Belal Gharaibeh

Associate Professor

Amman, Jordan
+962 79656 0548
Belalgharaibeh@gmail.com

PERSONAL

Name	Belal Gharaibeh
D.O.B	1978
ADDRESS	Amman, Jordan
PHONE	962 79656 0548
E-MAIL	Belalgharaibeh@gmail.com
LinkedIn	https://www.linkedin.com/in/belal-gharaibeh-06625727
NAT.	Jordanian
Marital Status	Maried

PROFILE & SUMMARY QUALIFICATION

- An inventor and practical research oriented person seeking new ideas and creating new solutions for advanced engineering problems. Gained most of my 15+ years of practical experience by working for major academic institutes, automotive and OEM companies while applying production line inspection systems using advanced techniques. I follow rigorous research thinking process to come up with solid applicable engineering ideas that are patent and used on production lines. My international experience by working with American and Japanese researchers and senior company managers gave me the opportunity to be an excellent multicultural team player and having a broad understanding on organizational behavior effect on quality and sustainability of work.
- In addition to my PhD in mechanical engineering, I have gained technical experience through professional training in lean manufacturing systems, flexible manufacturing systems for education purposes associated with real life experience on technical and managerial tasks.

- **Summary of qualifications:**
  - 15 years manufacturing and quality engineering experience in multi-disciplinary research work
  - 2 years administrative students' affairs management experience for the school of engineering
  - 2 years building programs experience for ABET accreditation
  - 6 years training experience in the field of non-destructive testing
  - 5 years training experience of CREO parametric 3D modeling software

EDUCATION

Ph.D. in Mechanical Engineering/Minor in Manufacturing Systems
University of Kentucky
2002-2007
Lexington, Kentucky - USA
Dissertation title: "Study of Fluorescent Dye Sensing in Industrial Coatings as a Non-Destructive

B.S. in Mechanical Engineering/Minor in Manufacturing
Jordan University of Science and Technology
1996 - 2001
Irbid - Jordan

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WORK EXPERIENCE

Associate Professor
The University of Jordan, Industrial Engineering Department
3/2019 – Present
Amman, Jordan
- IISE student chapter academic advisor
- SME student chapter academic advisor

Industrial Engineering Department Chair
The University of Jordan, Industrial Engineering Department
3/2018 – 3/2019
Amman, Jordan
- Responsible for the department academic and administrative tasks
- Leading the department for the ABET accreditation (previously the ABET committee chair for the year 2018/2017

Associate Professor
The American University of the Middle East
09/2016 – 09/2017
Kuwait
- On an unpaid leave from the University of Jordan
- Member of the ABET committee
- Leading the production and manufacturing focus group

Assistant Dean for students' affairs
The University of Jordan, Industrial Engineering Department
09/2014 – 09/2016
Amman, Jordan

Assistant Professor
The University of Jordan, Industrial Engineering Department
09/2011 – 09/2016
Amman, Jordan

Assistant Professor
Philadelphia University/Mechanical Engineering Department
09/2010 – 09/2011
Amman, Jordan

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Research Associate

Institute of Research for Technology Development (IR4TD), University of Kentucky

08/2008 – 09/2010

USA

Patents **Research** projects

• Quantifying Changes in the Dynamics of Bacterial Populations using Real Time Infrared Thermography,

- Collaborating with the infectious disease department to develop new bacterial growth/death monitoring system using Infrared Thermography techniques.
- Supervising a graduate student conducting experiments and building thermodynamic models.

- Patent reference: Non-contact method for quantifying changes in the dynamics of microbial populations, US patent # 2010 ,0311109

• Method and System to Quick Cure Paint using Carbon Nanotubes (CNTs)

- Advancing CNTs applications for the coating industry.
- Quantifying the effect of CNTs in paints under excitation with certain bands in the electromagnetic wave spectrum.
- Modeling the thermal response of CNTs in paints using Infrared Thermography

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

• Development of automobile painted surface inspection system, PI, Toyota Motors Manufacturing at Kentucky, 2009

- Feasibility study to develop defect detection system for side mirror coated surfaces. Project is extended for full implementation with new funding after this stage

- Patent reference: Infrared Seed Inspection System for automotive coated surfaces, Toyota Motor Manufacturing, US patent # 2011 ,0123093.

• Developing a cold rolled steel sheet inspection systems, PI, Nippon Steel, 2009

- Joint project with Nippon steel company in Kimitsu, Japan and Tokyo University
- System developed using infrared imaging technique as a non-destructive testing method

- Patent reference: Method for detection defect in material and system for the method. International patent CA2736734 C. 2015

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CERTIFICATION & TRAINING COURSES

Academic course

• Manufacturing processes (theory and experimental): mechanics of plastic deformation, casting. Bulk deformation processes, sheet metal forming, metal cutting, additive manufacturing, advanced machining processes
• Metrology and instrumentation: linear, angular, fits and tolerances, stress and strain gauges, fluid flow rate and temperature measurements
• Computer aided design and manufacturing CAD/CAM: machine design, g-code generation, modeling and manufacturing tool box in Creo platform
• Human factor and ergonomics
• Materials testing: methods of None-Destructive Testing including Visual inspection, ultrasonic testing, and die penetrant.
• Design For manufacturing and assembly

Technical courses

• Presenting the Society of Manufacturing Engineering student chapter at the college of engineering day. University of Jordan, 2015.
• Saline Water Conversion Corporation, 5 days training on Inventory Management, Jeddah- KSA, 2013.
• American Society for Quality seminar: half day seminar at the University of Kentucky for the ASQ members –Kentucky chapter. February 2009 ,7.
• Toyota Engineering and Manufacturing North America: two-day training course on NDT for automotive applications for paint and production engineers. October 2007.
• Painting Technology Workshop Course: two-day training course on NDT for automotive applications. Painting Technology Workshop. October 2008/2007

MEMBERSHIPS

Academic advisor The University of Jordan chapter # 792
since 2018

Institute of Industrial and Systems Engineering (IISE)
since 2017

The American Society for Nondestructive Testing (ASNT)
since 2012-2002

Society of manufacturing engineering
Faculty advisor S338, Jordan

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PATENT APPLICATIONS

- Infrared Seed Inspection System for automotive coated surfaces, Toyota Motor Manufacturing, US patent # 2011 ,0123093
- Method for reducing the curing time on of a painting composition. US patent, 2010 ,0034980.
- Non-contact method for quantifying changes in the dynamics of microbial populations, US patent # 2010 ,0311109.
- Method for detection defect in material and system for the method. International patent CA2736734 C. 2015.
- Method for detecting defect in material and system for the method, US 0311109/2010 A2010 ,1

JOURNAL and CONFERENCE PUBLICATIONS

- 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, 2253-2204 ,2019 ,(2) 13.

- **Belal Gharaibeh**, Abbas Al-Refaie, Jawadat Goussous and Mohammed Shurrab. Effect of CCMS on Customer Satisfaction and Loyalty in Jordanian Banks, INFORMATION: An International Interdisciplinary Journal, 12) 15 ,2012C), 6238-6227.

- Ahmad A. Salaimeh, Jeffery J. Campion, **Belal Y. Gharaibeh**, Martin E. Evans, Kozo Saito, Real-time quantification of Staphylococcus aureus in liquid medium using infrared thermography, Infrared Physics and & Technology, 172-170 ,55 ,2012.

- Ahmad A. Salaimeh, Jeffery J. Campion, **Belal Y. Gharaibeh**, Martin E. Evans, Kozo Saito Real-time quantification of viable bacteria in liquid medium using infrared thermography, Infrared Physics & Technology, 524-517 ,(6)54

- **Belal Gharaibeh**, Mohamed Kenawey, Ahmad Salaimeh, Kozo Saito. Finite Element Analysis to Improve IR Thermography Inspection for a Stay Cable Bridge. NDE/NDT for Highways and Bridges: Structural Materials Technology (SMT) 2010, New York, NY.

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- Ahmed A. Salaimeh, **Belal Gharaibeh**, Kozo Saito, Martin Evans, Jeffery Campion. Real Time Quantification of Antibacterial Activity Using Novel Calorimetric Infrared Thermography (CIRT) approach. 49th Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC). Poster presentation D737. September 2009 ,15-12.

- Ahmed A. Salaimeh, **Belal Gharaibeh**, Marc Harik, Kozo Saito, Parametric study and scaling laws for defect characterization using reflection mode infrared thermography, Sixth International Symposium on Scale Modeling (ISSM6-), Kauai, Hawaii, September 2009 ,16-13.

- Nitin Satarkar, Don Johnson, Brock Marrs, Rodney Andrews, **Belal Gharaibeh**, Churn Poh, Kozo Saito, J. Zach Hilt. Hydrogel-MWCNT Nanocomposites: Synthesis, Characterization, and Heating with Radiofrequency Fields, Journal of Applied Polymer Science, 2010

- **Gharaibeh B**, N. Akafuah, K. Saito. Paint Color effect on the Performance of Infrared Seed Inspection System for Automotive Applications. Automotive industry advancements with NDT, An ASNT Topical Conference. Greenville, SC, May 2009 13-11.

- **Gharaibeh B,** Omar M, Salazar, and Saito K. Fluorescence emission sensing in coatings: Method for defects detection in coated surfaces of structural elements. Progress in Organic Coatings. 289-58:282 ;2007.

- Omar M, **Gharaibeh B**, Salazar A, and Saito K. Infrared thermography (IRT) and ultraviolet fluorescence (UVF) for the nondestructive evaluation of ballast tanks' coated surfaces. NDT&E International. 70-62 :(1)40 ;2007.

- **Gharaibeh B**, Omar M, Salazar A, and Saito K. Emission Sensing of Fluorophores in Coatings: NDT Method for Coated Surface Inspection. 2006. Painting Technology Workshop. Lexington, Kentucky.

- **Gharaibeh B,** Salazar A, Saito K, and Gossen P. Optimizing the UV Sensitive Pigment in Paint Formulation for Holiday Detection. RUST. 2004. Louisville, Kentucky.

- Tashtoush G, **Gharaibeh B**, and Wael W. Converting from mass to lean production, a future look for Jordanian industries. First International Industrial Engineering Conference. 2001. Amman, Jordan. 1819-1813 :(3) 177

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PROJECTS

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– Patent reference: Method for detection defect in material and system for the method. International patent CA2736734 C. 2015

SKILLS

LANGUAGES

Arabic Language	Mother Tongue
English Language	90%

PERSONAL QUALITIES

Communication	98%	Time Management	98%
Initiative	85%	Administration	95%
Enthusiasm	90%	Accountability	98%
Teamwork	95%	Problems Solving	98%

TECHNICAL

MS. Office	95%	MATLAB	80%	Python	40%

SPECIAL EXPERIENCE SKILLS

- Professional on Creo software: parametric, assembly and manufacturing tools
- Certified user of A flexible manufacturing system (FMS) in a laboratory environment
- Student affairs related tasks based on actual experience (reference letter provided if necessary)

REFERENCES

References are available upon request