AUS | الجامعة الأميركية في الشارقة
American University of Sharjah

2023-2024

**ACTIVITY REPORT**

# Riadh T. Al-Sadek Chair in Civil Engineering

*Prepared by*
Dr. Rami A. Hawileh

# INTRODUCTION

By Dr. Rami Hawileh

As the Riadh T. Al-Sadek Chair in Civil Engineering at the American University of Sharjah (AUS), I am excited to present my first annual activity report for the year 2023-2024. It is a thrilling opportunity to outline the foundational steps taken and the vision set forth for this esteemed position. Holding this endowed chair is a great honor, offering a unique platform to advance civil and structural engineering, foster innovation, and impact the academic community, the construction industry, and society at large. My research interests focus on strengthening and rehabilitating reinforced concrete structures, computational modeling, fire resistance of building elements, and green concrete technologies. In this inaugural year, my primary objectives have been to establish a strong foundation for future initiatives, enhance educational experiences, drive pioneering research, and engage meaningfully with the community.

# VISION

Looking ahead, my vision as the Riadh T. Al-Sadek Chair in Civil Engineering is to drive research excellence and inclusivity in education, while fostering strong community engagement. I aim to implement innovative teaching methods, promote local and international research collaborations, and build robust community partnerships. By integrating sustainable practices in the construction industry, I aspire to make a significant impact on civil and structural engineering and contribute positively to society.

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# A year in numbers

**19** Journal Papers

**4** Conference papers in journal special issues

**2** Conference proceeding papers

**6** Conference presentations

**3** Research grants

**1** International collaboration research visit

**2%** Ranked among the **Top 2%** Scientists Worldwide in their field by Stanford University Researchers.

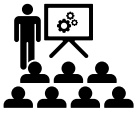
**1** Appearance in TV shows

**1** keynote speech

**1** Innovation Expo speech

**1** Panel discussion

**1** Press release



**1** Lecture series

**1** Co-Organized Symposium, Co-Organized Forum, Hosted Forum

**1** Associate editor, Guest editor **2** Editorial board

# RESEARCH

## HIGHLIGHTS

- A total of 19 papers (13 papers in Q1, 4 in Q2, and 2 papers in Q3) were published in Scopus-Indexed journals.
- A total of 4 conference proceeding papers were published in the journal special issue of Procedia Structural Integrity (Elsevier, journal indexed by Scopus, Q3).
- Published and presented 2 conference proceedings papers.
- Published 10 Scopus-Indexed journal papers and 4 (3 Scopus) conference papers with graduate students.
- Published 5 Scopus-Indexed journal papers and 2 Scopus conference papers with undergraduate students.
- Awarded an International Research Visit (CEN-IRV) Grant to support my visit to KAIST.
- Awarded an AUS Research Grant, Role: Co-Principal Investigator (Co-PI).
- Worked on two previously awarded Research Grants, Role: PI.
- Advised Senior Design group on an awarded “AUS Undergraduate Research Grant”.
- Advised/Co-advised five MSCE Thesis & two PhD Thesis.

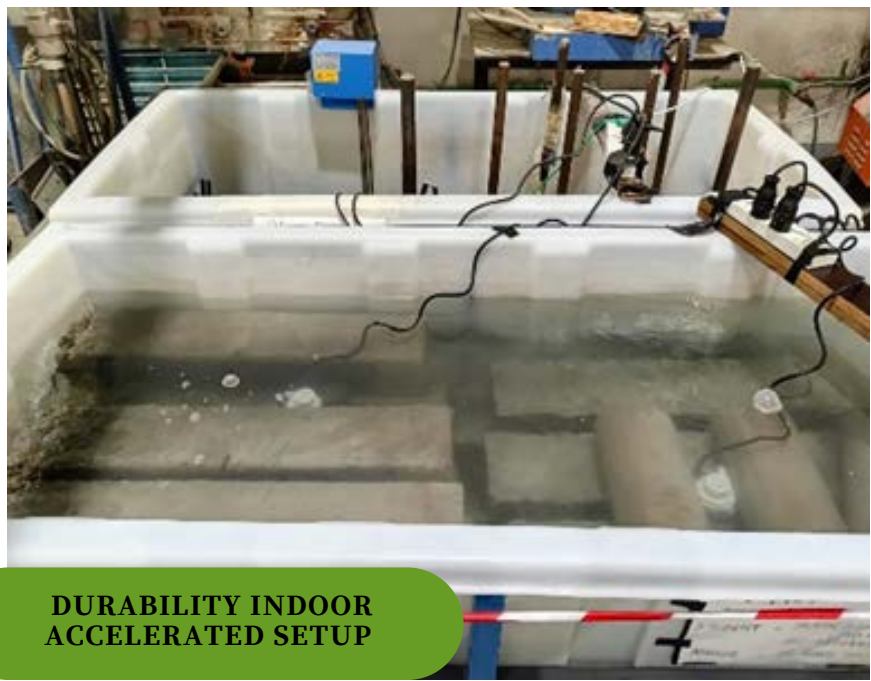
# RESEARCH

## SELECTED ONGOING RESEARCH PROJECTS

### Performance and durability of CFRP-to-concrete anchored bond under harsh environments. PI: Dr. Rami Hawileh, Co-PI: Dr. Jamal Abdalla.

This project aims to investigate the durability of the bond between CFRP laminates and concrete, anchored with CFRP spike anchors, under harsh environmental conditions. It involves experimental tests on concrete prisms with various FRP spike anchor configurations exposed to different environments for up to 12 months. The study will assess bond degradation and propose evaluation methods and environmental reduction factors for FRP anchors, enhancing their application in structural strengthening in the UAE and GCC region.

ANCHORED PRISM SPECIMENS



DURABILITY INDOOR ACCELERATED SETUP

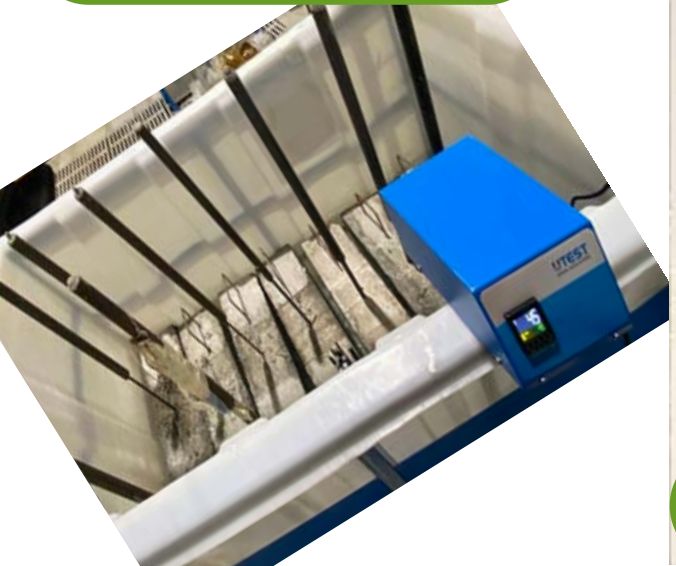
# RESEARCH

## SELECTED ONGOING RESEARCH PROJECTS

### Assessment of bent and straight GFRP reinforcement conditioned in harsh environments. PI: Dr. Rami Hawileh, Co-PI: Dr. Mousa Attom.

The project examines the durability and strength of bent and straight GFRP bars in harsh environments, with bent rebars showing a significant 40% reduction in tensile strength compared to straight ones. It involves durability tests in indoor and outdoor saline conditions, comparing control, unconditioned, and conditioned samples. The study aims to identify strength deterioration patterns and propose strength reduction factors.

SPECIMENS IN DURABILITY ACCELERATED SETUP



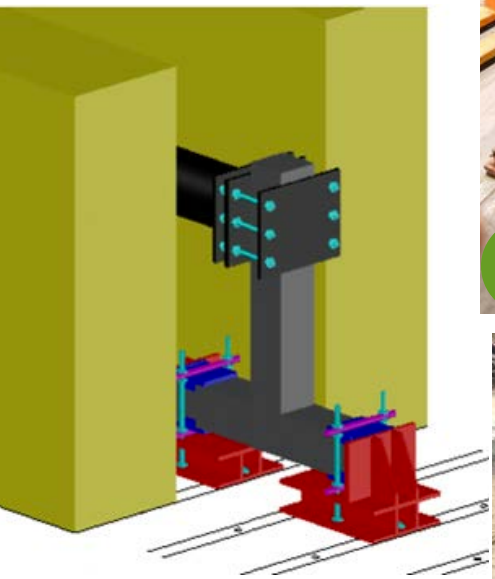
BENT BAR SPECIMEN AFTER TESTING

# RESEARCH

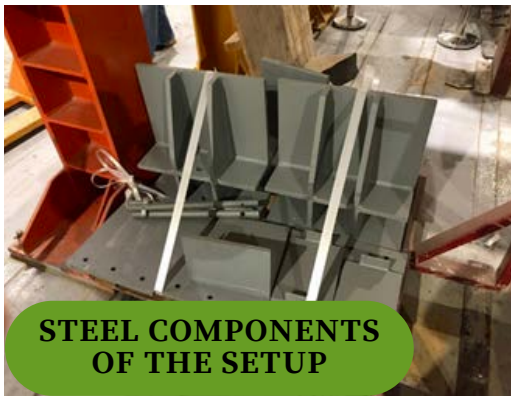
## SELECTED ONGOING RESEARCH PROJECTS

### Behavior of reinforced concrete beam-column joints with different cementitious materials replacement levels under cyclic loading. PI: Dr. Rami Hawileh, Co-PI: Dr. Jamal Abdalla.

This project investigates the performance of reinforced concrete beam-column joints with varying levels of cementitious material replacements (fly ash, GGBS, and Silica fume) under cyclic loading. The study aims to understand the structural behavior and resilience of these joints with the aim of optimizing material usage and sustainability with enhanced seismic resistance.



TEST SETUP



STEEL COMPONENTS OF THE SETUP

STEEL CAGE OF SOME SPECIMENS

CASTING OF BEAM-COLUMN JOINTS

# RESEARCH

## SELECTED ONGOING RESEARCH PROJECTS

### Structural application of high strength lightweight aggregate concrete in hollow-core slabs. PI: Dr. Rami Hawileh, Co-PI: Dr. Jamal Abdalla.

Using high-strength lightweight aggregate concrete in hollow-core slabs reduces overall weight, enhances load-bearing capacity, and improves thermal and acoustic insulation. It also enhances durability and promotes sustainability through the use of recycled materials. These benefits lead to cost savings, longer spans, and improved energy efficiency in buildings. This project explores the use of high-strength lightweight aggregate concrete in hollow-core slabs, focusing on its structural performance under flexural and shear loads.

HOLLOW-CORE SLABS

# RESEARCH

## RESEARCH GRANTS

- AUS comprehensive research grant, FRG24-C-E49, entitled "Guidelines for Strengthening of RC Beams in Flexure using ECC layers and ECC Mortars for Externally Bonding CFRP" as Co-PI. Total funding amount: 161,080 AED (2024-2026)

- AUS comprehensive research grant, FRG23-C-E26, entitled "Performance and Durability of CFRP-to-Concrete Anchored Bond under Harsh Environments" as PI, Total funding amount: 594,550 AED (2023-2025).

- AUS comprehensive research grant, "Performance of Reinforced Concrete Beams Strengthened in Flexure with Carbon Fiber-reinforced Polymer (CFRP) Laminates Anchored with Spikes". Total funding amount: 595,000 AED (2022-2025).

- AUS Postdoctoral Fellowship Award 2024, PDFA24-E49, "Durability of CFRP-to-Concrete Anchored Joints under Harsh environmental Conditions" as PI. Total funding amount: 150,000 AED (2024-2025).

- AUS Undergraduate Research Grant, CEN-URG-F23-10, "Mechanical Properties of Ultra-High-Strength Concrete at Elevated Temperatures", as Primary Faculty Mentor. Total funding amount: 5,000 AED (2023-2024).

- International Research Visit (CEN-IRV) Grant to support a visit to Korea Advanced Institute of Science & Technology (KAIST).

# RESEARCH

## HONORS & AWARDS

- Ranked among the world's Top 2% researchers for 2022 in a study led by Stanford University Researchers and published by Elsevier.
- Named as part of the list of researchers who have had a career-long impact and also featured on the list for research impact over a single recent year.

# RESEARCH

## ARTICLES PUBLISHED IN SCOPUS PEER-REVIEWED JOURNALS

- Karaki, G., **Hawileh, R.**, and Naser, M.Z. (2024). "Impact of the variability of material constitutive models on the thermal response of reinforced concrete walls." Journal of Structural Fire Engineering.
- **Hawileh, R.**, Quadri, S., Abdalla, J., Assad, M., Thomas, B.S., Craig, D., and M.Z. Naser (2024). "Residual mechanical properties of recycled aggregate concrete at elevated temperatures." Fire and Materials, Wiley, Vol. 48, No. 1, pp. 138-151.
- **Hawileh, R.**, Abdalla, J., Nawaz, W., Zadeh, A.S., Mirghani, A., Al Nassara, A., Khartabil, A., and Shantia, M. (2024). "Effects of Replacing Cement with GGBS and Fly Ash on the Flexural and Shear Performance of Reinforced Concrete Beams." Journal of Practice Periodical on Structural Design and Construction, ASCE, Vol. 29, No. 2, Article 04024011.
- Assad, M., **Hawileh, R.**, and Abdalla, J. (2024). "Flexural strengthening of reinforced concrete beams with CFRP laminates and spike anchors." Composites Part C: Open Access, Elsevier, Vol. 13, 100443.
- Alashkar, A., Elkafrawy, M., **Hawileh, R.**, and AlHamaydeh, M. (2024). "Elastic Buckling Behavior of Functionally Graded Material Thin Skew Plates with Circular Openings." Buildings, Vol. 14, No. 3, 572.
- **Hawileh, R.**, Assad, M., Abdalla, J., and Naser, M.Z. (2024). "Finite Element Modeling of Reinforced Concrete Beams Externally Bonded with PET-FRP laminates." Computers and Concrete, An Int'l Journal, Vol. 33, No. 2, 163-173.
- **Hawileh, R.**, Mhanna, H., Abdalla, J., AlMomani, D., Esrep, D., Obeidat, O., and Ozturk, M. (2023). "Properties of concrete replaced with different percentages of recycled aggregates." Materials Today: Proceedings, Elsevier, Accepted, Article in Press.

# RESEARCH

## ARTICLES PUBLISHED IN SCOPUS PEER-REVIEWED JOURNALS

- **Hawileh, R.**, Al Rashed, A., Mhanna, H., and Abdalla, J. (2023). "Properties of concrete with partial replacement of cement with different percentages of micro silica and nano silica." Materials Today: Proceedings, Elsevier, Accepted, Article in Press.
- Mhanna, H., **Hawileh, R.**, Abdalla, J., Ayman, A., Moussa, A., Mahdi, B.E., and Kuwatly, Y. (2023). "Mechanical properties and durability of GGBS based geopolymer mortar." Materials Today: Proceedings, Elsevier, Accepted, Article in Press.
- Naser, M.Z., Ross, B., Ogle, J., Kodur, V., **Hawileh, R.**, Abdalla, J.A., and Thai, H.T. (2024). "Evaluating the Performance of Artificial Intelligence Chatbots and Large Language Models in the FE and PE Structural Exams." Journal of Practice Periodical on Structural Design and Construction, ASCE, Vol. 29, No. 2, Article 02524001.
- Abdalla, J., **Hawileh, R.**, Tariq, R., Abdelkhalek, M., Abbas, S., Khartabil, A., Khalil, H., and Thomas, B.S. (2023). "Achieving concrete sustainability using crumb rubber and GGBS." Materials Today: Proceedings, Elsevier, Accepted, Article in Press.
- Assad, M., **Hawileh, R.**, Karaki, G., Abdalla, J., and Naser, M.Z. (2023). "Assessment of critical parameters affecting the behaviour of bearing reinforced concrete walls under fire exposure." Journal of Structural Fire Engineering.
- Abdalla, J., Ali, A.B., **Hawileh, R.**, Mhanna, H., Galal, K.E., and Saqan, E.I. (2023). "Effect of CFRP anchorages on the flexural behavior of externally strengthened reinforced concrete beams." Archives of Civil and Mechanical Engineering, Elsevier, Vol. 23, No. 242, pp. 1-15.

# RESEARCH

## ARTICLES PUBLISHED IN SCOPUS PEER-REVIEWED JOURNALS

- Alshami, G.S., **Hawileh, R.**, Tatar, J., and Abdalla, J.A. (2023). "Influence of CFRP Spike Anchors on the Performance of Flexural CFRP Sheets Externally Bonded to Concrete." Journal of Composites for Construction, ASCE, Vol. 27, No. 5, 04023046.
- Khalil, A.M., Elkafrawy, M.E., **Hawileh, R.**, Alhamaydeh, M., and Abuzaid, W. (2023). "Numerical Investigation of Flexural Behavior of Reinforced Concrete (RC) T-Beams Strengthened with Pre-Stressed Iron-Based (FeMnSiCrNi) Shape Memory Alloy Bars." Journal of Composites Science, Vol. 7, No. 6, 258.
- Abdalla, J., **Hawileh, R.**, Bahurudeen, A., Jyothsna, G., Sofi, A., Shanmugam, V., and Thomas, B.S. (2023). "A comprehensive review on the use of natural fibers in cement/geopolymer concrete: A step towards sustainability." Case Studies in Construction Materials, Elsevier, Vol. 19, e02244.
- Elkafrawy, M.E., Khalil, A.M., Alhamaydeh, M., **Hawileh, R.**, and Abuzaid, W. (2023). "Enhancing the Shear Capacity of RC Beams with Web Openings in Shear Zones Using Pre-Stressed Fe-SMA Bars: Numerical Study." Buildings, Vol. 13, No. 6, 1505.
- Douier, K., **Hawileh, R.**, Abdalla., J., Al Nuaimi, N., and Sohail, M.Z. (2023). "Durability performance of RC beams strengthened with CFRP laminates and galvanized steel mesh bonded with epoxy and mortar systems." Structures, Elsevier, Vol. 55, pp. 338-353.
- Abdalla, J., **Hawileh, R.**, Bahurudeen, A., Jittin, V., Kabeer, K.I., and Thomas, B.S. (2023). "Influence of Synthesized Nanomaterials in the Strength and Durability of Cementitious Composites." Case Studies in Construction Materials, Elsevier, Vol. 18, e02197.

# RESEARCH

## CONFERENCE AND SPECIAL ISSUE PUBLICATIONS

- **Hawileh, R.**, Alharmoodi, H., Hajjaj, A., Aljarwan, A., and Abdalla, J. (2024). "Effect of CFRP Wraps on the Compressive Strength of Normal and Structural Lightweight Concrete." Procedia Structural Integrity, Elsevier, Vol. 54, pp. 279-286. Special Issue for the International Conference on Structural Integrity.
- **Hawileh, R.**, Assad, M., and Abdalla, J. (2024). "Effect of increasing the number of anchors on the flexural performance of FRP-strengthened RC beams." Procedia Structural Integrity, Elsevier, Vol. 54, pp. 287-293. Special Issue for the International Conference on Structural Integrity.
- Selim, A., Alhomsi, S., Hasan, H., Abdalla, J., and **Hawileh, R.** (2024). "Finite Element Modeling of Concrete Prisms Externally Strengthened with Near Surface Mounted FRP System." Procedia Structural Integrity, Elsevier, Vol. 54, pp. 601-608. Special Issue for the International Conference on Structural Integrity.
- Abdalla, A., **Hawileh, R.**, Assad, M., Ahmed, S.S., Omer, A., and Abdulkadeer, O. (2024). "Behavior of normal and recycled aggregates beams strengthened with different types of externally bonded shear reinforcement." Procedia Structural Integrity, Elsevier, Vol. 54, pp. 609-616. Special Issue for the International Conference on Structural Integrity.
- Assad, M., **Hawileh, R.**, Karaki, G., and Abdalla, J. (2024). "The Structural Behavior of Recycled Aggregate Concrete Walls under Fire Exposure: A Finite Element Analysis." Proceedings of International Structural Engineering and Construction (ISEC Press), Construction Conference (EURO MED SEC 5), Vilnius, Lithuania, May 13-18, 2024. Vol. 11, No. 2
- Khalil, A., **Hawileh, R.**, and Attom, M. (2024). "Exploring Strength of Straight and Bent GFRP Bars: Refinements to CSA S807:19 Annex E." ACI Symposium Spring 2024 Convention, SP-360_16, Vol. 360, pp. 242-253.

# RESEARCH

## INTERNATIONAL COLLABORATION RESEARCH VISIT

Dr. Rami Hawileh embarked on a significant visit through the CEN-International Research Visits Program (CEN-IRV) to the Korea Advanced Institute of Science & Technology (KAIST) in South Korea.


During the visit, Dr. Hawileh met with Dr. Jae Hong Kim and his Research Group and discussed different collaborative research projects and opportunities.

Dr. Hawileh delivered a Seminar entitled "Effects of Hybrid Combinations of GGBS and Fly Ash Replacement to Cement on the Performance of Reinforced Concrete Beams".

# RESEARCH

## PROFESSIONAL ACTIVITIES

Served as the Associate Editor of the ASCE Journal of Practice Periodical on Structural Design and Construction.

Served as a member of the ASCE-UAE section Board of Directors.

Served as the Associate Editor of the Frontiers in Built Environment Journal for the Fire-Resistant Engineering Section.

Served as a Guest Co-Editor for Infrastructures Journal Special Issue: Inspection, Assessment, Retrofitting & Strengthening of Civil Infrastructure.

Served as a voting member of the ACI Subcommittee 440-0D, Research Development and Applications.

- Served as a member of the Editorial Board of 2 International Journals.
- Reviewed many journal manuscripts (>20).
- Served on the Steering Organizing Committee for the 1st Frontiers in Materials Science and Engineering Conference at AUS.

# RESEARCH

## RESEARCH ASSOCIATES

Over the past year as a Research Associate at AUS, I had the opportunity to work on a variety of impactful research projects. My work has primarily focused on strengthening members using Fiber-Reinforced Polymers (FRP) composites, advanced finite element modeling and machine learning, and investigating the behavior of structural members under different loading conditions. This experience has not only deepened my technical knowledge but also honed my problem-solving skills. Working closely with Dr. Rami, I have gained great experience in managing complex research projects with other graduate and undergraduate students. Through the collaboration of our research team with external collaborators from both industry and professors from other reputable universities, I gained a global perspective on current research trends and challenges and also broadened my professional network. With the generous support of Riadh Al-Sadek Endowed Chair in Civil Engineering, my time at AUS has been incredibly enriching, equipping me with a robust skill set and a deeper understanding of structural engineering, which I am eager to apply in future research and professional endeavors.

Maha Assad,
Research Associate , American University of Sharjah

Currently working as a Research Associate in the Civil Engineering department at AUS under the guidance of Dr. Rami Hawileh and Dr. Jamal Abdalla. My research focuses on several cutting-edge topics, including sustainable concrete and behavior of structural members under cyclic loading. This role has provided me with an incredible opportunity to gain hands-on experience with state-of-the-art research methods. I also had the chance of collaborating with postgraduate students on various projects. This collaborative environment has fostered a rich exchange of ideas. My research experience at AUS has been immensely rewarding and has significantly influenced my professional growth.

Dr. Sayan Kumar Shaw,
Research Associate, American University of Sharjah

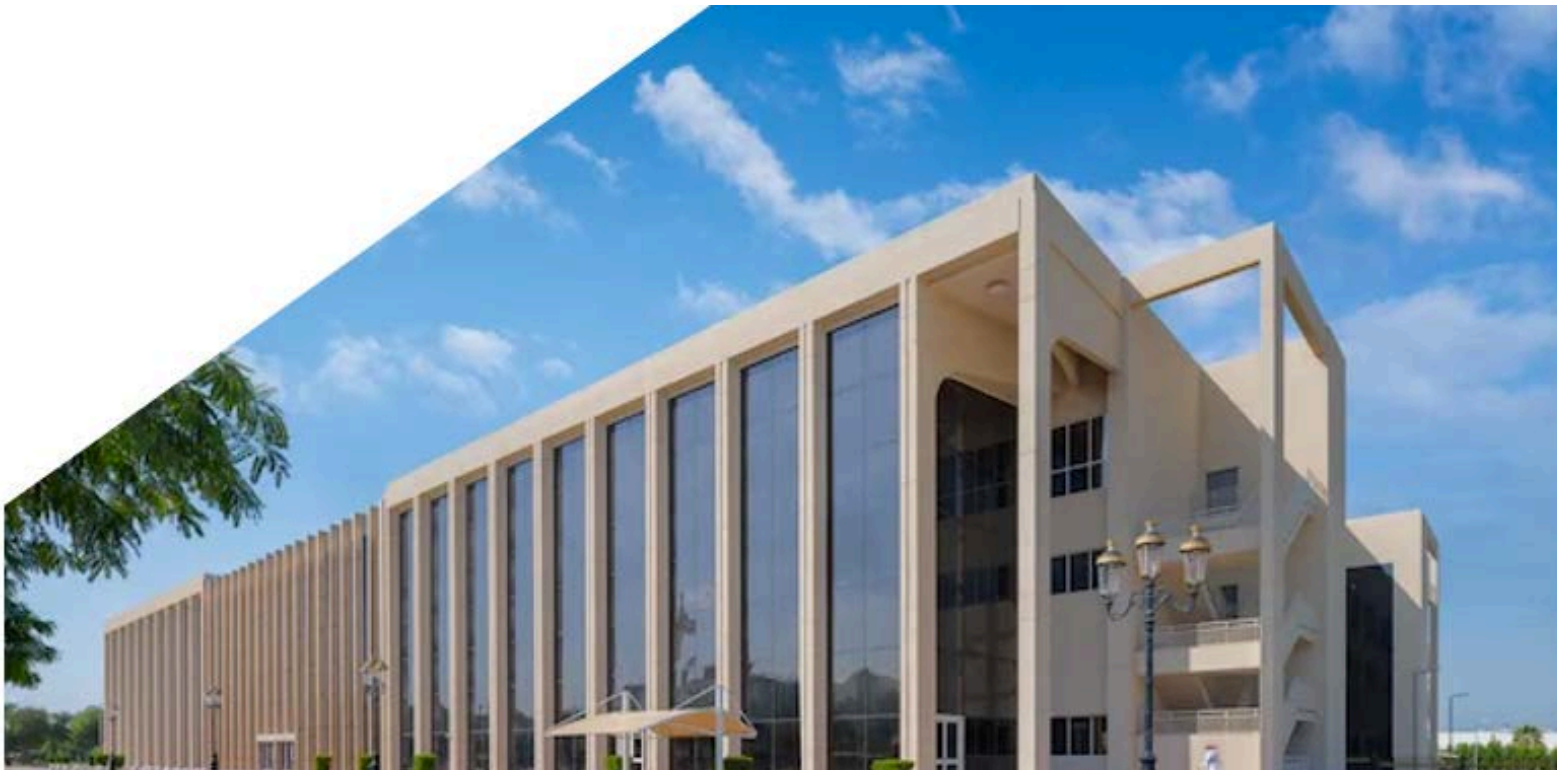
# RESEARCH

## POSTDOCTORAL RESEARCH FELLOW

I have been working as a Postdoctoral Fellow with Dr. Rami Hawileh and Dr. Jamal Abdalla for the past five months. This has provided valuable exposure to industry practices. It is a pleasure to work with a dynamic group and collaborate with graduate (PhD and master's students).

I got the opportunity to contribute to multiple research projects, including high-strength lightweight concrete, strengthening of lightweight concrete, carbon sequestration in concrete with applications to real-world structures like hollow core slabs. Additionally, I have had the privilege to collaborate closely with various industries like Oryx LLC and Emirates Stone Co Ltd fostering collaborative efforts with them.

Dr. Sumit Sahoo
Postdoctoral Fellow, American University of Sharjah



# TEACHING

## TEACHING ACTIVITIES

- Prepared and taught the newly introduced Introduction to Artificial Intelligence and Data Science (NGN112) course as a new preparation.

- The NGN112 course is part of CEN 2.0 innovation initiative that was launched in Fall 2023 to empower our future engineers with technological advancement in data analytics.

- Adopted problem and project-based learning pedagogy for the Fundamentals of Structural Dynamics (CVE310) & Design of Strengthened Concrete Structures (CVE524) classes.
- Held SAP2000 software workshop sessions for my CVE 310 class.
- Held ANSYS software workshop sessions for my CVE 524 class.

- Co-supervised two Senior Design Projects (CVE490 & 491). The projects were industry-sponsored. The sponsor for the first project is Emirates Beton (Material and Testing) while the sponsor for the second one is Sharjah Civil Defense Authority (Data and Technical). One of the groups received an AUS-Undergraduate Research Grant (URG).
- Supervised five MSCE Thesis (three as Major Advisor & two as Co-advisor).
- Supervised three PhD graduate students (two as Major Advisor & one as Co-advisor).

# TEACHING

## TEACHING ACTIVITIES

- Dr. Hawileh took the Innovation and Entrepreneurship Mindset (IEN301) class on an inspiring tour to Sharjah Research Innovation & Research Park (SRTIP). During the visit, the students were introduced to the distinctive resources and facilities offered by SRTIP for nurturing business concepts and creating prototypes of products.
- The IEN301 course is composed of Three Modules: Design Thinking, Entrepreneurship, and Growth & Leadership. Dr. Hawileh has been certified to teach this exciting course by the Stanford Center for Professional Development in 2021.

# KNOWLEDGE TRANSFER

## CONTRIBUTION AS A PANELIST

- Jacob, D., Sajeev, J., Haboubi , L., Younis, N., and Hawileh R. (2023). Panel discussion on “Sustainable Concrete: Innovations and Best Practices” at the 2023 INDEX Exhibition by Asian Paints Beger, Dubai, UAE.
- The panel discussion shed light on the latest advancements and effective methods for promoting environmentally friendly concrete construction.
- Panel discussion was featured in a Press release by Khaleej Times, June 2023.

# KNOWLEDGE TRANSFER

## KEYNOTE SPEAKER

- Dr. Hawileh R. was invited to be a Keynote Speaker at the Big 5 Global exhibition held at Dubai World Trade Center. The session was entitled "Effects of supplementary cementitious materials replacement levels on the flexural and shear performance of reinforced concrete beams", December 2023.

# KNOWLEDGE TRANSFER

## KEYNOTE SPEAKER

- Dr. Hawileh R. was invited as a Speaker at the American University of Sharjah Innovation Expo. The lecture was entitled, “Performance of Reinforced Concrete Beams Strengthened in Flexure with Carbon Fiber-reinforced Polymer (CFRP) Laminates Anchored with Spikes" as part of the “Smart Cities and Infrastructure” session, May 2024.


- Dr. Hawileh R. presented a lecture entitled, "Fundamentals of Fire Protection and Safety Engineering" which was part of the CEN Lecture Series and hosted by Dr. Vian Ahmed, October 2023.

# COMMUNITY ENGAGEMENT

## FIRST ENGINEERING ENDOWED CHAIRS SYMPOSIUM

Co-organized in collaboration with CEN Endowed Chairs the first Engineering Endowed Chairs Symposium on Building Sustainable Solutions Towards Net Zero Emissions. The symposium was held in partnership with Fine Hygienic Holding and sponsored by Asian Paints, Emirates Beton, and SNOC. The symposium addressed sustainability challenges across various sectors.


Drawing together a diverse group of over 150 participants from academia, industry, and government, representing a broad spectrum of backgrounds and disciplines, the symposium underscored the importance of university engagement with government and industry to combat climate change, aligning with the UAE's goal of achieving net zero emissions by 2050.

# COMMUNITY ENGAGEMENT

## FIRST ENGINEERING ENDOWED CHAIRS SYMPOSIUM

Notable speakers at the symposium included experts from various esteemed organizations: Dr. Antonio Nanni, President of the American Concrete Institute; Dr. Dean Frank, President of the NEU Center of Excellence for Carbon Neutral Concrete; Mr. Nedal Zatari from Fine Hygienic Holding; Mr. Oliver Kraft from Siemens; Dr. Maria Toro-Troconis from the Association for Learning Design and Education for Sustainable Development; and Mr. Neil Flemming from Asset Integrity Engineering.


# COMMUNITY ENGAGEMENT

## FIRST ENGINEERING ENDOWED CHAIRS SYMPOSIUM

The symposium also featured a panel discussion moderated by AUS alumna Maisa Jarjous, highlighting insights from AUS alumni among the speakers. Additionally, a fireside chat moderated by Dr. Norita Ahmad included industry experts discussing key sustainability topics. The event further included a Booth Exhibition and a Student Poster Competition, fostering engagement and knowledge exchange among participants.

# COMMUNITY ENGAGEMENT

## FIRST ENDOWED CHAIRS FORUM

Co-organized in collaboration with CEN Endowed Chairs, the first Endowed Chairs Forum focused on fostering collaboration with local governmental and industrial communities for sustainable development.

The main goal of the forum was to bring together local government representatives, academics, and professionals to explore ways to identify national research needs, enhance collaboration, share resources, exchange research ideas, and collectively contribute to the advancement of research in our community.

# COMMUNITY ENGAGEMENT

## FIRST ENDOWED CHAIRS FORUM

The event brought together representatives from prominent organizations including Petrofac, Dana Gas, Sharjah Sustainable City, Sharjah Civil Defense Authority, and Asian Paints.


Throughout the discussion, participants shared insights, success stories, and best practices related to collaborative research efforts. They also delved into common challenges and strategies for overcoming them, exchanging ideas to initiate and strengthen collaborative projects.

# OTHER ACTIVITIES

Met with representatives from World Direct to explore research collaboration opportunities, December 2023.


Met with the Civil Defense Authority to explore collaboration opportunities, February 2024.

Met with representatives from SustainInsight to explore research collaboration opportunities, May 2024.

# OTHER ACTIVITIES

Hosted the Sharjah Civil Defense Authority first Forum, February 2024.

Met with representatives from NEWAY Rail to explore research collaboration opportunities and industry sponsored projects, April 2024.

# MEDIA AND E-COVERAGE

## TV SHOW APPEARANCE

Together with Dr. Amani Al-Othman, Associate Professor of Chemical and Biological Engineering and Petrofac Endowed Chair in Renewable Energy, Dr. Hawileh was interviewed on Sharjah TV's Amasi's show, December 2023.

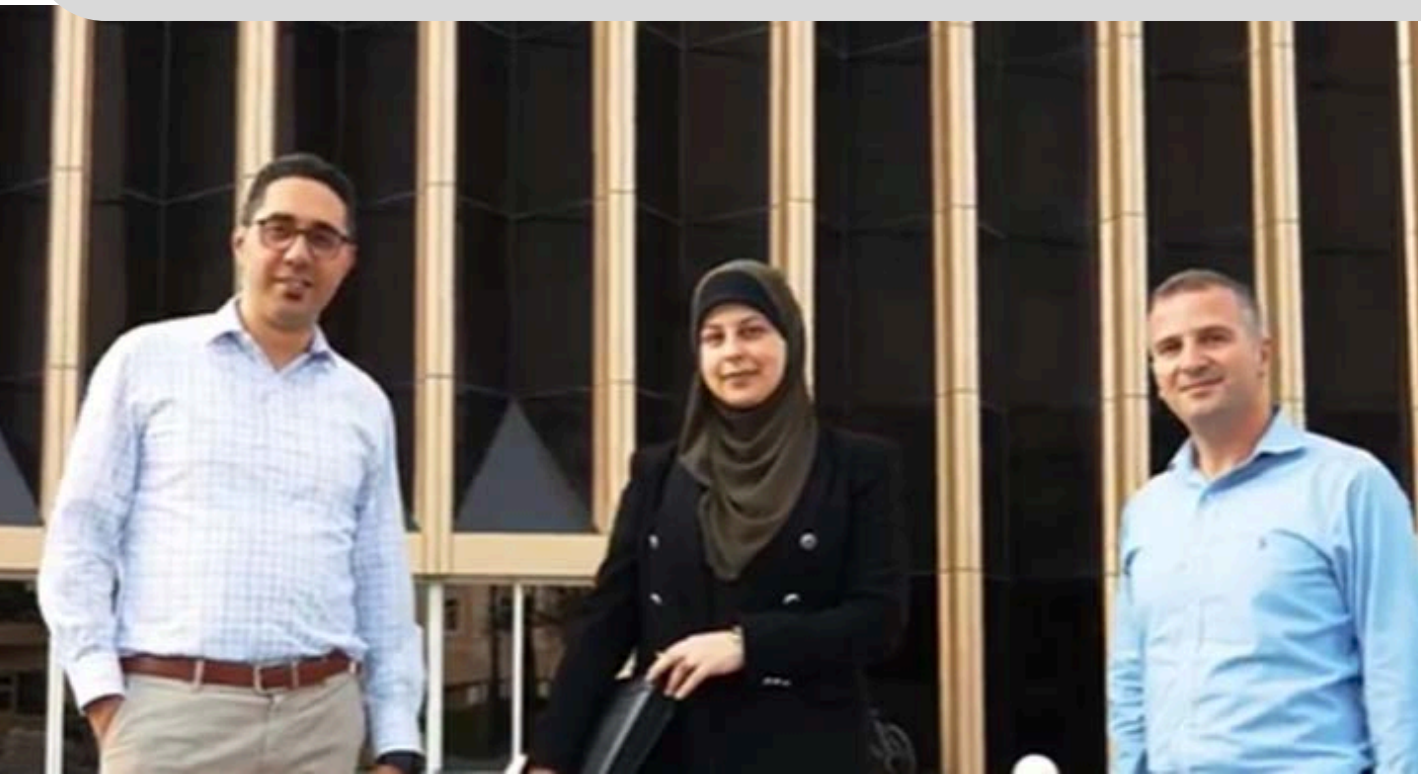
The interview highlighted the initiatives of the first Engineering Endowed Chairs Symposium on Building Sustainable Solutions Towards Net Zero Emissions.

Click here to watch the interview

# MEDIA AND E-COVERAGE

## CEN ENDOWED CHAIRS RESEARCH HIGHLIGHTS VIDEO

Together with the CEN Endowed Chairs, Dr. Amani Al-Othman, The Petrofac Chair in Renewable Energy, and Dr. Mehdi Ghommem, The Dana Gas Chair in Engineering, a video showcasing the professors' research interests, expertise, and highlights is produced.



Click here to watch the video

# FUTURE ACTIVITIES

- Organizing the 1st Fire Protection Engineering Symposium in collaboration with Sharjah Civil Defense.
- Prepare and teach a new course entitled “Fire Resistance in Buildings” as part of the new Minor in Safety and Fire Protection Engineering, that will be launched in Fall 2024.
- Prepare internal and external applied research proposals.
- Disseminate the outcomes of current research projects in well-reputed international journals and conference proceedings.

# TEAM

## RESEARCH ASSOCIATES

- Ms. Maha Assad
- Dr. Sayan Kumar Shaw

## POSTDOCTORAL RESEARCH FELLOW

- Dr. Sumit Sahoo

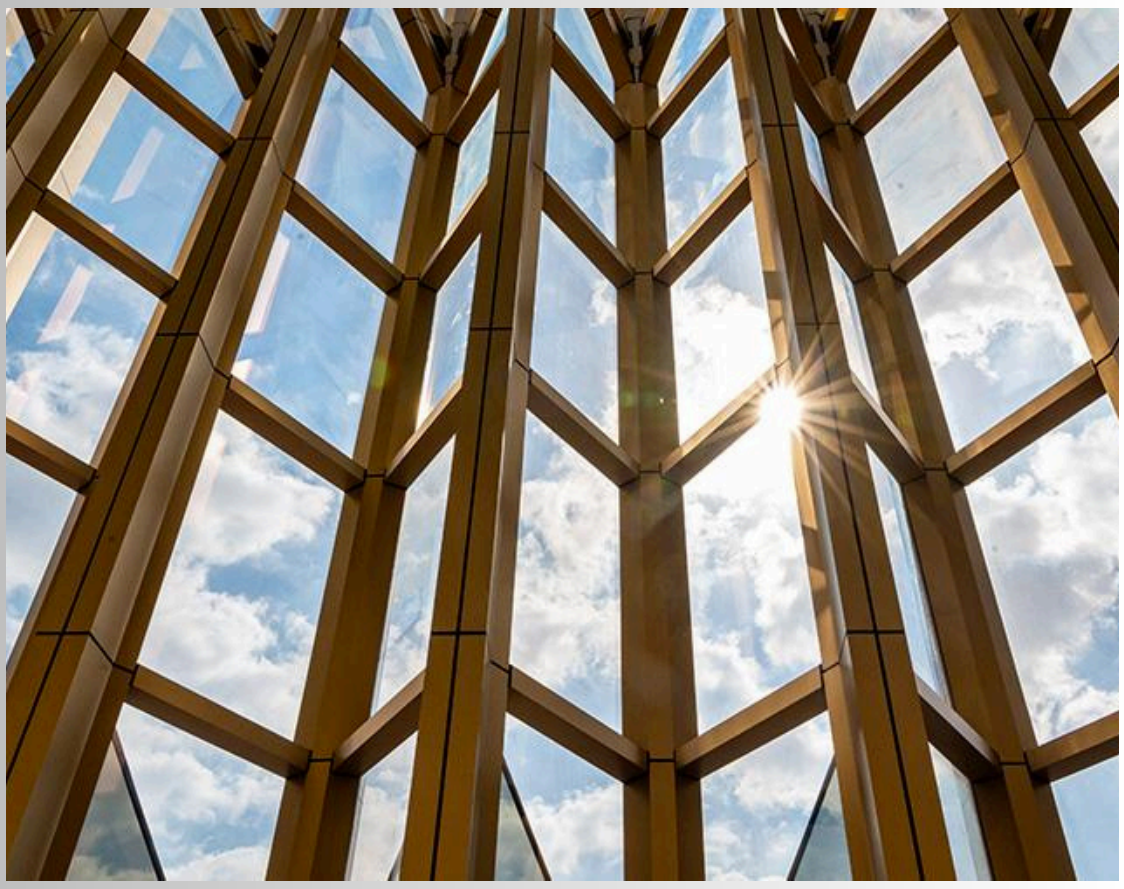
## PHD STUDENTS

- Ms. Prathibha Gowrishankar
- Mr. Ahmad Khalil
- Mr. Raed Abou Kwiek

## MASTER STUDENTS

- Ms. Aseel Salameh
- Mr. Hussam Safieh
- Ms. Mounia Gharzeldine
- Mr. Mohamad Walid Raslan
- Mr. Eyad Shahin

# THANK YOU



## ACADEMIC YEAR 2023-2024

COLLEGE OF ENGINEERING