Abdallah Sayed Ahmed Ali El-Gharbawy

SENIOR PROJECT ENGINEER & POSTGRADUATE INSTRUCTOR

I am a senior Projects engineer with over 13 years of experience in the oil, gas, and petrochemical industries. I have taken part in two mega projects and managed more than 100 small projects or management of changes (MOCs) to completion. In addition, I work part-time as a lecturer at Alexandria University in the fields of biomass, biofuel, bio-lubricants, and degradable polymer.

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- https://scholar.google.com/citations?user=OBj-FAEAAAAJ&hl=ar&oi=ao

LANGUAGES

English: Expert, interpreting.

Arabic: Native Language.

EDUCATION

Ph.D. **(2016 – 2021)** **Ph.D. in Material Science Engineering**
*(**Thesis Title:** Maximizing Biodiesel Production from Low Quality Feedstock)*
Alexandria University, Alexandria, Egypt

MS **(2011 -2016)** **M.Sc. in Chemical Engineering**
*(**Thesis Title:** Biodiesel Production from Non-Edible Vegetable Oil)*
Cairo University, Cairo, Egypt

BS **(2004 – 2009)** **B.Sc. in Petrochemical & Refining Engineering**
Suez Canal University, Suez, Egypt

WORK EXPERIENCE

Project Engineer at The Egyptian Ethylene & Derivatives Company (ETHYDCO)

From 02/2016 to Now

- Overseeing the engineering, procurement, and construction (EPC) of four water lines to the gas heater, completing the scope of work in less time than anticipated and on a $10,000 lower budget than projected.
- Led a project involving an interface between two projects that involved the engineering, procurement, and construction of eight interface lines (potable, firewater, sanitary, and pressurized fuel gas), and I finished it with a 20% budget reduction.
- Prepare in-house preliminary feasibility studies for numerous projects for the Petroleum Ministry, including a sodium carbonate plant and a cryogenic tank farm.
- Managed a $3 million fireproofing project for Ethydco, completing the scope of work in 10 % less time and at 15% less cost.
- Maintain control over the bid processes by continuous reviewing the design, specifications, and timeline.
- Analyze and update the stakeholders & risk register for projects.
- Manage control indexes (cost performance indicator, schedule performance indicator), and reassess invoices as per contract terms of payment.
- Manage the preparation of front-end engineering design (FEED) based on the scope of work
- Follow up material procurement stages from material request, bid due date, technical evaluation, and commercial evaluation up to delivery at site.
- Supervise the project activities and evaluate the needs of project execution during the erection phase.
- Ensure the implementation of working procedures as per the standards and procedures.
- Direct pre-commissioning, commissioning, and startup for many projects.

Process Engineer at The Egyptian Ethylene & Derivatives Company (ETHYDCO)

From 07/2014 to 01/2016

- Validate the process documents including the design basis, process flow diagrams (PFDs), material take-off (MTO), piping and instrument diagrams (P&IDs), and engineering calculations.
- Write pre-commissioning, commissioning procedures, and startup checklists for different operation units in the ETHYDCO.
- Supervise pre-commissioning, commissioning activities, and the startup of many technical units in petrochemical plants.
- Assist in the issuance of HAZOP and HAZID reports.
- The responsible for the export of a byproduct in ETHYDCO from loading in trucks up to loading on the cargo ship achieving an annual net profit by 7 USD.

Research & Development Engineer at The Egyptian Petrochemical Holding Company (ECHEM).

From 06/2011 to 06/2014

- Look for new technologies, licenses, and processes to develop old petrochemical units.
- Take part in the technical evaluation and selection of technology/licensing for 8 proposed petrochemical projects such as bioethanol, medium density fiberboard, Polyethylene projects.
- Issue technical reports on license evaluation, site selection, design capacity, utilities required, expected demand, site assessment, and environmental impact assessment reports.
- Perform numerous pre-feasibility studies for various projects.

PART TIME JOBS

Scientific Reviewer for many high impact factor journals *(From 10/2020 to Now)*

such as: Fuel, International journal of ambient energy, Renewable energy, Iranian Journal of Chemistry and Chemical Engineering, International Journal of Chemistry

- Assess over than 100 scientific papers in the fields of biofuel, energy, and polymers.
- Indicate whether the writing is clear, concise, and relevant, as well as rate the work's composition, scientific accuracy, originality, and reader interest.

Instructor at Institute of Graduate Studies and Research (IGSR), Alexandria University *(From 10/2020 to Now)*

- Teach and supervise students, use lectures, demonstrations, discussion groups, laboratory workshop sessions, seminars, and case studies.
- Mentor the student to current research methodologies, scientific reviews, and thesis structure.
- Translate research specifications and create scientific proposals for new projects.

PUBLICATIONS

1. **El-Gharbawy**, A. S., Sadik, W. A., Sadek, O. M., & Kasaby, M. A. (2021). Glycerolysis treatment to enhance biodiesel production from low-quality feedstocks. Fuel, 284, 118970. https://www.sciencedirect.com/science/article/pii/S0016236120319669?dgcid=author

2. El-Gendy, N. S., **El-Gharabawy, A. A. S. A**., Amr, S. S., & Ashour, F. H. (2015). Response surface optimization of an alkaline transesterification of waste cooking oil. *Int. J. ChemTech Res*, *8*(8), 385-398. http://sphinxsai.com/2015/ch_vol8_no8/2/(385-398)V8N8CT.pdf

3. **Elgharbawy, A. S.,** & Ali, R. M. (2022). Techno-economic assessment of the biodiesel production using natural minerals rocks as a heterogeneous catalyst via conventional and ultrasonic techniques. Renewable Energy. https://www.sciencedirect.com/science/article/abs/pii/S0960148122004815

4. **Elgharbawy, A.,** & Sayed, A. (2020). A review on natural gas previous, current and forecasting prices and demand. *Journal of Petroleum and Mining Engineering*, *22*(1), 61-64. https://jpme.journals.ekb.eg/article_93390_815486ea2211a71585b26e394492415f.pdf

5. **Elgharbawy, A. S**. A. A. (2018). Review on Corrosion in Solar Panels. *International Journal of Smart Grid-ijSmartGrid*, *2*(4), 218-220. https://www.ijsmartgrid.org/index.php/ijsmartgridnew/article/view/31/pdf

6. **Elgharbawy, A.,** & Sayed, A. (2020). Production of biodiesel from used cooking using linear regression analysis. *Journal of Petroleum and Mining Engineering*, *22*(2), 92-99.https://jpme.journals.ekb.eg/article_131061_e89b05e13b44e49f6588a8653720a574.pdf

7. **El-gharbawy, A.,** Sadik, W., Sadek, O., & Kasaby, M. (2021). A review on biodiesel feedstocks and production technologies. *Journal of the Chilean Chemical Society*, *66*(1), 5098-5109. https://www.jcchems.com/index.php/JCCHEMS/article/view/1636

8. **Elgharbawy, A.S.,** et al., Maximizing biodiesel production from high free fatty acids feedstocks through glycerolysis treatment. Biomass and Bioenergy, **146**: p. 105997, 2021. https://www.sciencedirect.com/science/article/abs/pii/S0961953421000349?via%3Dihub

9. **Abdallah, S. E.** (2021). A Review on Phthalic Anhydride Industry and Uses. Ann Petro Petrochem eng, 1(1), 1-2. https://www.stephypublishers.com/petroleum-and-petrochemical-engineering/pdf/APPE.MS.ID.000505.pdf

10. **Ahmed Elgharbawy, A**., sadik, w., sadek, o., & kasaby, m. (2021). Transesterification reaction conditions and low-quality feedstock treatment processes for biodiesel production- A review. Journal of Petroleum and Mining Engineering, 98-103. doi:10.21608/jpme.2021.67482.1076. https://jpme.journals.ekb.eg/article_177504_764bd8e4fef58ac46d10a7fc1d4481f7.pdf

11. **Elgharbawy, A. S.** (2021). A review on high density poly ethylene as engineering polymer. Quaestus, (18), 455-459. https://www.quaestus.ro/wp-content/uploads/2012/03/Abdallah-S.-ELGHARBAWY2.pdf

12. **Elgharbawy AS.** Performing a Risk Analysis Study for Implementing a Biodiesel Plant. Pet Petro Chem Eng J 2021, 5(1): 000248. https://medwinpublishers.com/PPEJ/performing-a-risk-analysis-study-for-implementing-a-biodiesel-plant.pdf

13. **Elgharbawy, A. S.** (2021). A Review on Vinasse A By-Product from Sugarcane Industry. Trends Petro Eng, 1(2), 1-3. https://www.stephypublishers.com/tpe/pdf/TPE.MS.ID.000506.pdf

14. **Elgharbawy,** A. S. (2017). Cost analysis for biodiesel production from waste cooking oil plant in Egypt. International Journal of Smart Grid-ijSmartGrid, 1(1), 16-25. https://www.ijsmartgrid.org/index.php/ijsmartgridnew/article/view/2/pdf

15. **Elgharbawy, A. S.,** & Ali, R. M. (2022). A comprehensive review of the polyolefin composites and their properties. *Heliyon*, *8*(7). https://www.sciencedirect.com/science/article/pii/S2405844022012208

16. AbdElhafez, S. E., Taha, T., Mansy, A. E., El-Desouky, E., Abu-Saied, M. A., **Elgharbawy, A. S.**, ... & Ali, R. M. (2022). Experimental Optimization with the Emphasis on Techno-Economic Analysis of Production and Purification of High Value-Added Bioethanol from Sustainable Corn Stover. Energies, 15(17), 6131. https://www.mdpi.com/1996-1073/15/17/6131

17. **Elgharbawy, A.** (2022). Poly Vinyl Chloride Additives and Applications-A Review. Journal of Risk Analysis and Crisis Response, 12(3). https://jracr.com/index.php/jracr/article/view/335/385

18. **Elgharbawy, A.** (2023). Expandable polystyrene production and market survey-A review. Egyptian Journal of Chemistry, 66(5), 87-91. Expandable polystyrene production and market survey- A review (ekb.eg)

CERTIFICATIONS

- **IELTS with total Score 6.5** (Certification No.18EG000361SAYA002A)
- **Six Sigma Yellow Belt** (International Six Sigma Institute with ID: 36151979012414)
- **Six Sigma Green Belt** (International Six Sigma Institute with ID: 27621416098438)
- **Fundamentals of Project Planning and Management** (University of Virginia, USA, credential ID: VUNYSD7S65KL).
- **Fundamentals of Global Energy Business** (University of Colorado, USA, credential ID: QLDW2DCGWVRS).
- **Creative Thinking: Techniques and Tools for Success** (Imperial College London, UK, credential ID: A5E2A4UA3YUV).
- **Finance for Non-Finance Professionals** (Rice University, USA, credential ID: SD5TVNSYEQGF).
- **Politics and Economics of International Energy** (Sciences Po, USA, credential ID: KQPRAD3AEXPY).

TRAINING

- Polymer Technology and Plastic Reforming in Plastic Technology Center.
- Bioprocess Engineering and Bio factories at Mansoura University in cooperation with UNIVERSITI TEKNOLOGI MALAYSIA.
- HYSYS Process Simulation in Cairo University.
- Catalyst Application in Petrochemical Industry at Oil and Gas Company.
- Energy management awareness ISO-50001.

SKILLS

- Office Packages: Word, Excel, PowerPoint.
- Project management, Project engineering

- Visio, HYSYS, Minitab INC,16
- Academic research.
- Market research.
- Bids initiation for projects
- Budget review and assessment.
- Pre-feasibility studies for projects
- Contracts & proposals Review.
- Document control supervision.
- Commissioning & Construction supervision
- Process engineering.
- Environment assessment report
- Personnel presentations.
- Project Progress reports.
- Six Sigma Methodology and Strategic plan.

COURSES

I can teach the following courses:

- Petrochemicals industry
- Polymers
- Refinery of petroleum
- Biofuels & Biomass conversion
- Plant design
- Reaction kinetics
- Feasibility studies
- Scientific research

ACADEMIC SUPERVISION

Supervision of M.Sc. and Ph.D. theses as following:

No.	Theis title	Status	Degree
1.	Preparing Additives for the Diesel–Biodiesel blend to reduce the Nitrogen Oxides Emissions	In progress	MS.C
2.	Improvement of Polyvinyl Alcohol Properties Using Natural Additives for Biodegradable Film Application	In progress	MS.C
3.	Preparation of novel polymers from agriculture wastes	In progress	MS.C
4.	Reduction of energy consumed in the production of biodiesel from waste feedstocks using microwave radiation	In progress	MS.C
5.	Improvement of biodiesel production using different production techniques	In progress	MS.C
6.	Enhancing Biodiesel Production using Heterogeneous Catalysts	In progress	Ph.D.
7.	Enhancement the production of bio-lubricants from used cooking oil	In progress	Ph.D.
8.	Preparation of different pourpoint depressant polymers for diesel-biodiesel blend	In progress	Ph.D.