

Mamdouh H. Nasr

Graduate Research Assistant

Department of Electrical Engineering,

School of Engineering, Stanford University.

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Research Interests

high power devices, microwave circuits and devices, metamaterials, numerical methods in electromagnetics, bio-medical applications of electromagnetics, RF power harvesting, antennas and matching circuits

Education and Academic Records

- 2014 **Ph.D. Student in Electrical Engineering, Stanford University, admitted Autumn 2014**
- 2011-2014 **MSc in Electronics and Communications Engineering, Cairo University, Egypt**
Elementary courses GPA: (4.0/4.0)
Thesis: “*Application of the Eigenmode Projection technique to Electromagnetic Scattering and Resonance Problems*”
Supervisors: Assoc. Prof. Tamer Abuelfadl, and Assoc. Prof. Islam A. Eshrah
- 2006-2011 **BSc in Electronics and Communications Engineering, Cairo University, Egypt**
Excellent with honor degree, Rank: (9th/316 - Top: 3%)
Cumulative rate: (90.67/100)
Graduation project: “*Low-Power Implantable Pressure Sensor Interface for Biomedical Applications (ASIC)*”
Sponsor: Si-Ware Systems Co. **Supervisor:** Assist. Prof. Amr Hafez
Grade: Excellent

Publications

Books

- [1] M. Nasr, *The Eigenmode Projection Technique: A Novel Numerical Electromagnetic Method*. LAP LAMBERT Academic Publishing, 2014.

Journals

- [1] M. H. Nasr, I. A. Eshrah, and T. M. Abuelfadl, "Electromagnetic Scattering from Dielectric Objects Using the Eigenmode Projection Technique," *Antennas and Propagation, IEEE Transactions on*, vol. 62, no. 6, pp. 3222-3231, June 2014.

Conferences

- [1] M. H. Nasr, I. A. Eshrah, and T. M. Abuelfadl, "Wideband Analysis of Scattering Problems Using an Eigenmode Projection Technique," in *Microwave Conference (EuMC), 2013 European*, Oct 2013, pp. 1231-1234.
- [2] M. H. Nasr, I. A. Eshrah, and T. M. Abuelfadl, "Solution of electromagnetic scattering problems using an eigenmode projection technique," in *Antennas and Propagation Society International Symposium (APSURSI), 2013*

IEEE, July 2013, pp. 1312-1313.

Honors and Awards

- Feb 2014** Admission for Ph.D. and research assistantship award from Department of Electrical Engineering, Stanford University.
- June 2013** Student travel grant of the 43rd European Microwave Conference (EuMC), the main event in the European Microwave Week 2013.
- May 2013** Honored by Department of Electronics and Communications Engineering, Cairo University for my efforts in the department accreditation by the National Authority of Quality and Accreditation of Education (NAQAAE), Egypt.
- Jan 2012** Teaching Assistantship by Department of Electronics and Communications Engineering, Cairo University.
- Sept 2011** Masters fellowship by Department of Electronics and Communications Engineering, Cairo University.
- Sept 2011** Won 1st place in Dr. Tarek Gamal Eldin Competition for Graduation Projects of the year 2011.

Professional Experience

- Jan 2012-Sep 2014 **Teaching and Research Assistant**
Department of Electronics and Communications Engineering,
Faculty of Engineering, Cairo University
Giza, Egypt.
- May 2013-Oct 2013 **Research Assistant**
American University at Cairo (AUC) in cooperation with Faculty
of Engineering, Cairo University.
*“Innovative Non-invasive Blood Sugar Level Monitoring for
Diabetes Using (UWB) Sensor”*
- | | |
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| <u>Funding Agency</u> | National Telecom Regulatory
Authority (NTRA), Egypt |
| <u>Principal Investigator</u> | Assoc. Prof. Ali Darwish |
| <u>Supervisor</u> | Assoc. Prof. Islam A. Eshrah |
- Research activity:
- Neural Networks for inverse scattering problems.
 - Scattering by buried objects in a homogeneous dielectric half space to model blood vessels under skin layers.
- Summer 2012 **Summer Trainer** at Cairo University, and Ain Shams University
Linux Administration, System Programming Environment, File
system.
- Summer 2011 **Summer Trainer** at Cairo University
Linux Administration, System Programming Environment, File
system.

Teaching Experience

Department of Electronics and Communications Engineering, Cairo University,
Egypt

- | | | |
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| Spring 2014 | Circuits 1B | Tutorials |
| Fall 2013 | Circuits 2A | Tutorials |

Spring 2013	Circuits 1B	Tutorials
Fall 2012	Antennas and optical Engineering	Tutorials
	Gunn Oscillator and Rectangular W.G	Laboratory
	Microwave Circuits	Laboratory
Spring 2012	Time Varying Fields	Tutorials
	Analog and Digital Electronics Measurements	Laboratory
Fall 2011	Electrostatic Fields	Tutorials
	Antenna Measurements and LASER	Laboratory
	Transceiver System	
	Control Systems Modeling	Laboratory
Spring 2011	Digital Electronic Circuits	Undergrad Activity

Industrial Training Experience

Oct 2011-Aug 2012	Si-Ware Systems Co. (<i>Graduation Project</i>) RF Power Harvesting, Data converters, Analog Electronics and Digital Techniques.
Summer 2010	Security Meter Co. Linux Administration, System Programming Environment, File system.
Summer 2009	Telecom Egypt Digital Telephony and Satellite Communications

Software Skills

ANSYS	HFSS
Mathworks	Matlab, Simulink
CST Suite	CST Microwave studio
Cadence	Virtuso, Orcad
NI	Multisim
Others	C/C++, Assembly, Linux Administration and System Programming

Extra-Curricular Activities

Photography, Photoshop graphic design, acting, vacations' trips, football, bowling, and Reading different categories in both Arabic and English.

Languages:

English: Excellent, Arabic: Native, French: Basic

Groups/Associations

- Institute of Electrical and Electronics Engineers (IEEE).
- Member of the International Committee of the First IEEE EMBS International Students Conference 2013.

References:

Assoc. Prof. Tamer Abuelfadl, and Assoc. Prof. Islam A. Eshrah: MSc thesis supervisors
Department of Electronics and Communications Engineering, Cairo University.

Emails: { telfadl@ieee.org, tamer@slac.stanford.edu }, isattar@eng.cu.edu.eg

Assoc. Prof. Ali Darwish: Principle investigator of NTRA funded project
Chair of the electronics engineering department at The American University in Cairo.

Email: { adarwish@aucegypt.edu, darwish@alum.mit.edu }

Assist. Prof. Amr Hafez: Graduation project supervisor
Department of Electronics and Communications Engineering, Cairo University.

Email: amr.hafez@si-ware.com