Nisrin Rizek Abdelal

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Mobile phone: +962778329510

SUMMARY

I am ambitious, dedicated, hard-working, and responsible individual who is enthusiastic about trying new ideas and embarking on adventures. I am determined to achieve my goals through patience, perseverance and knowledge. I have the ability to learn quickly and I am a skilled problem solver. I value transparency, frankness, fairness, and honesty. Furthermore, I have a passion for teaching and enjoy experimenting to develop innovative engineering solutions.

RESEARCH INTERESTS

Manufacturing and characterization of fiber-reinforced polymer matrix composites, multifunctional composites, and polymer-based nanocomposites. Electromagnetic interference shielding characteristics of composites. Additive manufacturing (3D printing). Damage and fracture of ductile metallic materials and composite materials. Dielectric and conductive properties of FRP composites and nanocomposites. Mechanics of composite materials. Finite element modeling.

EDUCATION

PhD in Aerospace Engineering — **Jan/2010-May/2013**

University of Dayton- Ohio- USA

GPA 3.96/4

Dissertation: Effects of voids on delamination behavior under static and fatigue mode I and mode II – Advisor : Dr. Steven Donaldson

MSc in Aerospace Engineering — **Jan/2008-Dec/2009**

Texas A&M University-College station-Texas- USA

GPA 3.86/4

Thesis: An experimental study of deformation and fracture of a nanostructured metallic material

BSc in Mechanical Engineering — **2000-2005**

Jordan University of Science and Technology (JUST)-Irbid-Jordan

GPA 83.1/100 (Ranked as the top student in the 2005 class)

Graduation project: Building and programming six-legged robot with ultrasonic navigation

PROFESSIONAL EXPERIENCE

Professor — **Nov/2023 - till now**

Department of Mechanical Engineering

Jordan University of science and Technology, Irbid, Jordan

Associate Professor — **Nov/2018-Nov/2023**

Department of Mechanical Engineering

Jordan University of science and Technology, Irbid, Jordan

Assistant Professor — **June/2018-Nov/2018**

Department of Mechanical Engineering Jordan University of science and Technology, Irbid, Jordan	
Assistant Professor **Department of Aeronautical Engineering** Jordan University of science and Technology, Irbid, Jordan	**July/2013-June/2018**
Research Assistant **Department of Aerospace and mechanical engineering** University of Dayton- Ohio- USA	**Jan/2010-April/2013**
Research Assistant **Department of Aerospace Engineering** Texas A&M University-College station- Texas- USA	**Jan/2008-Dec/2009**
Laboratory Engineer/supervisor- Strength of Materials and metallurgy lab **Department of Mechanical Engineering** Jordan University of science and Technology, Irbid, Jordan	**July/2005-Dec/2007**

FUNDED PROJECTS

• Infrastructure fund to establish a composite manufacturing and characterization laboratory. Project title: Improving the interlaminar fracture toughness of stitched unidirectional carbon fiber composites. Funding institution: Jordan University of Science and Technology	2015-2018 Role: PI Fund:30000JOD
• Strengthening epoxy/thermoplastic materials using carbon nanotubes. Funding institution: Jordan University of Science and Technology	2015-2017 Role: PI Fund:4000JOD
• Effects of nanofibers on the mechanical properties of fiber reinforced polymer matrix composites. Funding institution: Jordan University of Science and Technology	2016-2020 Role: PI Fund:22000JOD
• Effects of Gamma Irradiation on the mechanical and shielding properties of composite materials. Funding institution: King Abdullah II Fund for Development (KAFD)	2019-2020 Role: Co-PI Fund: 5000JOD
• Electromagnetic interference shielding of polymer matrix nanocomposites with flat and structured surfaces Funding institution: Jordan University of Science and Technology	2021-2023 Role: PI Fund: 8000 JOD
• Manufacturing and characterization of multifunctional fiber-reinforced epoxy matrix composites incorporating conductive fillers Funding institution: Jordan University of Science and Technology	2021-2023 Role: PI Fund: 6500 JOD
• Exploring the mechanical behavior of naturel fibers-reinforced polymer composites for sustainable engineering applications Funding institution: Jordan University of Science and Technology	2023-2025 Role: PI Fund: 5500 JOD

TRAINING COURSES, WORKSHOPS, WEBINARS AND CONFERENCES

TRAINING COURSES & SCIENTIFIC VISITS

- Scientific visit to the composite vehicle research center, and the composite materials and research center at Michigan State University-Lansing-Michigan-USA (25-28 July 2022)
- Introduction to composite repair course – GMI Aero- Paris- France (8^{th} -9^{th} July 2019)

- Scientific visit to Airbus company – scientific tour at the final assembly line of A350, A320 and A380 – Toulouse- France (1st – 5th July 2019)
- Boeing Aircraft structural repair for engineers – Part III (course No 472) – Royal Jordanian headquarter – Amman- Jordan - (4th – 8th June 2017)
- Aircraft accident investigation – successfully completed the online course at Embry Riddle from 17th of august – 14th of September 2015
- Smart Control Systems for Energy Management: New Master Degree - SEMSEM project- ERASMUS TEMPUS European Union projects – University of Oviedo - Campus de Gijón – Asturias – Spain (10th – 14th July 2017)
- COMSOL training course – JUST-Jordan – 2015
- Satisfactory participated in intensive English course work - TexasA&M University-2009
- Training course on Matlab- JUST-Jordan- 2003

CONFERENCES

- AIDTSEC 2023- Artificial Intelligence in Defence Technologies and Cyber Security Exhibition and Conference- The special operations forces for exhibition and conference "SOFEX" – Dead Sea- Jordan- 4-5 September/2023
- LEVITATE 2023 conference and exhibition – The special operations forces for exhibition and conference "SOFEX" Jordan and SAGER premier event for drone industry in Jordan – Amman 16-17 July/2023
- ICAM 2023: International conference on advanced materials, Jordan University of Science and Technology, Irbid, Jordan, 22-24 May/2023
- ICMMR2020: 7th international Conference on Mechanics and Mechatronics Research, University of California, Berkeley, USA, 27-29 June/2020
- 1st Scientific Conference of the Royal Maintenance Corps. Zarqa-Jordan-January 15-16 January/2020
- ICAMAME 2018: 20th International Conference on Aerospace, Mechanical, Automotive and Materials Engineering, NY, USA, 18-20 April/2018
- Jordan-European Union Higher Education Cooperation 4th National Erasmus+ Day -Amman-Jordan – 9/October/2017
- CESARE'17 International Conference "Coordination Engineering for Sustainability and Resilience – Dead sea- Jordan – 4-6 May/2017
- International conference on advanced materials (ICAM 2015) – Jordan University of Science and Technology, 27-29 April/2015, Irbid, Jordan
- 28th Technical conference, American Society for Composites, State College,PA,USA, 9-11 September/2013

SELECTED WORKSHOPS AND WEBINARS

- Erasmus+ information day: Launching Erasmus+ Call 2023. Yarmouk University- Jordan (28th November/2023)
- Master laminates to simplify design, manufacturing, and testing of composites- Stephen Tsai, Stanford University- Global Composites Experts Webinar Series (8th December/2022)
- Jordanian Post-Doctoral Fulbright Scholar Award workshop (24th March- 2022)

- Maximizing performance and value of semi-permanent release agents for fiberglass molds- Online webinar- Chem Trend release innovations(14th December/2020)
- How to prepare a successful research paper –Springer Nature Webinar- (18th November/2020)
- Statistical data analysis using SPSS-JUST-Jordan (6-13/August/2020)
- ELearning Basics-Basics of distance education- JUST- Jordan (23-26/July/2020)
- Quality control and assurance of learning technologies via Erasmus + Mequity project given by UNED Spanish university group – location at JUST- Jordan- 17th of October 2017.
- Teaching methods and learning styles- JUST- Jordan- (22-23/February/2017)
- Elsevier Core Products workshop – JUST- Jordan – 24th of October 2017
- How to publish in a high impact factor journal – RSC- JUST library – Jordan - 2015
- European Horizon 2020-EU Jordan net II – JUST- Jordan 2015
- Development of curriculum and study plans according to ABET JUST- Jordan- (11th, 13th and 16th March 2014)
- Modern university instructional methods- JUST- Jordan- (17-18/September/ 2013)

SKILLS

- Proficient in establishing laboratories in the fields of mechanics of materials and materials science, encompassing tasks such as equipment specifications, procurement, lab infrastructure setup, and ongoing maintenance.
- Qualified to manufacture fiber-reinforced polymer composite materials using several techniques (VARTM, hand lay-up, vacuum bagging, and sandwich structures). Qualified to manufacture nanocomposites
- Certified to operate FEI Quanta 600 FEG Scanning Electron microscope – certificate issued by the Microscopy and Imaging Center at Texas A&M University
- Certified to operate JEOL JSM-6400 Scanning Electron microscope – certificate issued by the Microscopy and Imaging Center at Texas A&M University
- Certified to operate Zeiss EVO-50XVP Environmental Scanning Electron Microscope (ESEM)- qualification is admitted by the Nonstructural Materials division at University of Dayton
- Certified to operate universal testing machines: servo hydraulic test machines (MTS) and electromechanical test machines (Instron, MTS and Jinan) – qualification is conferred by the Structures and Materials Evaluation Group at University of Dayton, Structural group at Texas A&M University, and the mechanical engineering department at Jordan University of Science and Technology
- Qualified to work on additive manufacturing projects (3D printing) using several types of printers (FDM,SLA) using different material types: Resin, PLA, ABS, flexible materials.
- Knowledgeable and experienced in key areas relevant to the aviation industry (MROs and airlines), including aviation industry certification requirements, documentation for maintenance mandated by aviation authorities, maintenance program requirements, and maintenance and engineering organizational aspects.
- Capable of using finite element analysis software including ABAQUS.

INSTITUTIONAL AND PROFESSIONAL ACTIVITIES, SERVICES, AND RESEARCH COLLABORATIONS.

INTERNATIONAL

- Member of the American Society of Composites (ASC)
- Initiated research collaboration between the composite lab in the Department of Mechanical Engineering at JUST and the following institutions: Wright State University-USA, and the Federal Institute for Material Research and Testing Berlin-Germany (2023).
- A scientific visit to Airbus-Toulouse final assembly lines of A350, A320 and A380 and to the research and development facility 1st- 5th July/2019
- Committee member/session chair at the 20th International Conference on Aerospace, Mechanical, Automotive and Materials Engineering, NY, USA, April 18-20,2018
- Initiated the memorandum of understanding between the Aero-GMI company in Paris-France and Jordan University of Science and Technology. Mutual training and exchange of research experiences can be organized between the two partners via this memorandum (2019).
- Initiated research collaboration with XG Sciences company- Michigan- USA. This collaboration involves the exchange of research ideas on graphene nanocomposite, and seeking support for research projects, including consumables required for fabricating nanocomposites. The company donated different types of graphene materials for future research (2021).
- Reviewer in several international journals such as Carbon, Desalination, The Scientific Journal of Molecular Physics, The Journal of Composite Materials, and Construction and Building Materials Journal, Scientific Reports, Journal of Materials Science, and many more.
- Member in the IRC Scientific and Technical Committee & Editorial Review Board on Aerospace and Mechanical Engineering.
- Participated in the study "Women's Engineering Participation in the US: What can the US Learn from Women's Decisions to Pursue Engineering in Diverse Predominantly Muslim Settings" – National science foundation funded project (NSF project)

NATIONAL(DOMESTIC)

- The head of the organization committee of the Faculty of Engineering Scientific and Alumni day – I was awarded an appreciation letter from the dean of the engineering faculty.(2019)
- Initiated collaboration between Royal Jordanian Airline (RJA) and JUST to provide the faulty members in the department of aeronautical engineering with free of charge seats in the training courses that are held by aircraft manufacturing companies such as Boeing and Airbus.
- Initiated collaboration with Ar-Ramtha Greater Municipality on a research project entitled "exploring the mechanical behavior of natural fibers-reinforced polymer matrix composites for sustainable engineering applications. As part of the collaboration, they will provide us with the chopped leaves and stems of the Washingtonian palm trees planted in the city streets. Note: Ar-Ramtha is the city where the university is located.(2023)
- Initiated the memorandum of understanding between The Jordan Design and Development Bureau (JODDB) and JUST for research collaboration. As part of the collaboration, JODDB conducted NIJ ballistic tests on ballistic composite panels fabricated at the composite lab through a research project entitled "A Shield of Defense: Developing Ballistic Composite Panels with Effective Electromagnetic Interference Shielding Absorption"

- Assigned by the accreditation and quality assurance commission for higher education institutions as a member in several committees for accrediting aeronautical engineering and aviation maintenance programs in Jordanian universities
- Assigned by the Higher Education Accreditation Commission as a committee member for the BSc qualifying exam for the aeronautical engineering graduates
- Organizer of a workshop given by Airbus representatives in collaboration with the crown prince foundation at Jordan University of Science and Technology to the faculty of engineering students
- Member in aeronautical and mechanical engineering department committees such as: ABET accreditation committee member, conferences and internet committee, department research committee, promotion committee, Social committee, Laboratory development and safety committee, graduation projects committee, and department representative at the faculty of engineering.
- Instructing and training a group of the Royal Jordanian Airforce mechanical engineers on "aircraft maintenance management-AE484" through the qualifying program in aeronautical engineering
- Initiated research collaboration between the Composite Research Lab at JUST and the composite shops of Royal Jordanian Airlines and Jordan Aircraft Maintenance Limited (JORAMCO) companies. This collaboration involves the exchange of practical composite problems in aircrafts, research ideas, and seeking support for research projects, including consumables required for fabricating composites.
- I was a member of the hiring committee that prepared written and oral exams to recruit engineers for the mechanical engineering department labs at JUST
- The head of the organization committee of the "SESAME International Research Center" workshop at JUST
- Arranged several scientific visits for the aeronautical and mechanical engineering students to aviation organizations and companies in Jordan such as Jordan Aircraft Maintenance Limited Company (Joramco), Jordan airmotive (JALCo), Royal Jordanian, and JODDB.
- Supervised several Master engineering students as well as served as a member in several Master thesis committees for engineering students
- Advisor of several distinguished graduation projects (3D printed honeycomb structures, flying automobile drone, manufacturing a heat blanket for composite repair, composites for radiation shielding applications)

LANGUAGES

- Arabic – native language
- English – Fluent

REVIEWING ACTIVITIES

Reviewer in several international journals such as Carbon, Desalination, Polymer-Plastics Technology and Materials, Journal of Materials Science, The Scientific Journal of Molecular Physics, Journal of Composite Materials, Journal of the Brazilian Society of Mechanical Sciences and Engineering, Scientific Reports, Construction and Building Materials, and many more.

INDUSTRIAL PARTNERSHIPS

Arranged for written and verbal agreements and memorandum of understandings between Jordan University of Science and Technology and the following companies:

- Royal Jordanian
- Jordan Aircraft Maintenance Limited (Joramco)
- GMI-Aero France
- Jordan Design and Development Bureau (JODDB)

PUBLICATIONS

Abdelal,N, . "Mechanical properties of 3D printed structures imitating Nomex honeycomb structures" – Under review

Abdelal,N, Dib.N, Young.D. "Experimental and model-based investigation of the dielectric and electromagnetic interference shielding properties of Nano and Micro copper fillers-epoxy composites in the X-band frequency range" – Under review

Abdelal,N "A Shield of Defense: Developing Ballistic Composite Panels with Effective Electromagnetic Interference Shielding Absorption"-*Defence Technology*, September 2023

Abdelal,N, Alomari. A, Dib.N, Young.D." Armadillo Shell-Inspired Carbon Nanotubes-Epoxy Composites Developed Using 3D Printing for Electromagnetic Interference Shielding". *Additive Manufacturing*, Vol 71, Article No 105399, June 2023

Abdelal,N, Dib.N, Young.D, Slanker.A. "Electromagnetic interference shielding and dielectric properties of graphene nanoplatelets/epoxy composites in the X-band frequency range" *Journal of Materials Science*, Vol 57, Issue 29, August 2022.

Abdelal,N, Abo Saleem,R, Alsabbagh,A, Aljarrah,M, Aljawarneh,F. "Radiation and lead nanoparticles effects on the mechanical properties of unidirectional carbon fiber/epoxy composites". *Journal of Composite Materials*, Vol 56, Issue17, May 2022.

Abo Saleem,R. **Abdelal,N**, Alsabbagh,A, Aljarrah,M, Aljawarneh,F." Effect of Lead Nanoparticles on the Radiation Shielding Characteristics of Carbon Fiber/Epoxy Composites"- *Journal of Reinforced Plastics and Composites*, Vol 42, Issue 9-10, October 2022

Abo Saleem,R. **Abdelal,N**, Alsabbagh,A, Aljarrah,M, Aljawarneh,F. "Radiation shielding of fiber reinforced polymer composites incorporating lead nanoparticles-An empirical approach". *Polymers*, Vol 13, Issue 21, October 2021.

Kiwan,S. Alwan,H. **Abdelal,N**. "An experimental investigation of the natural convection heat transfer from a vertical cylinder using porous fins". *Applied Thermal Engineering*, Vol 179, Article No 115673, October 2020.

Abdelal, N. "Multifunctional carbon fiber composite with improved electromagnetic interference shielding and interlaminar fracture toughness characteristics". ICMMR2020: 7th international Conference on Mechanics and Mechatronics Research , University of California, Berkeley, USA, 27-29 June 2020

Abdelal, N. Irshidat, M. "Utilizing vacuum bagging process to enhance bond strength between FRP sheets and concrete". *Structural Engineering and Mechanics, An International Journal*, Vol 72, Issue 3, November 2019.

Aljarrah, M. **Abdelal, N**. "Improvement of the mode I interlaminar fracture toughness of carbon fiber composite reinforced with electrospun nylon nanofiber". *Composites part B: Engineering*, Vol 165, P 379-385, May 2019

Abdelal, N. "Electromagnetic Interference Shielding of Stitched Carbon Fiber Composites" *Journal of Industrial Textiles*, Vol 49, Issue 6, PP. 773-790, 2020. First published online September 6, 2018

Abdelal, N. Donaldson, S. "The Effect of Stitching with Conductive and Nonconductive Materials on The Mode I Interlaminar Fracture Toughness of Carbon Fiber Composites", *Polymer composites*, Vol 40, August 2018

Abdelal, N. Donaldson, S. "Interlaminar fracture toughness and electromagnetic interference shielding of hybrid-stitched carbon fiber composites "*Journal of Reinforced plastics and Composites*, Vol 37, Issue 18, July 2018

Abdelal, N. Donaldson, S. "The effect of nylon and Kevlar stitching on the mode I fracture of carbon/epoxy composites ". 20th International Conference on Aerospace, Mechanical, Automotive and Materials Engineering (2018), NY, USA, April 18-20, 2018.

Abdelal, N. Donaldson, S. "The effect of nylon and Kevlar stitching on the mode I fracture of carbon/epoxy composites". International Journal of Mechanical, Aerospace, Industrial, Mechatronic and Manufacturing Engineering, 12(4), 2018, P.307 - 312, NY, USA, International Science Index 136.

Abdelal, N. Aljarrah, M. "The Effect of Silicon Carbide Whiskers on The Mode I Interlaminar Fracture of Carbon Fiber Composites". *Ceramics International*, Vol 44, Issue 3, October 2017

Abdelal, N. Taamneh,Y. " Enhancement of pyramid solar still productivity using absorber plates made of carbon fiber/CNT-modified epoxy composites ". *Desalination*, Vol 419, October 2017

Abdelal, N. Donaldson,S. "Comparison of methods for the characterization of voids in glass fiber composites". *Journal of composite materials*, Vol 52, Issue 4, June 2017

Abdelal, N. Al-Saleh,M. Irshidat,M, "Utilizing vacuum bagging process to prepare carbon fiber/CNT-modified-epoxy composites with improved mechanical properties" *Polymer-Plastics Technology and Engineering*, Vol 57,Issue 3, May 2017

Abdelal, N. Donaldson, S. The effect of voids on delamination behavior under static and cyclic mode I and mode II, 28th Technical conference, American Society for Composites, State College,PA,USA, September 9-11, 2013.

Abdelal, N., and Donaldson, S., Effect of voids on delamination behavior under static and fatigue mode I and mode II, Stander Symposium, Dayton, OH, USA, April 2013

Abdelal, N., and Kumar, B.,Electrical properties of PEO based mixed conductors , Stander Symposium, Dayton, OH, USA, April 2012

Abdelal, N., and Benzerga, A., Micro-mechanical modeling of damage in IF steel strengthened by severe plastic deformation, 6th International symposium: characterization and computational modeling, Washington State Convention Center, USA, February 16, 2010

MAJOR ACHIEVEMENTS

Established the first and only composite materials lab at Jordan University of Science and Technology where advanced composite materials are manufactured and characterized. The endeavors carried out in the lab (and in-progress) include, but are not limited to:

- Equipped the lab with cutting-edge equipment and facilities for manufacturing, testing, and characterizing advanced FRP composite materials and nanomaterials.
- Collaborated with experts, both locally and internationally, to promote research and industry partnerships
- Provided educational courses and training for students and research assistants to prepare them for future careers and graduate studies in composite materials, and to foster a skilled workforce in composite materials.
- Secured funding through grants and partnerships, ensuring sustainability and growth of the lab.
- Contributed to interdisciplinary research and innovation in the field of composite materials science and engineering through collaborative research work with various engineering departments, as evidenced by the topics of the published research papers.
- The lab is active since 2016, with a track record of research excellence and knowledge dissemination

- Led technology transfer efforts (in aviation and composite materials), bridging the gap between developed countries and Jordanian universities.
- The first and only female to hold Masters and PhD degrees in Aeronautical Engineering in Jordan
- Pioneered the implementation of transmission line measurements at JUST utilizing a vector network analyzer, coaxial cables, and waveguides, while successfully fabricating an in-house TRL calibration kit to ensure precise characterization of scattering parameters and electrodynamic properties of materials.
- I had the privilege of being instructed in the graduate course "Mechanics of Composite Materials" by Prof. James M. Whitney, an internationally recognized expert in fiber-reinforced composites mechanics.
- Supervised several distinguished graduation projects such as the flying vehicle, the Hex copter-ambulance, Tricopter, studying the mechanical properties of 3D printed structures made of several polymeric and nanocomposite materials.
  https://www.youtube.com/watch?v=Tvv8qikwzrY&t=17s&ab_channel=MhmoudAl-Tamimi
- I was one of three team members for a period of two years in the preparation of ABET accreditation for the Department of Aeronautical Engineering at JUST, 2016-2018. Additionally, I served as a committee member for the ABET accreditation of the Department of Mechanical Engineering at JUST in 2020.
- Initiated the first and only composite materials course in the undergraduate curriculum of the Departments of Aeronautical Engineering and Mechanical Engineering. The class consists of three major parts: introduction about composites, methods of manufacturing composite materials, Lamina analysis and lamination theory. Through this pioneering initiative, I have actively supported students in securing employment opportunities and pursuing advanced studies in the field of composites, both locally in Jordan and internationally
- I teach to empower the students to become innovators, problem solvers, independent thinkers, and leaders who will positively impact the future of the world. I am passionate about delivering up-to-date knowledge to my students to keep pace with the rapid advancements in global technology

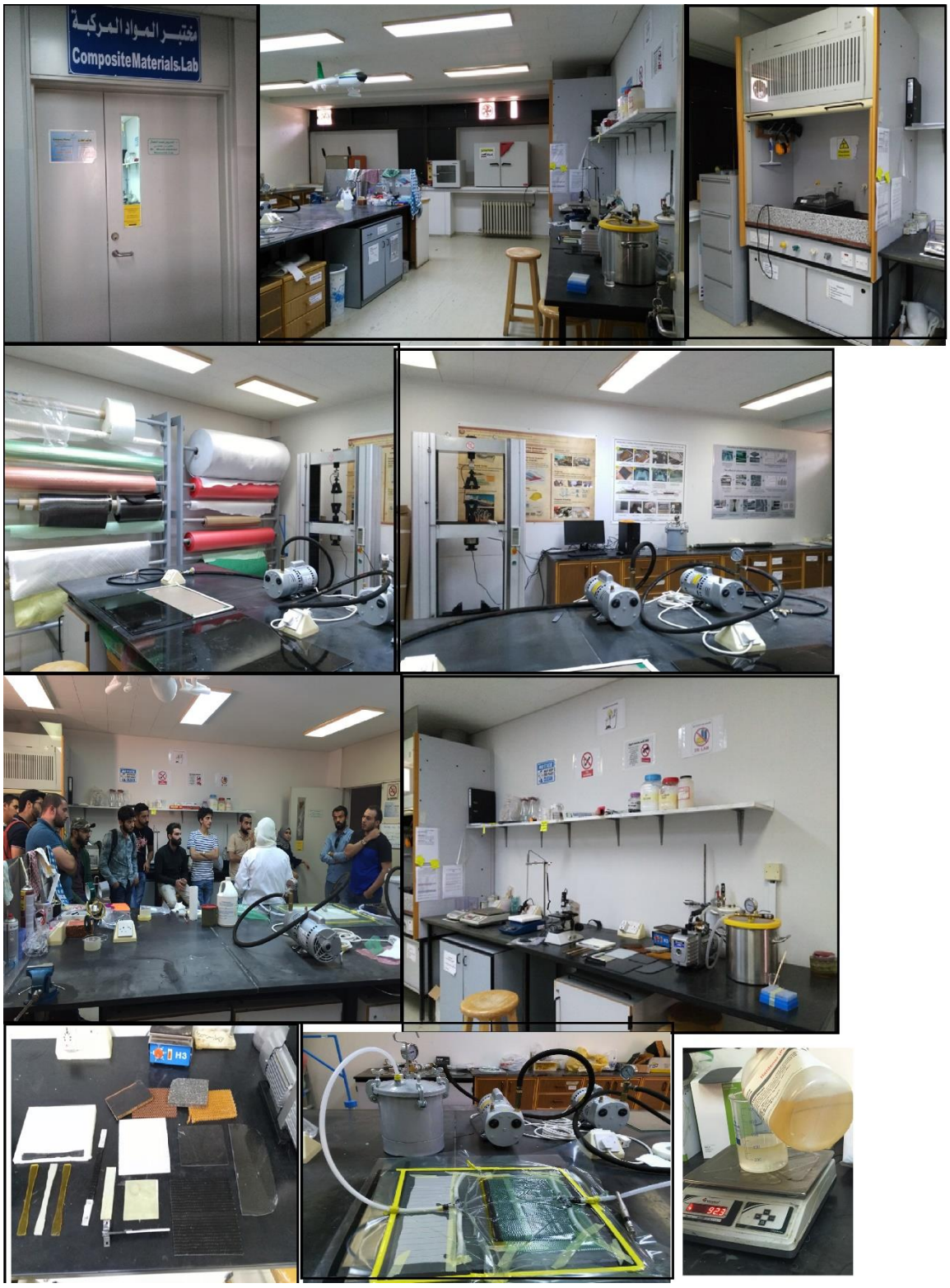
AWARDS, FELLOWSHIPS & MEMEBERSHIPS

• Member of The American Society for Composites (ASC)	**2022**
• Best Oral Presentation award at ICMMR2020 the 7th international Conference on Mechanics and Mechatronics Research, University of California, Berkeley, USA	**2020**
• Best paper award in the ICAMAME 2018: 20th International Conference on Aerospace, Mechanical, Automotive and Materials Engineering. New York, USA, April 19-20, 2018	**2018**
• Graduate student best research award-University of Dayton-Ohio-USA	**2012**
• Graduate student best research award-University of Dayton-Ohio-USA	**2011**
• Jordan University of Science and Technology fellowship to pursue Masters and PhD degrees in Aeronautical Engineering in USA	**2008**
• Member of the Jordanian Engineers Association	**2006**

MASTER THESIS SUPERVISION

• Exploring the mechanical behavior of natural fibers-reinforced polymer matrix composites for sustainable engineering applications	Advisor
• Mechanical and microwave properties of glass fiber and carbon fiber-reinforced polymer matrix composites	Advisor

• Manufacturing and characterization of nanofiller-epoxy based composite materials	Co-advisor
• The effect of using porous fins on the natural convection heat transfer from a suspended vertical cylinder	Co-advisor
• Modeling and simulation of the thermal management system using phase change materials composites in lithium-ion battery	Committee member
IN-PROCESS PROJECTS	
• Experimental and model-based investigation of the dielectric and electromagnetic interference shielding properties of Nano and Micro particles-epoxy composites in the X-band frequency range	Done- under review
• Comparative analysis of the mechanical properties: Nomex vs. 3D printed structures for aviation applications	Done- writing manuscript
• Mechanical and microwave properties of glass fiber and carbon fiber-reinforced polymer matrix composites (Effect of fiber type, orientation, and nanofillers)	Done- writing two manuscripts
• Investigation of electromagnetic interference shielding efficiency in 3D printed square pyramids with epoxy-carbon nanotubes composites: experimental and simulation study (or microwave properties)	Done-writing manuscript
• Mechanical and microwave properties of 3D printed Triply periodic minimal surfaces structures	manufacturing stage
• Exploring the mechanical behavior of natural fibers-reinforced polymer matrix composites for sustainable engineering applications	manufacturing stage
COURSES TAUGHT	
• Composite materials (manufacturing and analytical mechanics of composite materials)	
• Strength of materials	
• Aircraft structural materials	
• Special topics in aeronautics (manufacturing and NDT inspection processes)	
• Special topics in mechanical engineering (mechanics of composite materials)	
• Strength of materials laboratory	
• Statics	
• Aerodynamics	
• Aircraft Design	
• Aircraft maintenance management	
• Introduction to aeronautical engineering	
• Instrumentation laboratory	
WEBSITES	
https://www.just.edu.jo/eportfolio/Pages/Default.aspx?email=nrabdelal	
https://scholar.google.com/citations?user=0bRPiZYAAAAJ&hl=en	
https://www.researchgate.net/profile/Nisrin-Abdelal	
https://www.linkedin.com/in/nisrin-abdelal-bb800944/?originalSubdomain=jo	
For photos and video of the Composite Research Lab	
https://drive.google.com/drive/folders/1UltIoUJ3V9NxwRqO6ZfncELWO6awYJDI?usp=sharing	
https://drive.google.com/drive/folders/1UltIoUJ3V9NxwRqO6ZfncELWO6awYJDI	
NOTES	
During the COVID-19 Pandemic and subsequent quarantine measures, the progress of my research work and related activities was significantly affected as my work primarily involves experimental investigations that require access to laboratory facilities. Additionally, travel bans imposed during this period limited my ability to attend conferences, international trainings, and workshops, further impending my networking opportunities.	


مختبر المواد المركبة
CompositeMaterialsLab