

Faculty C.V.

1. **Name**
Aliaa M. Abou-Ali
2. **Academic Rank**
Full-time Visiting Assistant Professor of Systems Engineering, College of Engineering and Applied Sciences (CEAS), American University of Kuwait
3. **Degrees**
PhD in interdisciplinary Engineering, Khalifa University - former Masdar Institute that had an affiliation (MOU) with Massachusetts Institute of Technology, Abu Dhabi, United Arab Emirates. Dissertation title “Experimental and Finite Element Analyses of Mechanical Behavior for Polymeric Triply Periodic Minimal Cellular Solids Fabricated by Additive Manufacturing”, Dec. 2018.
M.Sc. in Production Engineering, Alexandria University, Egypt. Thesis title “An Optimization Model for Inventory Replenishment and Shelf Space Management in Retail Supply Chains”, Jan 2011.
B.Sc. in Production Engineering, Faculty of Engineering, Alexandria University, Egypt, June 2007.
4. **Service at this Institution**
September 2022 - June 2023: Adjunct Assistant Professor, CEAS, AUK
September 2023 - Present: Visiting Assistant Professor, CEAS, AUK
5. **Professional Experience**
Sept 2023 – present: Visiting Assistant Professor of Systems Engineering, College of Engineering and Applied Sciences (CEAS), American University of Kuwait (AUK), Kuwait.
Sept 2022 – June 2023: Adjunct Assistant Professor of Systems Engineering, College of Engineering and Applied Sciences (CEAS), American University of Kuwait (AUK), Kuwait.
Sept 2021 – present: Assistant Professor, Manufacturing Engineering Division, Production Engineering Department, Faculty of Engineering, Alexandria University, Alexandria, Egypt. (on-leave since January 2022)
Nov 2019 – July 2021: Post-Doctoral Fellow, Advanced Digital & Additive Manufacturing (ADAM) Centre, Department of Aerospace Engineering, Khalifa University, Abu Dhabi, UAE.
April 2019 – Oct 2019: Visiting Researcher at Khalifa University, Mechanical Engineering Department, Abu Dhabi, UAE.
Jan 2014 – Dec 2018: Research Assistant/PhD candidate at Khalifa University, Abu Dhabi, UAE.
Sept 2014 – May 2017: Teaching Assistant, Engineering Systems and Management Department, Khalifa University, Abu Dhabi, UAE.

Jul 2011 – July 2021: Assistant Lecturer/Research Assistant Industrial Engineering division, Production Engineering Department, Faculty of Engineering, Alexandria University (on leave), Alexandria, Egypt.

Feb 2011 – Jun 2011: Assistant Lecturer/Research Assistant, Production Engineering Department, Faculty of Engineering, Alexandria University, Egypt.

Sep 2007 – Feb 2011: Teaching Assistant/Research Assistant, Production Engineering Department, Faculty of Engineering, Alexandria University, Egypt.

6. **Consulting Experience**

N/A

7. **Professional Registration**

Egyptian Syndicate of Engineers.

8. **Publications**

a) Refereed Journals.

Ejeh, C. J., Barsoum, I., **Abou-Ali, A. M.**, & Al-Rub, R. K. A. (2023). Combining multiple lattice-topology functional grading strategies for enhancing the dynamic compressive behaviour TPMS-based metamaterials. Journal of Materials Research and Technology. <https://doi.org/10.1016/j.jmrt.2023.10.247>

Abou-Ali, A. M., Lee, D. W., & Abu Al-Rub, R. K. (2022). On the Effect of Lattice Topology on Mechanical Properties of SLS Additively Manufactured Sheet-, Ligament-, and Strut-Based Polymeric Metamaterials. Polymers 2022, 14(21), 4583; <https://doi.org/10.3390/polym14214583>

Abou-Ali, A. M., Al-Ketan, O., Lee, D. W., Rowshan, R., & Abu Al-Rub, R. K. (2020). Mechanical behavior of polymeric selective laser sintered ligament and sheet based lattices of triply periodic minimal surface architectures. Materials & Design, (vol. 196), 109100.

Abou-Ali, A. M., Al-Ketan, O., Rowshan, R., & Abu Al-Rub, R. K. (2019). “Mechanical Response of 3D Printed Bending-dominated Ligament-based Triply Periodic Cellular Polymeric Solids” Journal of Materials Engineering and Performance:1-11.

b) Conferences

Altamimi, S., **Abou-Ali, A. M.**, Al-Ketan, O., Lee, D.W, Abu Al-Rub, R.K, “Experimental and Numerical analysis of Mechanical Behavior of 3D Printed Graphene-Reinforced Gyroidal Cellular Nanocomposites” UAEGSRC19, The Graduate Students Research Conference (GSRC), Zayed University, Abu Dhabi, UAE. 2019

Altamimi, S., **Abou-Ali, A. M.**, Al-Ketan, O., Lee, D.W, Abu Al-Rub, R.K, “Mechanical Behavior of 3D Printed Graphene-Reinforced Gyroidal Cellular Nanocomposites” ICCE-27, 27th Annual International Conference on Composite and Nano Engineering, Granada, Spain. 2019

Altamimi, S., **Abou-Ali, A. M.**, Al-Ketan, O., Lee, D.W, Abu Al-Rub, R.K, “Finite Element Analysis of Mechanical Behavior of Graphene-Reinforced Gyroidal Cellular Polymer Nanocomposites” 5th International Conference on Mechanics of Composites, Lisbon, Portugal. 2019

- c) Books
N/A

9. Membership in Professional Societies

N/A

10. Patents, Honors and awards

N/A

11. Courses taught

a) Academic Courses

Spring 2024 (AUK)

- ENGR 210: Engineering Entrepreneurship I (3 Hrs/week, 2 sections)
- STEG 340: Engineering Project Management (3 Hrs/week, 1 section)
- STEG 340L: Engineering Project Management Lab (1 Hr/week, 1 section)
- STEG341: Production and Operations Management (3 Hrs/week, 1 section)
- STEG330: Operations Research I (3 Hrs/week, 1 section)
- STEG 331: Operations Research II (3 Hrs/week, Independent study)

Fall 2023 (AUK)

- ENGR 210: Engineering Entrepreneurship I (3 Hrs/week, 1 section)
- STEG330: Operations Research I (3 Hrs/week, 1 section)
- STEG 331: Operations Research II (3 Hrs/week, 1 section)

Spring 2023 (AUK)

- Steg 340: Engineering Project Management (3 Hrs/week, 1 section)
- STEG 340L: Engineering Project Management Lab (1 Hr/week, 1 section)
- STEG 442: Supply Chain Engineering (3 Hrs/week, 1 section)

Fall 2022 (AUK)

- STEG341: Production and Operations Management (3 Hrs/week, 1 section)

Fall 2021 (Alexandria University)

- PED 011: Principles of Manufacturing Engineering (3 Hrs/week, 3 sections)
- PED 221: Theory of Metal Cutting (3 Hrs/week, 1 section)
- PED 431: Advanced Manufacturing Technologies (3 Hrs/week, 1 section)

Sept 2014 – May 2017 (Khalifa University) - Post graduate students

- Production Planning and Inventory Management Lab (1 Hr/week, 1 section)
- Environmental Sampling and Data Analysis (1 Hr/week, 1 section)
- Analysis of Complex Networks (1 Hr/week, 1 section)

Sept 2007 – May 2011 (Alexandria University)

- Production Planning and Inventory Management Lab (1 Hr/week, 4 sections)
- Engineering Economy Lab (1 Hr/week, 4 sections)
- Project Management Lab (1 Hr/week, 4 sections)
- Management Information Systems Lab (1 Hr/week, 4 sections)
- Operations Research Lab (1 Hr/week, 4 sections)

- Facilities Planning and Design Lab (1 Hr/week, 4 sections)
- Ergonomics Lab (1 Hr/week, 4 sections)
- Industrial Safety Lab (1 Hr/week, 4 sections)
- Simulation Lab (1 Hr/week, 4 sections)
- Knowledge Engineering Lab (1 Hr/week, 4 sections)
- Engineering Design Lab (1 Hr/week, 4 sections)
- Expert Systems Lab (1 Hr/week, 4 sections)

b) Intensive professional short courses
N/A

c) Community Service courses
N/A

12. Other Duties

a) Department
N/A

b) College level
Sept. 2023 – Present: Member in the Research Management and Planning Committee

c) Institution level
N/A

d) Outside the institution
Nov. 2019 – July 2021: Member in the Advanced Digital & Additive Manufacturing (ADAM) Centre

13. Research

N/A

14. Participation in Specific Programs

Dec 2019: Design Optimization workshop Using Tosca/Abaqus, Khalifa University, UAE.

- Optimization for Structure with non-linearity
- Introduction to FE-safe
- Automating Analysis in FE-safe
- Fatigue of welds in FE-safe
- Introduction to Tosca structure
- Introduction to Tosca Fluid

April - July 2019: Teaching workshops at Faculty and Leadership Development Centre (FLDC) Alexandria University, Egypt.

- Research Ethics and Plagiarism (12 hours).
- Quality Standards in Teaching (12 hours).
- Exams and Students Evaluation Systems (12 hours).
- Competitive Research Projects Proposals (12 hours).

- Rights and Duties of University Staff Assistants (12 hours).
- Global Databases Usage (12 hours).

Feb 2017: 3D Printing workshop on Stratasys PolyJet Technology (20 Hrs), Khalifa University, UAE.

Aug 2016: Electron Microscopy workshop for Scanning Electron Microscope (SEM) (20 Hrs), Khalifa University, UAE.