

Mohammed Badrt Mostafa Kamel Effat

Education

- 1- **M.Sc. in Mechanical Engineering** **June 2014, Assiut University**
 - **Cumulative grade point average on M.Sc. coursework:** 86.6 %.
 - **Thesis Title:** “Mathematical Modeling of CO₂ Enrichment, Capture, and Utilization in Commercial Greenhouses”.

- 2- **B.Sc. in Mechanical Engineering** **June 2008, Assiut University.**
 - **Grade:** Distinction with the honor degree.
 - **Cumulative grade point average:** 88.4 % [**Ranked 2nd** on the whole department of Mechanical Engineering]
 - **Graduation Project:** Comfort Air Conditioning using novel design of radiant cooling panels.
 - **Grade:** Distinction

Research Experience

- **Postgraduate Researcher [M.Sc. student, June 2010-June 2014 - Assiut University]**
 - **Developed an integrated heat and mass transfer mathematical model** simulating the real events and processes describing the CO₂ capture performance of commercial greenhouses. The events and processes I modeled and simulated are:
 - **Solar radiation processes** (absorption of solar radiation by plant leaves, greenhouse cover, and floor).
 - **Heat transfer processes** (conduction in the greenhouse soil, thermal radiation exchange between the greenhouse components, and convection heat transfer).
 - **The photosynthesis mass transfer process and the CO₂ injection process** for the greenhouse enrichment.
 - **The cooling and dehumidification processes** of the greenhouse.
 - **Developed a FORTRAN computer code** to solve the model equations and generate the model results for analysis.

Publications

- [1] **Mohammed B. Effat**, Hamdy M. Shafey, and A. M. Nassib, “Mathematical Modeling of CO₂ enrichment, Capture, and Utilization in Commercial Greenhouses”, Proceedings of the International Conference and Exhibition on Clean Energy, Ottawa, Canada, Sept. 2013, pp. 429-445

Attended Conferences

- International conference and exhibition on clean energy, Ottawa, Canada, September 2013.

Teaching Experience

- Tutor and marker of Heat transfer, Industrial furnaces design, cooling of electronic equipments, Heat exchangers, Environmental Engineering, Technical reports writing, and Engineering Drawing.
- I tutored for 2 semesters the following courses: Thermodynamics, Fluid Mechanics, Engineering economy, Drawing with AutoCAD, and Machine construction.
 - Average teaching load (30 hrs/week). This is tutoring and office hours time. It does not include the marking time.
 - Tasks include solving examples, helping students during the office hours, and marking midterms.
 - Class size ranges from 30 to 145 students.

Undergraduate Summer Training Experience

- **Assiut petroleum refining company(Summer of 2004)**
 - Recognized the petroleum refining process, valves & heat exchangers.
- **CEMEX Egypt company(Summer of 2006-2008)**
 - Recognized the cement manufacturing process.
 - Oriented in the different areas of the production line as: Quarry, raw mills, cement mills, kilns, packing.
 - **Designed a poster of lubricating system** of cement mill, which illustrates its functionality, components, and the hydraulic circuit representation, **as it was not available in the archive of the company.**

Awards and Academic Achievements

- **Awarded the second best invention prize** from the faculty for **the paper cutting invention** presented in the youth inventor's exhibition in the faculty. [February 2007]
- **Awarded Prof. Dr. Yehia EL-Said Prize** for thermodynamics course from the mechanical engineering department in Assiut University. [April 2006]
- **Academic excellence awards** in the form of financial award of 100 EGP for the academic years 2003,2004,2005,2006 and 2007. This awards are given to student with DISTINCTION overall grade.

Attended Courses

- **Examination systems and students evaluation** [Assiut University, January 2014]
- **Grant proposal and behind the scene of review process.** [Assiut University, April 2013]
- **Finite Element Modeling using COMSOL Multiphysics.** [El-Nady company "COMSOL representative agent", January 2013].
- **Publishing scientific articles in international journals.** [Assiut University, March 2012]
- **Human Development Course. (2008)**
Attended a four days human development course which was about: Time management-Self confidence-First aids-Managing small projects.

Computer skills

- FORTRAN & Familiar with MATLAB.

- FEM modeling using COMSOL Multiphysics.
- SOLIDWORKS & Autodesk INVENTOR.
- AutoCAD.
- Automation Studio.

Languages

- Arabic: Native Language
- English: Very Good

References

Prof.Dr. Ibrahim Shafie Taha

Professor of Heat Transfer-Mechanical Engineering department, Assiut University

E-mail: ibrahim_taha43@yahoo.com

Dr. Abdel-Moniem Nassib

Associate Professor-Mechanical Engineering department, Assiut University

E-mail: amnassib@yahoo.com

Dr. Othman Hassan Othman

Assistant professor- Mechanical Engineering department, Assiut University

E-mail: othman.hassan@eng.au.edu.eg