from math, physics, and chemistry. No ideas can be put into practice without a solid theoretical background. Secondly, learn from the best researchers in your surroundings. Finally, be patient. science is a long-distance race.

## Research Highlights

### Excellence in Non-Destructive Testing: CAM's Contributions to Training and Research

The Center for Advanced Materials has prioritized Non-Destructive Testing as a key research area and has recently expanded its activities to include specialized training programs. Acknowledging the industrial relevance of Magnetic Particle Testing (MPT) and Ultrasonic Testing (UT) for the evaluation of material integrity, CAM has executed practical training sessions focused on these methodologies. These sessions equipped participants with the practical skills needed to identify cracks and flaws using MPT and UT techniques. CAM's expertise in NDT has also attracted interest from Qatar Energy, who are currently exploring opportunities to utilize CAM's facilities and



collaborate on future NDT training initiatives. Magnetic Particle Testing (MPT) is a widely used technique for detecting surface and near-surface defects in ferromagnetic materials through magnetic flux. Ultrasonic Testing (UT), a more advanced non-destructive method, uses high-frequency sound waves to detect subsurface flaws. The UT training covered transducer selection, usage, and signal interpretation for identifying internal defects in non-porous components.



Beyond providing specialized training, CAM has established itself as a research leader in the field of Non-Destructive Testing at Qatar University. Our faculty and researchers have published extensively, exploring novel applications of NDT techniques for advanced material characterization. Looking ahead, CAM is committed to expanding its NDT capabilities by integrating cutting-edge methodologies. Through strategic collaborations with industry partners, we aim to deploy these advanced techniques on large-scale projects, contributing directly to industrial safety and infrastructure development within Qatar.

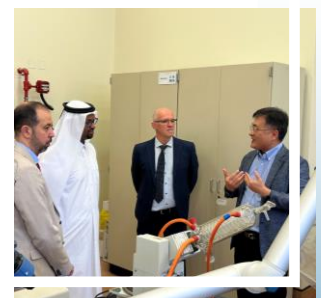
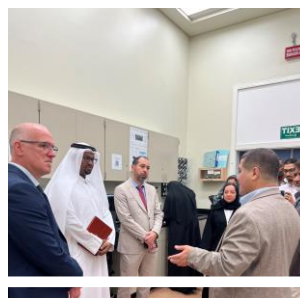


## VISITS

The Center for Advanced Materials was honored to welcome His Excellency Prof. Aiman Erbad, Vice President for Research and Graduate Studies at Qatar University. During his visit, CAM had the opportunity to showcase its latest research projects and advancements in materials science, highlighting the center's ongoing contributions to innovative research.



Center for Advanced Materials Hosts Qatar University's VP for Research



# Center Activities

## PARTICIPATIONS

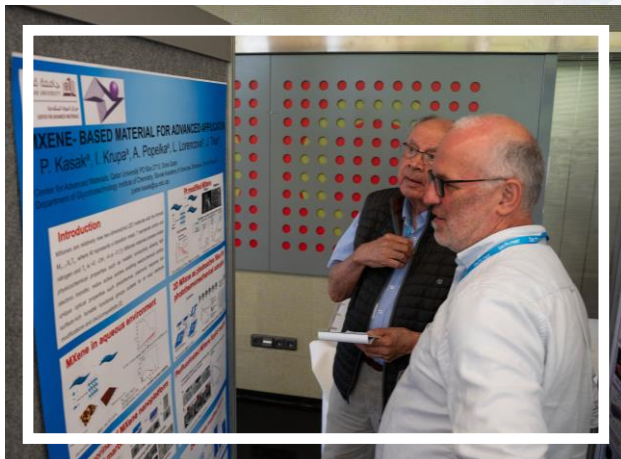
### Conferences, Workshops, and Forums

#### Dr. Mohammad K. Hassan Joins Qatar Delegation at WEFTEC 2024

Dr. Mohammad K. Hassan from CAM recently participated in the 2024 Water Environment Federation's Technical Exhibition and Conference (WEFTEC) in New Orleans, Louisiana, as part of the U.S. Commercial Service Qatar Delegation. WEFTEC, the largest global event for water and environmental sectors, provided an invaluable platform for learning, collaboration, and networking with industry leaders from around the world.



#### Prof. Peter Kasak Participates in International Polymers Conference in Prague



Prof. Peter Kasak from CAM recently attended the 85<sup>th</sup> Prague Meeting on Macromolecules (PMM) and the 11<sup>th</sup> Green Chemistry and Nanotechnologies in Polymeric Materials (GCNPM) in Prague, held from 24–28 June 2024. This joint conference focused on innovations in sustainable polymer science to address global environmental challenges. Researchers from around the world gathered to exchange insights and explore collaborations on sustainable polymer solutions.



## Dr. Dong Suk Han Discusses Innovative Approaches for Sustainable Desalination at Saudi Water Forum Panel

At the Saudi Water Forum, Dr. Dong Suk Han from CAM discussed leveraging salinity gradient energy to improve desalination sustainability. He focused on two methods: Pressure Retarded Osmosis (PRO) and Reverse Electrodialysis (RED). PRO uses osmotic pressure differences between seawater and freshwater to generate hydraulic pressure, which can be converted into electricity. RED harnesses ionic concentration differences across ion-selective membranes to produce electrical energy. These methods can enhance desalination energy efficiency and reduce environmental impact. Dr. Han emphasized that advancements in membrane materials and system integration are crucial for scaling up PRO and RED. Improved membrane selectivity and durability are needed for efficiency.

Dr. Han also highlighted integrating these technologies with electrochemical CO<sub>2</sub> capture and conversion to transform desalination into a more sustainable process. This approach reduces energy demands and carbon emissions, supporting a circular water production model. He advocated for viewing desalination as an integrated energy and environmental system, advancing sustainability and resilience in freshwater supply.



منتدى المياه السعودي  
saudi water forum 2024  
استدامة المياه - مسؤوليتنا جميعا

### استدامة صناعة تحلية المياه

فيما يتعلق باستخدام الطاقة وطننا للحد الأقصى، في تقليل الطاقة الغير متجددة والكثير من العاملين معنا يركزون في استخدام تقنيات تقلل من استخدام الطاقة التي تصدر انبعاثات كربونية تصر بالبيئة وتزيد الضغط الأسموزي.

د. دونج سوك هان  
أستاذ مشارك في المواد المتقدمة  
جامعة قطر

swforum.sa  
/SaudiWaterForum

## Dr. Kishor Kumar Sadasivuni Shares Expertise in Key International Forums

Dr. Kishor Kumar Sadasivuni from CAM recently contributed as a keynote speaker at two prominent conferences. He addressed future learning aspects of mechanical engineering at the 4<sup>th</sup> Biennial International Conference, held from 31 July to 2 August 2024, and discussed plastic management trends at the 5<sup>th</sup> International Sustainability Conference (ISC2024) on 21–22 October 2024. Additionally, he participated in a panel discussion on recycling at Qatar University's Global Recycling Day event, representing Tanzifco Qatar.





## Dr. Noora Al-Qahtani Leads Workshop at Qatar's 16<sup>th</sup> National Scientific Research and Innovation Week

The 16<sup>th</sup> National Scientific Research and Innovation Week 2024, themed "Promising Researchers for Qatar," was held from 30 September to 1 October 2024, at the Qatar National Convention Center (QNCC). The event focused on the critical role of research in Qatar's national development, with notable attendees including His Excellency Dr. Omar Mohamed Al Ansari, President of Qatar University, and other senior government and academic officials.

### Event Contributions:

**Scientific Workshop for Educators:** On 1 October, Dr. Noora Al-Qahtani and her team conducted a workshop titled "Research Integration Across Disciplines: From Science Ideas to Innovative Solutions," offering educators insights into interdisciplinary research and its real-world applications. The session highlighted new technologies in environmental science and materials research for solving global challenges.

**Fun Corner:** Held over two days, the Fun Corner engaged school students in hands-on science experiments led by research assistants. The event attracted schools, parents, and teachers, promoting scientific literacy, teamwork, and community values. Designed to foster curiosity and creativity, the activities inspired students by emphasizing teamwork and problem-solving in science.



# SYMPOSIUMS

## Qatar-Korea Symposium on Sustainable Water and Energy Solutions

The Center for Advanced Menials at Qatar University recently hosted the Qatar-Korean Symposium on Sustainable Water and Energy Solutions, marking a pivotal moment in its partnership with the Korea Water Cluster (KWC). Established through a Memorandum of Understanding (MoU) in December 2023, this collaboration focuses on advancing water management technology and fostering research in Qatar.

The symposium brought together prominent industry leaders from ConocoPhillips, ExxonMobil, Qatar Shell Research & Technology Center, Doosan Enerbility, Acciona, and Bintech-Korea. Together, they addressed the challenges and emerging innovations within the water-energy nexus, showcasing opportunities for transformative advancements.

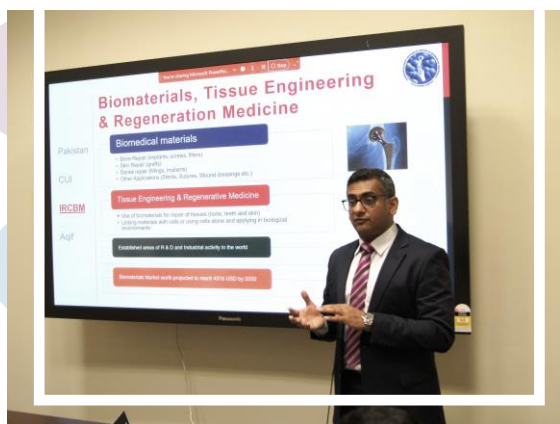
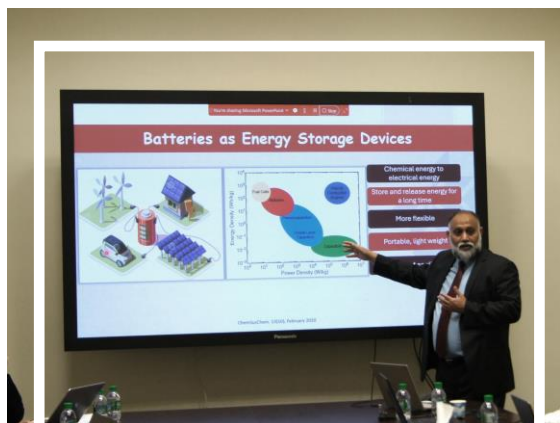




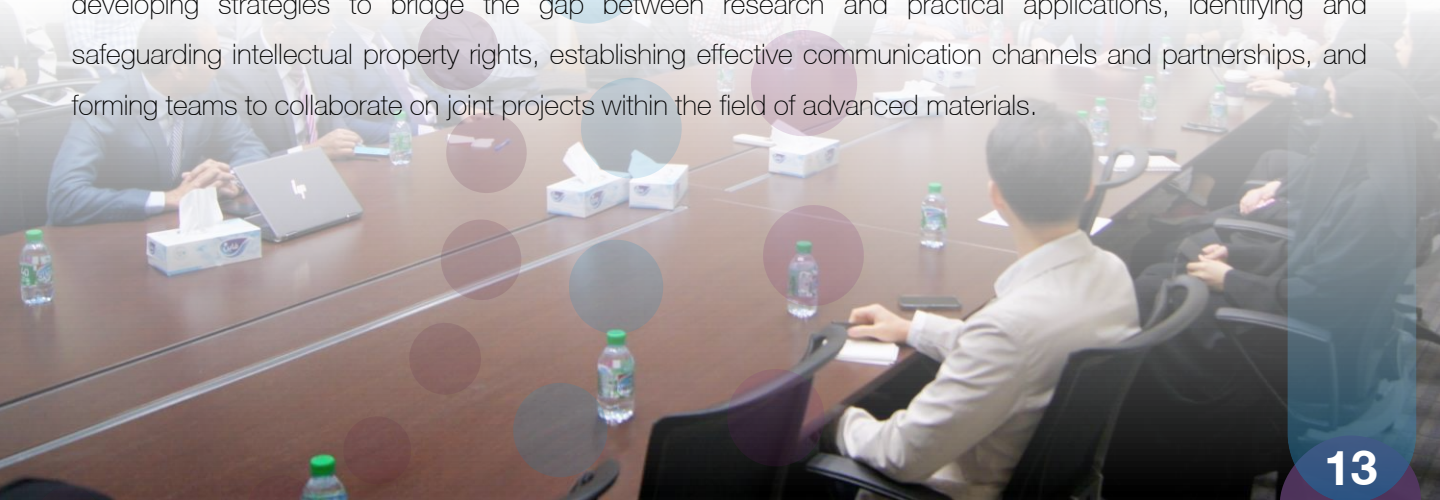
The Center for Advanced Materials at Qatar University recently hosted a symposium and workshop focused on translational research in advanced materials. The event, held on 12-13 May 2024, brought together researchers and industry professionals to discuss the latest advancements in the field and explore opportunities for collaboration.

The symposium featured a series of presentations by renowned experts in the field of advanced materials. Some of the key topics discussed included:

- Development of Halal Bifunctional Materials for Bone Regeneration and Repair (Prof. Aqif Anwar Ch.).
- Novel Cathode Materials for High Energy Density Sodium-ion Batteries for Future EV Applications (Dr. Abdul Shakoor).
- Impact of bioactive materials on clinical dentistry (Dr. Abdul Samad Khan)
- Bioluminescent protein-based biosensors for disease research (Dr. Kabir Biswas)
- Innovative Biomaterials and Translation into Clinical Practice (Dr. Muhammad Yar).
- Process intensification of Microalgae-based Biorefinery for Carbon-neutral Fuels and Chemicals (Dr. Donghyun Kim).
- Biorefinery for conversion of agroindustry waste to sustainable biomaterials (Dr. Kashif Rasool)
- Functional Biomaterials for Wound Healing and Cardiovascular Tissue Engineering (Dr. Anwarul Hassan)



The workshop component of the event was centered around interactive activities and collaborative project development. Participants delved into discussions on key aspects of translational research, including: developing strategies to bridge the gap between research and practical applications, identifying and safeguarding intellectual property rights, establishing effective communication channels and partnerships, and forming teams to collaborate on joint projects within the field of advanced materials.





## SEMINARS

1

**5 May 2024**

**Title:** MXenes and other Nanomaterials for Generation, Storage, and Conversion of Electrical Energy.

**Speaker:** Prof. Yury Gogotsi, USA.



2

**6 May 2024**

**Title:** Development of Sustainable Fiber-Reinforced Geopolymers for Additive Manufacturing.

**Speaker:** Prof. Eyad Masad, Zachry Professor, Texas A & M University.

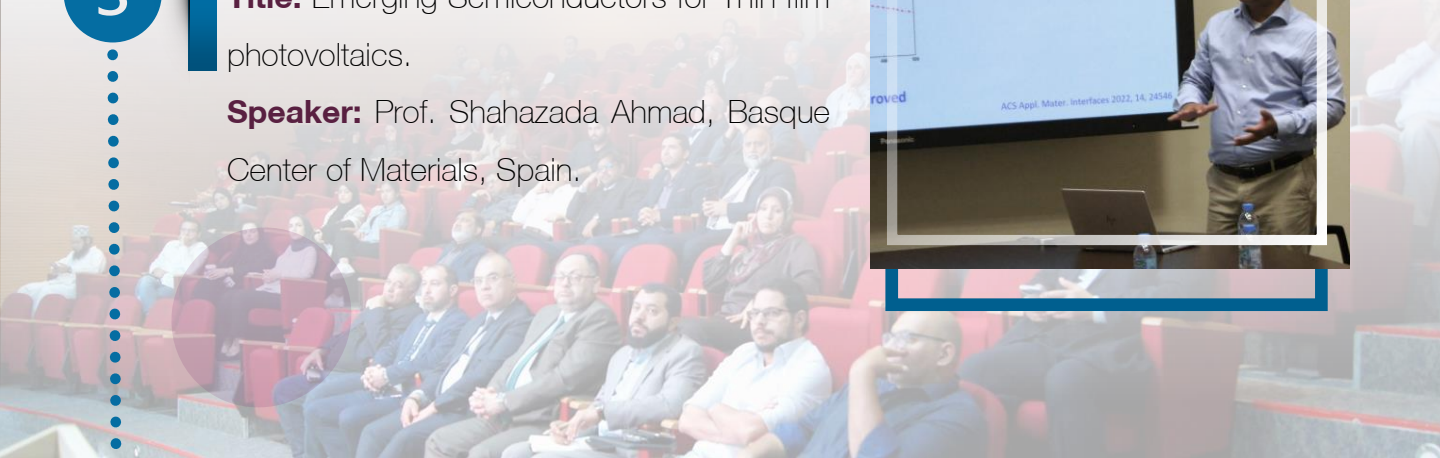


3

**4 September 2024**

**Title:** Emerging Semiconductors for Thin film photovoltaics.

**Speaker:** Prof. Shahazada Ahmad, Basque Center of Materials, Spain.



4

**11 September 2024**

**Title:** Advanced Materials Development: Natural Fiber Composites and Conductive Inks for Engineering.

**Speaker:** Prof. Mariatti Jaafar, School of Materials and Mineral Resources Engineering, Malaysia.



5

**22 September 2024**

**Title:** Research innovations: Bridging Discoveries and future collaboration.

**Speaker:** Prof. Mohammed Mendas, Department of Mechanical Engineering, Hassiba Benbouali University of Chlef, Algeria.

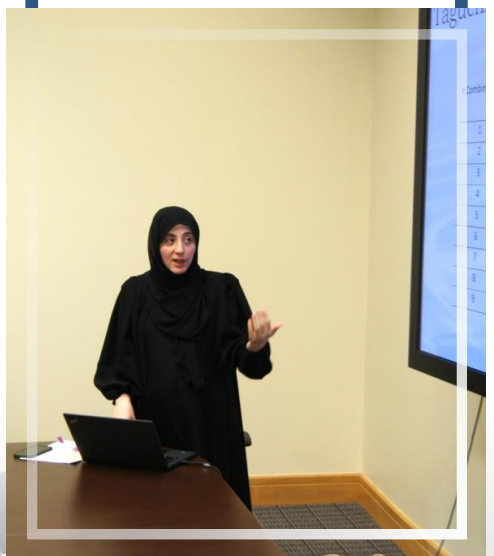


6

**10 October 2024**

**Title:** Studying Porosity's Effect on Elastic Properties of Polymeric Nano-filled Membranes.

**Speaker:** Dr. Reema Hassan M M Al-Asfar, Center for advanced Materials, Qatar University.





## Educating/Training Students and Industrial engineers

### Training Workshop

#### Water Technology Unit (WTU) organizes Third training workshop on membrane-based desalination technologies

The Water Technology Unit at the Center for Advanced Materials, in collaboration with the UNESCO Chair on Desalination and Water Treatment at Qatar University, organized an advanced training course on "Advances in Pretreatment Technologies for Desalination and Water Treatment." The event was held on 23 and 24 April 2024.



This advanced training course aimed to equip participants with cutting-edge skills and knowledge in desalination and water treatment technologies. The Qatar Electricity and Water Company (QEWC) and Kahramaa engineers and process operators attended the training course to enhance their capabilities.

The two-day training course featured a series of lectures delivered by renowned experts from CAM and the UNESCO Chair for Water Technology. It focused on the pretreatment technologies for RO desalination, membrane fouling, brine management, and lithium recovery from desalination brine. The participants enjoyed the training course, benefited from the expert lectures, and interacted with the experts.

This training initiative exemplifies Qatar's unwavering commitment to addressing water-related challenges and promoting sustainable water management practices. By fostering academic-industry collaboration and continuous learning, the desalination industry seeks to bolster its capabilities in water treatment, thus contributing significantly to the nation's development and resilience in water resource management. By the end of the workshop, certificates were awarded to the participants of the training course for their participation and completion.



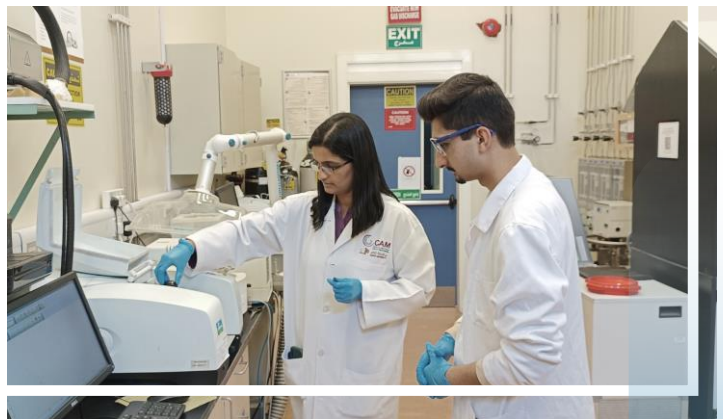


# Educating/Training Students and Industrial Engineers

## Summer Internships

### CAM Hosts Summer Research Internship Program for Qatar University Undergraduate Students

CAM welcomed undergraduate students this summer for the 2024 Summer Research Internship, organized by Qatar University Young Scientists Center (QUYSC). This program provided students with hands-on training in essential scientific research methodologies and experimental design. Participants developed technical and laboratory skills crucial for their future careers, gaining practical experience in CAM's research facilities. This opportunity aimed to foster a deeper understanding of research processes, empowering students to pursue innovative solutions within materials science and engineering.



## Summer Undergraduate Student Research Internship Conducted.

Center Mentor/s	Project Title	Student	
		College	number
Dr. Mohamed Abbas	Sustainable Synthesis of Graphene Oxide from Spent Potlining Waste (SPL)	College of Engineering	2
		College of Arts and Sciences	3
Dr. Ahmed Bahgat Radwan	Enhancing Corrosion Resistance: Electroless Ni-P Coatings via Mesoporous Silica Functionalization with Zinc Metal Nanoparticles	College of Engineering	2
		College of Arts and Sciences	4
		College of Health Sciences	1
		College of Business and Economics	1
Dr. Khadija Morad Shaikh Zadeh	Preparation and Characterization of Electro spun PCL/Sidr extract for tissue engineering applications	College of Engineering	2
Dr. Abdul Shakoor Mr. Shoaib Ahmad	Advancements in Smart Polymeric Coatings: Harnessing Anti-Corrosive Pigments for Enhanced Protection	College of Engineering	2
		College of pharmacy	1
		College of Education	1
Dr. Abdul Shakoor Mr. Mudassir Nawaz Dr. Abdul Shakoor	Designing and Application of Environmentally friendly Smart Self-healing Polymeric coating for corrosion protection of steel	College of Engineering	1
Mr. Muhammad Shahryar khan Dr. Abdul Shakoor	Development of Invisible Cloak to hide the object	College of Engineering	4
Mr. Zawar Qureshi Ms. Buzaina Moossa	Empowering the Future: Exploring Sodium-Ion Battery Technology Through Research Internship	College of Engineering	4
Ms. Mizaj Shabil Sha	Electrochemical pH Sensing: Advancements in Accurate and Versatile Monitoring Technology	College of Arts and Sciences	1
Dr. Sneha Bhagyaraj	Electrospun membranes for the removal of microplastics from aqueous solutions	College of Engineering	6
Mr. Arqam Azad Shahab	Development of Thin Film Composite Membranes for Reverse Osmosis	College of Engineering	2
Dr. Gamareldawla Dafaalla Dr. Syed Javaid Zaidi Dr. Khalid Bani-Melhem	Optimizing Plant Germination in Qatar's Arid Climate with Food Waste Hydrogel Technology	College of Law	4
		College Of Engineering	1
Dr. Mithra Geetha	Optimized Colorimetric Ionic Analysis for Water Quality Monitoring	College of Arts and Sciences	2
		College of Engineering	3
		College of Health Sciences	2
Dr. Muni Raj Maurya	Advancing Energy Harvesting Through Optimized Polymer Composite Based 3D Printed Lattice Structure	College of Engineering	8
Mr. Mohd Areeb Khan	Advancing Sustainable Biomaterial Production from Biowaste: Potential Applications and Implications	College of Engineering	6

## CAM Project Wins

### First Place in SRIP 2024

Dr. Abdul Shakoor (Research Assistant Professor at CAM), secured first place in the Summer Research Internship Program (SRIP) 2024 with his innovative project titled "Development of Invisible Cloak to Hide the Object."



## High School Students Showcase Blue Energy Research Supervised by CAM in YSC's National Science Promotion Program (NSPP)



The "Al-Shahooof" team from Omar Bin Abdulaziz Secondary School presented an innovative project titled "Generating Blue Energy Using Salinity Gradients in Seawater Reverse Osmosis (SWRO) Desalination Plants." Under the guidance of Dr. Dong Han from Qatar University's Center for Advanced Materials, the students explored harnessing salinity differences to generate sustainable energy, aligning with environmental goals. This project highlights the potential of young scientists to drive forward-thinking solutions for energy and water management challenges in Qatar.

## CAM Students Win Gold at INTEL ITEX 2024 for Sustainability Innovation

Students from Al-Wukair Secondary School for Girls, under the guidance of the Center for Advanced Materials and supervised by Dr. Kishor Sadasivuni, have earned a prestigious Gold Medal at the INTEL ITEX 2024. Their outstanding project, focused on reusing materials to promote sustainability.



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