

# Salah Ramadan Al-Agha

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American University in Cairo- Egypt, Faculty of Engineering, Department of Mechanical Engineering |  
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## Education

### 1996 - 2000 | PhD /Industrial Engineering

- Purdue University, West Lafayette, Indiana, USA

### 1993 - 1996| M.SC/Industrial Engineering

- Purdue University, West Lafayette, Indiana, USA

### 1983 - 1989| B.SC/Industrial Engineering/Mechanical Engineering

- American University in Cairo, Cairo, Egypt

## Academic Experience

### 06-2024-present| Visiting Professor of Industrial Engineering and Operations Research

- American University in Cairo, Cairo, Egypt

### 07-2022-09-2023| Professor, Industrial Engineering Department

- Islamic University in Gaza, Gaza, Palestine

### 08-2019- 06-2022 | Visiting Professor of Industrial Engineering and Operations Research

- American University in Cairo, Cairo, Egypt

### 2012 - Present | Professor, Industrial Engineering Department

- Islamic University in Gaza, Gaza, Palestine

### 2006 - 2012 | Associate Professor, Industrial Engineering Department

- Islamic University in Gaza, Gaza, Palestine

### 2002 - 2006 | Assistant Professor, Industrial Engineering Department

- Islamic University in Gaza, Gaza, Palestine

### 2000 - 2002| Assistant Professor and Founding Head, Industrial Engineering Department

- Islamic University in Gaza, Gaza, Palestine

### 1992 - 1999| Research Assistant and Teaching Assistant

- Purdue University, West Lafayette, Indiana, USA

### 1990 - 1992| Quality Control Engineer

- T-Plastics, Algeria

## COURSES TAUGHT

- Operations Research I &II
- Facility Planning and Material Handling,
- Principles of Production Management,
- Operations Management,

- Integrated Production Systems I,
- Discrete Systems Simulation,
- Engineering Economy,
- Computing in Industrial Engineering,
- Quality Control,
- Design of Experiments,
- Research Methods,
- Lean Manufacturing,
- Total Quality Management(TQM),
- Production and Inventory Control,
- Industrial Training Supervision Course
- Graduate projects.

## Publications

### Journal Articles

- AbuSirreya, Abdelrahman, Abu Hamed, Hatem, Agha, Salah, 2023, "Municipal Water Supplies Efficiencies in Gaza Strip: A Data Envelopment Analysis Approach", *International Journal of Applied Management Science*, Vol. 15, No. 1, pp. 42-56.
- Abuserriya, Abdelrahman, Abdelall, Sadiq, Agha, S.R, 2022, "Multi-Criteria Optimization of Fire Station Location in Gaza Strip", *International Journal of Operational Research*, Vol. 45, No. 3, pp. 397-417.
- Abu Msameh, S., Alqedra, M., Arafa, M., Agha, S. R., 2018, "Developing a Framework for Implementing Green- Lean Construction Techniques", *Journal of Engineering Research and Technology*, Vol. 5, No. 4, pp. 77-87.
- Agha, M. S., Alnahhal, M. J., Agha, S. R. and Alafeefy, A. S., 2014, "Industrial Sectors Eligibility for Rehabilitation Programs: An Integrated AHP-TODIM Approach", *International Journal of Strategic Decision Sciences (IJSDS)*, Vol. 5, No. 1, pp. 95-110.
- Agha, S. R., Nofal, L. Nassar, H., Shehada, R., 2012, "Multi criteria governmental crop planning problem: An Analytic Hierarchy Approach", *Management*, Vol. 2, No. 4, pp. 96-105.
- Agha, S. R., Al -Nahhal, M., 2012, "Neural network and multiple linear regression to predict school children dimensions for ergonomic school furniture design", *Applied Ergonomics*, Vol. 23, No.6, pp.979-984.
- Agha, S. R., 2011, "Heat pipe performance optimization: A Taguchi approach", *International journal of research in mechanical engineering and technology*, Vol. 1, No. 1, pp.93-97.
- Agha, S. R, Nofal, L, Nassar, H., 2011" Multi criteria governmental crop planning problem based on an integrated AHP-PROMETHEE approach", *International Journal of Applied Management Science*, Vol. 4, No.4, pp. 385-406.
- Agha, S.R, Kuhail, I., Abdulnabi, N., Ghanim, A. Salem, S., 2011, "Assessment of Academic Departments Efficiency Using Data Envelopment Analysis", *Journal of Industrial Engineering and Management*, Vol. 4, No. 2, pp. 301-325.
- Agha, S. R., Jarbo, M., Matr, S., 2012, "A Multi-Criteria Multi- Stakeholder Industrial Projects Prioritization in Gaza Strip". *Arabian Journal of Science and Engineering*, Vol. 38, No.5, pp. 1217-1227.
- Agha, S. R., Hamad, J., Shuman, Y., Mohanna, R., 2011, "Evaluation of Construction Companies Efficiencies:

A Data Envelopment Analysis Approach", *International Journal of Construction Project Management*, Vol. 4, No. 1, pp. 1-18.

- Agha, S. R., Alqedra, M., Alkurd, R., Mohanna, R., 2010, "Quantifying Lean Construction Effects: A Discrete System Simulation Approach", *International Journal of Rapid Manufacturing*, Vol. 1, No. 3, pp. 292-307.
- Agha, S. R., 2010, "School Furniture Match to Students' Anthropometry in the Gaza Strip", *Ergonomics*, Vol. 53, No. 3, pp. 344-354.
- Agha, S. R., 2010, "Binary Goal Programming for Academic Plans Design", *Journal of King Saud University -Engineering Sciences*, Vol. 22, No.2, pp. 77-88.
- Agha, S. R., 2008, "Evaluating and Benchmarking of Non-Governmental Training Programs: An Analytical Hierarchy Approach", *Jordan Journal of Mechanical and Industrial Engineering*, Vol. 2, No. 2, pp. 77-84.
- Agha, S. R., 2006, "Optimizing Routing of Municipal Solid Waste Collection Vehicles in Deir EL-Balah- Gaza Strip, *The Islamic University Journal*, Vol. 14, No. 2, pp. 75-89.
- Agha, S. R., 2005, "Use of Goal Programming in Water Quality Control and Management in Gaza Strip: Case Study", *European Journal of Operational Research*, Vol. 174, No. 3, pp. 1991-1998.
- Agha, S. R. and Liu, C. R., 2000, "Experimental Study on the Performance of Super-Finish Hard Turned Surfaces in Rolling Contact Fatigue", *Wear*, Vol. 244, No. 1, pp. 52-59.
- Agha, S. R., and Liu, C. R., 2000, "On modeling the rolling contact fatigue performance based on residual stresses generated by super finish hard turning", *American Society of Mechanical Engineers, Manufacturing Engineering Division*, MED, Vol. 11, pp. 1047-1053.
- Agha, S. R. and Liu, C. R., 1999, "Effect of Cutting Conditions on Rolling Contact Fatigue of Super finish hard Turned Surfaces", Proceedings of the 5<sup>th</sup> international conference on Manufacturing Technology, 1999, Beijing, China.
- Liu, C. R. and Agha, S. R., 1997, "Experimental Study of the Pre-stressing Capability through Residual Stress Generation in Super Finish Machining of Hardened Steel", Proceedings of the International Mechanical Engineering Congress, 1997, Dallas, USA.

## Conference Papers

- Abdelall, S., D. Baroud, S. AlAlami, and S. Alagha, 2020, "The Use of Discrete Event Simulation for Optimal Performance of Blood Banks (A Case Study of Al-Shifa Central Blood Bank), International Conference on Assistive and Rehabilitation Technologies (iCareTech)
- Abdelall, S., A. Atallah, F. Elghazali, and S. Alagha, 2020,"Scheduling of Elective Surgery in Al-Shifa Hospital Using an Integrated AHP-LP Approach," International Conference on Assistive and Rehabilitation Technologies (iCareTech)
- Alrayyes, T ,Abdelall, S. , Issa, A, Agha, S.R., 2019, " Rehabilitation Engineering Needs Assessment and Curriculum Development for Palestinian Territories", International Conference on Promising Electronic Technologies (ICPET)
- Abdelall, S., Abushaban, A., Agha, S. R., 2018, "Identification of benefits and challenges facing new engineering programs seeking ABET accreditation in developing countries", 1<sup>st</sup> International Conference on Engineering and Future Technology, University of Palestine, Gaza, Palestine
- Agha, S. R., 2011, "A multi-criteria crop planning model based on the "resistive economy" characterizing the situation in Gaza Strip", 8<sup>th</sup> International Conference on Islamic Economy and Finance, Doha, Qatar.
- Agha, S. R. 2011, "A multi-stakeholder industrial projects selection: an analytic hierarchy process and zero-one-goal programming approach", 41<sup>st</sup> International Conference on Computers & Industrial Engineering (CIE 41), LA, California, pp. 7-12.

- Agha, S. R., 2004, "Recent Trends in Industrial Engineering Education and Their Implications", 2<sup>nd</sup> International Industrial Engineering Conference (IIEC 2004), Dec., 2004, Riyadh, Saudi Arabia.
- Agha, S. R., 2003, "Use of Linear Programming in Air Pollution Control: A Critique", Dubai International Conference on Atmospheric Pollution, Feb., 2003, Dubai, UAE.

## Notable Honors & Achievements

- **Best Graduate Project Supervisor** – Recognized four times for outstanding mentorship and guidance.
- **Dr. Ihsan's Award for Creativity (2007)** – A distinguished accolade celebrating innovation and excellence.
- **U.S. Patent Holder (USPTO No. 7117574)** – Pioneered advancements in determining expected fatigue life of hard-machined components.
- **Academic Innovator** – Spearheaded curriculum design for the first-ever Industrial Engineering department in the Gaza Strip and the second in Palestine.
- **Outstanding Teaching Award (Purdue University, 1999)** – Honored for excellence in shaping future engineers.
- **Research Trailblazer** – Founded the Surface Engineering Lab at Purdue University's Industrial Engineering Department.
- **Fulbright Scholar (1993-1995)** – Selected for one of the world's most prestigious academic scholarships.
- **Ghaleb Al-Farouki Scholarship Recipient (American University in Cairo)** – Earned merit-based funding for two years of academic excellence.
- **Alumni Scholarship Awardee (American University in Cairo)** – Recognized for sustained academic achievement over two years.

## Training Received

- "Supportive Strategies to Minimize Students' Stress", Workshop, AUC-2025
- "STEM Education: Mindsets and Strategies for Transformation", Webinar, AFRETEC-AUC-2025
- "Transforming Higher Ed. Assessments: Embracing AI with AI Assessment Scale", Webinar, The Operational Research Society-2024.
- "Course Design", workshop, AUC-2024
- "Developing Critical AI Literacy in Courses", Webinar, AUC-2024
- "Creating a Student Centered Learning Environment: Learning Outcome Driven Design", Workshop AUC-2024
- "Course Design Principles", Workshop, AUC-2024
- "Making and Creating a Course Blueprint", Workshop, AUC-2024
- "Impact of Course Design on Student Learning", Workshop, AUC-2024
- "Getting Standard with Canvas", Workshop, AUC-2024
- "Higher Education Teaching Skills", Workshop, IUG-2002.
- "Higher Education Quality Assurance and Control", Workshop, IUG- 2003.

## Committees

- Departmental strategic planning committee at the Mechanical Engineering Department- American University in Cairo
- Departmental Research Committee at the Mechanical Engineering Department- American University in Cairo

- Chair of the ABET committee at the faculty of Engineering in Gaza.
- Member of faculty of engineering executive committee in Gaza
- Head of faculty of engineering education quality committee in Gaza
- Member of the organizing committee for the second international conference on construction and development.
- Member of the scientific committee for the third international conference on construction and development.
- Member of the university strategic plan committee in Gaza
- Chair of Multi-criteria Decision-making track in CIE41 (Computers and Industrial Engineering Track)
- Editorial board for Islamic University Journal-Physical sciences.
- Editorial board of the American journal of Industrial Engineering.
- Editorial board of the American journal of Mechanical Engineering.
- Editorial board of the Journal of Engineering Research and Technology.
- Reviewer for Ergonomics journal
- Reviewer for the Applied Ergonomics journal.
- Reviewer for International Journal of Production Economics.
- Reviewer for European Journal of Operational Research.
- Reviewer for Journal of Industrial Engineering and Management (JIEM).
- Reviewer for Construction Management and Economics
- Reviewer for Islamic University Journal-Physical sciences.

## Community Services

### June, 2019 – Dec. 2019 | Fulbright Alumni Community Action Grant

- A Fulbright Alumni Community Action Grant was awarded to conduct a project entitled: “**STEM Kits for Deaf Kids (K4K)**”.

### October, 2018 – May, 2019 | Senior Consultant

- Senior Consultant for “**Comprehensive Study of Renewable Energy Sources in Gaza's Wash Sector for Public and Private Water**”, Client: Oxfam International

### February – April, 2018 | Assessment and Research Methodologies Expert

- Senior Consultant for “**Conduct Assessment to Identify Suitable and Viable Green Technology currently and potentially used in Gaza**”, Client: Save the Children International

### December, 2017 – June 2018 | Evaluation / Institutional Development Expert

- Institutional Development Consultant for “**Conducting Al Fakhoora Dynamic Futures Program Final Evaluation DFI and Midterm Program Evaluation for DFII**”, Client: UNDP/PAPP

### December, 2017 - Present | Senior Consultant

- Erasmus+; Cooperation for innovation and the exchange of good practices – Capacity Building in the field of Higher Education
- Senior Consultant for project: “**Improving Governance Practices at Palestinian Higher Education Institutions/ UniGov**”.

### November, 2017 - Present | Senior Consultant

- Erasmus+; Cooperation for innovation and the exchange of good practices – Capacity Building in the field of Higher Education
- Senior Consultant for project: “**Increasing the Conformance of Academia towards Rehabilitation Engineering (i-CARE)**”.

### **September, 2017 - Present | Senior Consultant**

- Atfaluna Society for Deaf Children ASDC
- Main Activities include:
  - Building improvement plans for the prioritized gaps.
  - Coaching plans for business units' managers.

### **February, 2017 – May, 2017 | Fulbright Alumni Community Action Grant**

- A Fulbright Alumni Community Action Grant was awarded to conduct a project entitled: "**Raising Rural Schools Children Awareness of Home Composting**".

### **March, 2016 - July 2017 | Senior Consultant for International Labor Organization (ILO)**

Deanship of Continuing Education IUG, Gaza, Palestine.

- Senior Consultant for International Labor Organization (ILO) project on "**Enhancing the Employability of engineering students**".
  - Training engineers on building Quality Management Systems (QMS) based on ISO 9001 and Palestinian Standard for local industries.
  - Technical and managerial interventions for a variety of local industries.

### **2016 - 2019 | ABET Accreditation Committee Chair**

- Islamic University in Gaza, Gaza, Palestine

### **July, 2015 – December, 2015 | Fulbright Alumni Community Action Grant**

- A Fulbright Alumni Community Action Grant was awarded to conduct a project entitled: "**Needy Households Involvement in Mushroom "Fitr" in the Food Market of Gaza Strip**".

### **2011 - 2013 | Senior Consultant**

- Center of Engineering and Planning CEP, Gaza, Palestine

### **Professional Memberships**

- Member of the American Institute of Industrial Engineers
- Member of Palestinian Engineers Association

### **Languages**

- Arabic, English

### **References**

Prof. Rabi Mohtar, Texas A&M university

[mohtar@tamu.edu](mailto:mohtar@tamu.edu)

Prof. Nagi Gebraeel, Georgia Tech.

[nagi@gatech.edu](mailto:nagi@gatech.edu)

Prof. Abdelaziz Khlaifat, American University in Cairo

[abdelaziz.khlaifat@aucegypt.edu](mailto:abdelaziz.khlaifat@aucegypt.edu)

### **Biography**

**Salah R. Agha** has twenty five years of experience in higher education. He is currently a visiting professor of Industrial Engineering and Operations Research at the Mechanical Engineering department at the American University in Cairo. During his academic and professional career, Professor Agha was the head of the quality of engineering education committee at the Faculty of engineering at the Islamic University-Gaza. In addition, Agha is the chair of the ABET accreditation committee at the Faculty of Engineering at the Islamic University-Gaza. His role includes making sure that the different engineering departments are on the right track, take the proper actions to qualify for ABET accreditation process. He also serves as an evaluator of several academic programs for the Ministry of Higher Education. Professor Agha is a Fulbright scholar and the founder of the school of industrial engineering in the Islamic University -Gaza, Gaza Strip where he has been working as a professor. He received his BSc. from the American University in Cairo, Egypt and his MSc. & Ph.D. from Purdue University. West Lafayette, USA. His research and teaching interests are in the field of multi criteria decision making, operations research, lean practices, discrete simulation and application of industrial engineering tools in different fields in developing countries especially in the industrial, agricultural, healthcare and education sectors. Prof. Agha has been supervising Master students in both engineering project management and MBA programs. Prof. Agha has served as a member of many conference organizations committees in addition to sessions chairing at reputable national and international conferences. He is a reviewer of many national and international journals in addition to serving in the editorial boards of many journals. Currently, he holds one US patent. Prof. Agha has received many creativity and innovation awards. Of Erasmus+ projects, Prof. Agha has been working on are: " Improving Governance Practices at Palestinian Higher Education Institutions/ UniGov" and project: "Increasing the Conformance of Academia towards Rehabilitation Engineering (i-CARE)". Further Agha, in his capacity as an AUC professor, has submitted a proposal for the Erasmus+ 2020 cycle in collaboration with Harokopio University of Athens, Greece. The title of the proposal is" **Higher Education Data Analytics in South Mediterranean Universities (HEDAMU)**.

