CURRICULUM VITAE

ELYAS BAYATI

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AREAS OF INTEREST

1. Millimeter wave and THz technology
2. Nonlinear and Quantum optics
3. Lasers and Fiber optics
4. Plasmonics and Optical sensing and imaging
5. RF and Microwave engineering

EDUCATION

B.Sc. in Electrical Engineering, School of Electrical and Computer Engineering, *September 2010-June 2015 (expected)*

University of Tehran, *Tehran, Iran*

- **GPA**: 16.52/20 (3.65/4)
- **Project Title**: " Millimeter-Wave Gunn-Diode Oscillators Based on Whispering Gallery Mode Resonators "
- **Advisor**: "Prof. Mohammad Neshat"

Description: Dielectric Image Guides (DIG) are planar structures used for the low cost implementation of millimeter wave (MMW) circuits and antenna arrays. Excitation of DIGs is, however, an important issue which hiders their application. One approach to solve this problem is the employment of Dielectric Resonators (DR) for coupling of excited modes to a DIG. In this project, we used Gunn oscillators as a low cost, simple, high power semiconductor source to facilitate this coupling. Employed configuration which can be integrated with both 3D waveguide structures (e.g. DIGs) and planar waveguides (e.g. coplanar or microstrip waveguides) is proposed for this structure. This structure is promising for implementation of high-sensitivity device for the sensing of liquids in the MMW range.

High School Diploma in Physics and Mathematics Discipline, *September 2006-June 2010*

Sharif High School, Tehran, Iran

- **GPA**: 19.83/20.

RESEARCH ACTIVITIES AND NOTABLE PROJECTS

✓ OPTICS AND PHOTONICS

- Measurement and analysis of angular response of propagating surface plasmon resonance based on Kretschmann configuration -*Collaboration in Graduate Projects*
- Designing an interface board for communicating with linear array of CCD for transforming optical signals to digitals signals

- Experienced in Working with THORLABS Optical Devices and Systems – *Photonics Research Lab*
- Analysis of Optical Wave Propagation in Layered Media – *Photonics Research Lab*
- Spectrometry with a Scanning Fabry-Perot Resonator for the Wavelength Range 1400^{nm} to 1600^{nm}
- Review and Presentation on Metamaterials as Optical Perfect Absorbers - *Metamaterials*
- Review and Presentation on Metamaterials as "energy absorption on solar cell using metamaterials " - *Metamaterials*

✓ RF AND MICROWAVE

- Design and Fabrication of a 2.4GHz Lange Coupler
- Design, Fabrication and Characterization of a Multilevel Sequential Rotation Feeding Network Used for Circularly Polarized Microstrip Antenna Arrays
- Design, Fabrication and Characterization of a four elements Microstrip Patch Antenna
- Design of a Four-Way, Equal-Split Wilkinson Power Divider.
- Experienced in Working with Vector Network Analyzer (45 MHz–50 GHz) and Scalar Spectrum Analyzer (10MHz–18GHz)

SELF STUDY

- Fundamental of Photonics (Bahaa E. A. Saleh, Malvin Carl Teich)
- Introduction to Quantum Mechanics (J. Griffiths)
- Microwave Amplifiers Analysis And Design (Gonzalez)

PUBLICATIONS

E. Bayati, A. Akhundi and M. Neshat, "Millimeter-Wave Gunn-Diode Oscillators Based on Whispering Gallery Mode Resonators", Accepted in *ICEE 2015* and published in *IEEE Xplore.*

COMPUTER AND NUMERICAL SKILLS

- Simulation Packages in Electromagnetics: MATLAB/SIMULINK, Ansoft HFSS, CST, ADS
- EDA tools: HSPICE, Modelsim, Proteous, Multisim
- Programming Language: C/C++, Assembly, Verilog HDL, AVR, ALTERA Quartus
- Operating Systems: Windows/ Linux

SELECTED COURSES

Theoretical Course

Metamaterials (Optional Graduate Course)	17/20	Numerical Analysis	18.4/20
Antenna 1	20/20	Engineering Mathematics	18.5/20
Calculus I	19.75/20	Calculus II	20/20
Ordinary Differential Equations	18.75/20		

Experimental Course

Microwave's Lab	19.7/20
Electronics 1 Lab	19.25/20
Electric Circuit Lab	20/20

LANGUAGE SKILLS AND STANDARDIZED TESTS

1. **Farsi (Persian): First Language 2. English: Fluent 3. Arabic: familier**
   - **TOEFL iBT, Overall Score: 94** (Reading: **24** Listening: **22** Speaking: **23** Writing: **25**)
   - **GRE Revised General Test:** Quantitative Reasoning: **165**
     Verbal Reasoning: **143**
     Analytical Writing: **3**

TEACHING EXPERIENCE

- ✓ **Teaching Assistant (TA)**
  - **Antenna Theory 1 (Assignments Coordinator), Instructor: Prof. Mahmoud Shahabadi, 2014**
  - **Electromagnetics (Assignment Coordinator), Instructor: Prof. Mahmoud Shahabadi, 2014**
  - **Engineering Mathematic (TA), Instructor: Dr. K.Mohammadpour-Aghdam, 2012**
  - **Fields and Wave (TA), Instructor: Dr. K.Mohammadpour-Aghdam, 2013**
  - **Signals and systems (TA), Instructor: Dr. Mohammad Ali Akhaee, 2012, 2013**
  - **Microwave Lab (TA). Instructor: Prof. Jalil-Agha Rashed-Mohassel, 2014**
- ✓ **Private Tutor**
  - **Calculus and Physics, Sharif High School, Summer 2012 till Now**
  - **Mathematical Olympiad, Sharif High School, Summer 2012 till Now**

HONORS AND AWARDS

- **Ranked 255th, among 300,000 Students in Physics and Mathematics National Universities Entrance Exam for Undergraduate Studies (B.Sc. Program), *2010***
- **Certificate of Distinction from Canadian Mathematics Competition and University of Waterloo (*at the Silver Standard in the Galois Mathematics Contest in the year 2008*)**
- **Certificate of Participation from Canadian Mathematics Competition and University of Waterloo (*at the Bronze Standard in the Challenge of Writing one of the Fryer, Galois or Hypatia Mathematics Contests in the year 2010)***
- **Qualified for the Final Stage of the National Mathematical Olympiad for two years, *2009, 2008***
- **Membership of Iranian Mathematical Society (IMS) for 7 years**
- **Entitled as an Exceptional Talented Student in University of Tehran, *2010***
- **Full Scholarship Award During Undergraduate Studies in University of Tehran, *2010***

REFERENCES

1. **M. Neshat, Assistant Professor, THz Photoelectronics Group, *University of Tehran***
2. **Jalil-Agha Rashed-Mohassel, Professor, Microwave's Lab, *University of Tehran***
3. **M. Shahabadi, Professor, Photonics Research Lab, *University of Tehran***
4. **L. Yousefi, Assistant Professor, Nanophotonics and Metamaterial Research Group, *University of Tehran***
5. **Karim Mohammadpour-Aghdam, Assistant Professor, *Antenna Lab*, *University of Tehran***
6. **Mohammad Ali Akhaee, Assistant Professor, Signal Processing Research Lab, *University of Tehran***