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Belal Gharaibeh, PhD

1. Name and date of birth

Belal M.Y. Gharaibeh
Date of birth: April 27, 1978

2. Academic Rank

Full time associate professor of Systems Engineering

3. Degrees

Ph.D. in Mechanical Engineering, University of Kentucky, 2007
B.Sc. in Mechanical Engineering, Jordan University of Science and Technology, 2001

4. Service at this Institution

Fall 2021

5. Professional Experience

- **Associate professor** 2015-2021
- The University of Jordan/ Department of Industrial Engineering
- **Chair of Department of Industrial Engineering** 2018-2019
- The University of Jordan/ Department of Industrial Engineering
- **Assistant Dean for students' affairs** 2014-2015
- The University of Jordan/School of Engineering
- **Assistant Professor** 2010-2011
- Philadelphia University/Mechanical Engineering Department
- **Research Associate** 2007-2010
  Institute of Research for Technology Development (IR4TD), University of Kentucky

6. Consulting Experience

7. Professional Registration

Jordan Engineering Union since 2002.

8. Publications

a) Refereed Journals.

- Wafa' H. AlAlaween, Abdallah H. AlAlawin, Saif O. AbuHamour, **Belal M.Y. Gharaibeh**, Mahdi Mahfouf, Ahmad Alsoussif and Ashraf E. AbuKaraky, Fuzzy particle

swarm for the right-first-time of fused deposition, Journal of Intelligent & Fuzzy Systems, 2023, 45, 11977–11991, DOI:10.3233/JIFS-232135.

- W AlAlaween, O Abueed, **Belal M.Y. Gharaibeh**, A Alalawin, M Mahfouf, A Alsousi, The development of a radial based integrated network for the modelling of 3D fused deposition, Rapid Prototyping Journal, 2022, 29 (2), 408-421.
- Mohammad A. Gharaibeh, Hitham Tlilan & **Belal M. Y. Gharaibeh**. Stress concentration factor analysis of countersunk holes using finite element analysis and response surface methodology. Australian Journal of Mechanical Engineering, 2019 ,(2) 13 2253-2204.

b) Conferences

- **Gharaibeh, Belal MY**; Salaimeh, Ahamad A; Jararweh, Mohammed Wasel; Al-Omari, Ali; Wafa'H, AlAlaween; Mahfouf, Mahdi, Correlation of Optical Properties to Mechanical Degradation of 3D Printed Thermoplastic Polyurethane Polymers Subjected to Gamma Irradiation, International Conference on Electrical, Computer, Communications and Mechatronics Engineering (ICECCME), Nov. 16-18, 2022.
- Wafa'H, AlAlaween; Alalawin, Abdallah; **Gharaibeh, Belal MY**; Mahfouf, Mahdi; Alsoussi, Ahmad, An Interval Type-2 Fuzzy Logic System for the Simulation of Fused Deposition, International Conference on Electrical, Computer, Communications and Mechatronics Engineering (ICECCME), Nov. 16-18, 2022.
- Wafa' H. AlAlaweena, Abdallah H.AlAlawin, **Belal M.Y. Gharaibeh**, Mahdi Mahfouf and Ahmad Alsoussi, A Type-1 Fuzzy Logic System for the Modelling of Fused Deposition, WRFER International Conference, Barcelona, Spain, 23rd June 2022.
- Belal M.Y. Gharaibeh, Sa'ed Awni Musmar, Ehab Al-Zamer, Samer Al-Zamer, "ANALYTICAL HIERARCHY PROCESS-BASED DECISION MAKING FOR EVALUATING THE USE OF PYROLYTIC CARBON BLACK AS AN ALTERNATIVE SOURCE OF HEATING IN REFUGEE CAMPS IN JORDAN", IREC2021 conference. April 14-15, 2021

9. Membership in Professional Societies

- Institute of Industrial and Systems Engineering, since 2018.
- Member of the Institute of Research for Technology Development, since 2007.

10. Patents, Honors and awards

Patents

- Non-contact method for quantifying changes in the dynamics of microbial populations, US patent # 0311109, 2010.
- Method for detection defect in material and system for the method. International patent WO/2010/033113. 2010.
- Infrared Seed Inspection System for automotive coated surfaces, Toyota Motor Manufacturing, US patent # 0123093, 2011

- Method for reducing the curing time on of a painting composition. US patent, 0034980, 2010.

Awards

- Outstanding Regional Level Faculty Advisors Award-Middle East Region, IISE 2021

11. Courses taught

a) Academic Courses

- Operations Research, 3 lectures/week, undergraduate
- Engineering Statistical Analysis, 3 lectures/week, undergraduate
- Engineering Entrepreneurship, 3 lectures/week, undergraduate
- Engineering Simulation, , 3 lectures/week, undergraduate
- Human Factors, 3 lectures/week, undergraduate
- Design for Manufacturing and Assembly, 3 lectures/week, undergraduate
- Metrology and Engineering Measurements, 3 lectures/week, undergraduate
- Manufacturing Processes, 3 lectures/week, undergraduate

12. Research

- RADIATION EFFECTS ON MEDICAL DEVICES MADE BY 3D PRINTING, $30,000, MIT International Science and Technology Initiatives, 2021-2022
- A sustainable heating system using Carbon Black Fuel source for Jordan's refugee camps and rural areas, 120,000 GBP, Royal Academy OF Engineering, the UK, 2020-2022.
- Right-First-Time Fused Deposition for Healthcare Manufacturing, 120,000 GBP, Royal Academy OF Engineering, the UK, 2020-2022.

13. Participation in Specific Programs

- Additive Manufacturing for Innovative Design and Production program, **MIT**, May 10-2021-Aug. 2-2021.
- NEET / J-WEL Educational Envisioning and Planning Workshop, **Abdul Latif Jameel World Education Lab & the New Engineering Education Transformation Program, Massachusetts Institute of Technology**, June 29, 2021, to July 1, 2021.
- IAEA organized training EVT1805448-0001-JOR in the field of Non-Destructive Testing for nuclear applications, **Center of Energy Research-Hungarian Academy of Science**, May 20-31, 2019.
- DIAMOND-SESAME Fellowship, **Diamond Light Source**, Jan-28, 2019 to Mar. 31, 2019
- SESAME1st industrial & Applied Science Workshop, **SESAME**, Oct. 28-29, 2019