Mohamed M. Edardar

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Education:

PhD Electrical Engineering (Automatic control)   **, MI, USA**
- Michigan State University   *Aug'13*   GP (3.72/4.0)
- Member, Smart Material Lab

MSc Electrical Engineering (Automatic control)   **, MI, USA**
- Michigan State University   *May'11*   GPA (3.72/4.0)
- Member, Smart Material Lab
- Completed 10 graduate course and 2 undergrad courses. Four of the twelve courses are math courses.

MSc Electrical Engineering (power-electronics), Serdang, Malaysia
- UPM, Serdang, Malaysia   *May' 99*   GPA (3.6/4.0)
- My final year project was about design an inverter for a cellular system
- Published a paper in international electrical conference in Kuala Lumpur 1999

BSc Electrical Engineering (communications), Tripoli, Libya
- Al-Fatah University, Tripoli, Libya   *May' 91*   GPA (3.0/4.0)
- Among top-ten students in the electrical department.
- My final year project is about designing a cellular communication network to cover the Libyan coast.

High School diploma,   Tripoli, Libya
- Ali-Werith high school   May '85   GPA (93.6%)
- Among top-ten students in the capital city, Tripoli.

Education Experience:

High institute of electronic professions
Member of academic staff, 2000-2004   ***Tripoli***
- Courses I taught: power-electronics, electronic circuits. Automatic control.
- Designed and ran experiments for Power-electronic Lab.
- Supervised many of practical final year projects. (e.g. oil refinery control system, electric-vehicle, tablets manufacturing, car-painting using PLC, and many others)
- *Head of control branch,2001-2004*

High institute of Mechanical profession   *Janzoor*

Part-time job, 2001-2005
- *Taught the course electronic circuit design with supervising the experimental part.*
- *Designed and ran experiments used op-amps, like filters and oscillators.*

Tripoli-University

Member of academic staff, 2005-2007 then, **2013-now**

Assistant Professor (since 2014)
- Under-grad Courses : Digital Circuits, electronic circuits., measurement and instrumentation, Data-acquisition, control system design
- Graduate courses: Linear systems, Nonlinear systems and control
- Instructor and organizer   Digital circuits Labs. Designed new experiments for the Lab. Control Lab instructor
- Designed power-electronic circuits using P-spice software for students as a part of Lab requirement.

MSU   *2008-2013*
- a mentor for Digital part of qualifying exams in electrical department for two semesters summer 2009 and Fall 2009
- a grader for the course ECE851 in Fall 2009 and Fall 2011.
- Teaching assistant for Control Lab Spring 2012, 2013

Work Experience:

Schlumberger

Field Engineer, 1992-1993
- Pre-trainee as a wire-line service engineer in Libya's oil field in1992.
- Pre-trainee in Red-Sea Golf on off-shore Rig for four weeks.
- Trained for safety driving and work shop safety and off-shore safety
- Worked as international engineer in Turkey in 1993.
- In charge of group of operators and technicians working in the workshops as well as running jobs at the well-sites for different clients, like Shell Oil Company.

Research Experience and Publications:

- Conducting research in controlling Smart Materials used in nanopositioning which exhibits high order for nonlinearity.
- M. Edardar, X. Tan, and H. K. Khalil, "Sliding-mode tracking control of piezo-actuated nanopositioner," in Proceedings of the 2012 American Control Conference, 2012, pp. 3825-3830.
- M. Edardar, X. Tan, and H. K. Khalil, "Tracking Error Analysis for Singularly Perturbed Systems Preceded by Piecewise Linear Hysteresis," in Proceedings of the 51th IEEE Conference on Decision and Control, 2012, pp. 3139-3144.
- M. Edardar, X. Tan, and H. K. Khalil, "Closed-loop analysis for systems with fast linear dynamics preceded by hysteresis," in Proceedings of the 2013

American Control Conference, 2013.

- M. Edardar, X. Tan, and H. K. Khalil, "Design and Analysis of a Sliding Mode Controller for Systems with Hysteresis," the 52th IEEE Conference on Decision and Control, 2013.
- M. Edardar, X. Tan, and H. K. Khalil, "Tracking Error Analysis for Feedback Systems with Hysteresis Inversion and Fast Linear Dynamics," ASME, Journal of Dynamic Systems, Measurement and Control, no4, Vol.136, July 2014.
- M. Edardar, X. Tan, and H. K. Khalil, "Design and Analysis of Sliding Mode Controller under Approximate Hysteresis Compensation," IEEE Transaction on Control Technology, no2, Vol.23, March 2015.
- M. Edardar, "H∞ Control Design for Systems with Piecewise Linear Hysteresis", International Conference on Systems and Control , Tunisia, ICSC 2015
- M. Edardar, "Neural Sliding-mode control Tracking Control for a Class of non-linear Actuators", International conference on Modelling, Identification, and Control, Tunisia, ICMIC2015
- M. Edardar, "Model Reference Adaptive Control for Piezoelectric Actuators", International conference on Techniques of Automatic control & computer engineering , Tunisia, STA 2015
- M. Edardar, "Feedforward and Feedback Control of Smart Material Actuators", Almadar Journal for Communications, Information Technology, and Applications, , no1, Vol.3, April 2016.

Other Skills:

- Programming Languages: Mat-Lab, Simulink, P-spice, Lab-View, FORTRAN, C++, and Visual Basic.