

CURRICULUM VITAE

(APRIL 2015)

First Name Seyed Abdolreza
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EDUCATION

- Ph. D.** Date: Sep 2008 – 2013,
Field: Microwave and Optical Communications,
Department of Electrical Engineering, Sharif University of Technology,
Azadi ave., Tehran, Iran,
GPA: 19.22 (out of 20),
Thesis: *Improvement and Extension of Characteristic Green's Function for Finite Dielectric Structures*,
Supervisors: Dr. Amir Ahmad Shishegar, Prof. Reza Faraji-Dana,
- M.Sc.** Date: 2006-2008,
Field: Microwave and Optical Communications
Department of Electrical Engineering, Sharif University of Technology,
Azadi ave., Tehran, Iran.
GPA: 17.48 (out of 20),
Thesis: *Scattering of Electromagnetic Waves from Random Rough Surface in Millimeter Wave Band*,
Supervisor: Dr. Amir Ahmad Shishegar,
- B.Sc.** Date: 2002-2006,
Field: Electrical Engineering – Communication,
Department of Electrical Engineering, Sharif University of Technology,
Azadi ave., Tehran, Iran,
GPA: 16.88 (out of 20),
Thesis: *Indoor Infrared and Physical Layer (IrDA protocol)*,
Supervisor: Dr. Freydoon Behnia,

RESEARCH INTERESTS

- Efficient methods of spatial Green's function derivation for various dielectric objects,
- Plasmonic waveguides, Graphene based structures, ...

- THz detection and generation systems, THz imaging, ...
- Scattering computation of rough surfaces, reinforced concrete walls, various periodic structures, ...₂
- Fast algorithms in numerical methods in EM,
- Parallel processing solver algorithms.

HONORS AND AWARDS

- Recipient of *best student paper awards* of PHOTOPTICS 2015 for paper “*Combination of Characteristic Green's Function Technique and Rational Function Fitting Method for Computation of Modal Reflectivity at the Optical Waveguide End-Facet*”, Berlin, Germany. 2015
- Ranked 5rd among PhD students of (Microwave and Optical Communications) in Sharif University of Technology. 2014
- Recipient of student travel grant from *EUROPEAN MICROWAVE WEEK (EUMW) 2013-Nürnberg Convention Center, Nuremberg, Germany*. 2013
- Ranked 1st in the Sharif University of Technology entrance exam for Ph.D. degree in Electrical Engineering among more than 1,000 applicants (2008) 2009
- Ranked 3rd among graduate students of (Microwave and Optical Communications) in Sharif University of Technology. 2008
- Ranked 17th among 5000+ EE undergraduates in the National University Entrance Examination (for M.Sc. degree). 2006
- Ranked 64th among 400,000 participants in the National Undergraduate University Entrance Examination (for B.Sc. degree). 2004
- Ranked first in AyandehSazan competition in 2003. 2003
- Ranked third in AyandehSazan competition in 2002. 2002
- Passed from the first stage examination of student olympiad of Math, Physics, Chemistry, Computer. 2001

WORK EXPERIENCE

- Head of industry relation part of Ghiasoddin Jamshid Kashani Higher Educational Ins. June 2013 – present.
- Group manager of M.Sc students of Electrical Engineering Department of Ghiasoddin Jamshid Kashani Higher Educational Ins. June 2013 – present.
- Head of Electrical Engineering Department of Ghiasoddin Jamshid Kashani Higher Educational Ins. April 2012 – 2013.

- Research Assistant, Numerical Electromagnetics Laboratory, Sharif University of Technology, Sep 2006 – present.
- Consulting Engineer, THz imaging for medical application, Jahade Daneshgahi Sharif, Optic center, Aug 2012 – present.
- Consulting Engineer, consulting in spectrum management project of Iran Communications Regulatory Authority, 2012.
- Designing Engineer, dielectric resonator filter designing project of Iran Telecommunication Research Center (ITRC), 2011-2012.
- Electronic Engineer, in Jahade Daneshgahi Sharif, 2008.
- Research Assistant, project of “Millimeter Wave Propagation in Indoor and Outdoor Regions”, sponsored by Iran Telecommunication Research Center (ITRC) under the supervision of Dr. Shishegar, 2009-2010.

TEACHING EXPERIENCE

Instructor

- **Sharif University of Technology**, *Fundamentals of Electrical Engineering*, 2011,
- **Ghiasoddin Jamshid Kashani Higher Educational Ins.** 2011-2013,
 - ✓ *Satellite Communications*
 - ✓ *Advanced Electromagnetics*
 - ✓ *Communications II*
 - ✓ *Numerical Methods in Electromagnetics*
 - ✓ *Fiber Optics*
 - ✓ *Mobile communications*
 - ✓ *Microwave Components*
 - ✓ *Field and waves*
 - ✓ *Wireless Systems Design*

Teaching Assistant

- **Shahabe Danesh Higher Educational Ins**, *Electromagnetics*, 2011,
- **Sharif University of Technology**,
 - ✓ *Fields and Waves*, 2008
 - ✓ *Fiber Optics*, 2009
 - ✓ *Electromagnetics*, 2009
 - ✓ *Numerical Methods in Electromagnetics*, 2010, 2012
 - ✓ *Fields and Waves*, 2010
 - ✓ *Advanced Electromagnetics*, 2012

SELECTED ACADEMIC PROJECTS

- Scattering with reinforced concrete wall using MOM-CI method, 2008.
- Analyzing noise in linear and non-linear circuits, 2008.
- THz waves generation and applications, 2008.
- Exploration of difference between modal and non-modal approximation solution for differential equations, 2007.
- Balanced amplifier in 10 GHz with good return loss and 10dB gain, 500 MHz flat bandwidth, 2007.
- Car control system for wireless communication with the main center (GPS), 2005.
- One stage folded cascade CMOS amplifier with near 4V output swing and small power dissipation, 2004.
- Design differential amplifier with 100dB differential gain, 2004.

PUBLICATIONS

Books

- Co-author of "Euclid geometry", MAHDIS publication, written by Math Group of National Organization for Development of Exceptional Talents (NODET), 2002, ISBN 964-92912-9-6 (in Persian).

Journal Papers

- **A. Torabi** and A. A. Shishegar, R. Faraji-Dana, "An Efficient Closed-Form Derivation of Spatial Green's Function for Finite Dielectric Structures Using Characteristic Green's Function-Rational Function Fitting Method," IEEE Transaction on Antenna and Propagation, vol. 62, no. 3 March, 2014.
- **A. Torabi** and A. A. Shishegar, R. Faraji-Dana, "The Application of Characteristic Green's Function Technique to Modal Reflectivity at the Optical Waveguide End-Facet," Journal of Lightwave Technology, vol. 32, no. 6 pp. 1168-1176, 2014.
- **A. Torabi** and A. A. Shishegar, "An Efficient Rough Surface Scattering Analysis for Ray Tracing Algorithm Using Strong Harmonics Extraction and the Kirchhoff Approach" Applied Computational Electromagnetic Society Journal (ACES), Vol 29, No. 2, February 2014, pp. 163-169.
- **A. Torabi** and A. A. Shishegar, "An Exact Expression of Spatial Green's Function for Finite Dielectric Structures Using Characteristics Green's Function-

- Perfectly Matched Layers,” IEEE Transaction on Antenna and Propagation, vol. 62, no. 6, pp. 3201-3211, June, 2014.
- R. Meghdadi, S. Moeini, A. Moeini, F. Eskandari, **A. Torabi**, Optimization on Antenna Selection Using Imperialist Competitive Algorithm, *Majlesi Journal of Electrical Engineering*, Vol. 6, No. 2, June 2012.
 - S.Iman Zonoori, S.Vahab Al-Din Makki, **A. Torabi** “A Comparative study of the distance effects of human head from mobile phone radiation,” *International Journal of Microwave and Optical Technology (IJMOT)*, No.10, Issue No.1, 2015, p. 20-27.
 - S.Iman Zonoori, S.Vahab Al-Din Makki, **A. Torabi** “The effect on a human heart model from dipole antenna, with & without shield on SAR & temperature increase,” *Applied Computational Electromagnetic Society Journal (ACES)*, Vol 30, No. 11, November 2015, pp. 1188-1193.

Conference Papers

- **A. Torabi** and A. A. Shishegar, "Scattering with Reinforced Concrete Wall in 900-MHz Band Using MOM/CI Method," in *3rd European Conference on Antennas and Propagation (EUCAP 2009)*, Berlin, Germany, 2009.
- **A. Torabi** and A. A. Shishegar, "Scattering Computation of Slightly Rough Gaussian Surfaces by Kirchhoff Approach with Harmonic Extraction Analysis," in *International Conference on Microwave Technology and Computational Electromagnetics (ICMTCE 2009)*, Beijing, China, 2009.
- **A. Torabi** and A. A. Shishegar, "Fresnel Coefficients Correction for Asphalt Surfaces in Millimeter Waves Band," in *International Symposium on Antennas and Propagation (ISAP 2009)* Bangkok, Thailand, 2009.
- **A. Torabi** and A. A. Shishegar, “A Uniform and Closed-Form Expression of Spatial Green's Function for Finite Dielectric Structures,” in the *19th Conference of Computation of Electromagnetic fields (COMPUMAG 2013)*, Budapest, Hungary, 2013.
- **A. Torabi** and A. A. Shishegar, "An Efficient Closed-Form Expression of Spatial Green's Function for Finite Dielectric Substrate Using Characteristic Green's Function-Perfectly Matched Layer Method," in *European Microwave Week (EUMW 2013) Conference*, Nuremberg, Germany, 2013.
- **A. Torabi** and A. A. Shishegar, "An Approximate Series Representation of Spatial Green's Function for Finite Dielectric Substrate Using CGF-PML Method," in the *International Conference on Electromagnetics in Advanced Applications (ICEAA 2013)*, Torino, Italy, 2013.
- **A. Torabi** and A. A. Shishegar, " An Efficient Closed-Form Expression of Spatial Green's Function for Finite Dielectric Substrate Using CGF-RFFM and

- Scattering Matrix of Truncated Surface”, in the *Asia-Pacific Conference on Antennas and Propagation (APCAP 2013)*, Chiang Mai, Thailand, 2013.
- **A. Torabi** and A. A. Shishegar, " An Efficient Modal Series Representation of Green's Function of Planar Layered Media for All Ranges of Distances from Source Using CGF-PML-RFFM," in *International Symposium on Antennas and Propagation (ISAP2013)*, Nanjing, China, 2013.
 - **A. Torabi** and A. A. Shishegar, R. Faraji-Dana, “The Application of Characteristic Green's Function Technique in Closed-Form Derivation of Spatial Green's Function of Finite Dielectric Structure”, in *Computational Electromagnetics Workshop (CEM' 13)*, Izmir, Turkey, 2013.
 - **A. Torabi** and A. A. Shishegar, " An Efficient Modal Series Representation of Green's Function of Planar Layered Media for All Ranges of Distances from Source Using CGF-PML-RFFM," in *International Symposium on Antennas and Propagation (ISAP2013)*, Nanjing, China, 2013.
 - **A. Torabi** and A. A. Shishegar, “Combined CGF-PML and CGF-RFFM for Efficient and Uniform Modal Derivation of Green's Function of Planar Layered Media”, 9th German Microwave Conference, GeMiC 2015, Nürnberg, Germany, 16–18th March 2015.
 - **A. Torabi** and A. A. Shishegar, “Combination of Characteristic Green's Function Technique and Rational Funtion Fitting Method for Computation of Modal Reflectivity at the Optical Waveguide End-Facet”, 3th International conference on photonics, optics and laser technology (PHOTOPTICS 2015), Berlin, Germany. *Recipient Best Student Paper Awards.*
 - R. Meghdadi, S. Moeini, A. Moeini, **A. Torabi**, “Optimization on Antenna Selection Using Imperialist Competitive Algorithm”, 5th Iranian Conference on Electrical and Electronics Engineering, (ICEEE 2013), Islamic Azad University Gonabad Branch, August 2012.
 - S. Moeini , R. Meghdadi, A. Moeini, **A. Torabi**, “Antenna selection in MIMO systems using particle swarm optimization technique”, 16th Iranian Student Conference on Electrical Engineering, (ISCEE 2013), Islamic Azad University Kazeroon Branch, September 2012.
 - I. Zonori, V. Makki, **A. Torabi**, S. Zonori “Numerical studying of light equipment temperature using finite element method”, *Iranian International Conference on lighting*, Shiraz, Iran, Dec 2013.
 - I. Zonori, V. Makki, **A. Torabi**, “Study on the effects of electromagnetic wave of mobile antenna on human heart”, *Second Iran BioElectromagnetic Conference*, Tehran, , Dec 2013
 - I. Zonori, V. Makki, **A. Torabi**, “Electromagnetic wave effects of various mobile antenna on human heart”, *Second Iran Engineering Electromagnetic Conference*, Tehran, Dec 2013.

- I. Zonori, V. Makki, **A. Torabi**, “Analysis and measurement on different approaches on increasing performance of electronic ballasts of florescent lamps”, *Iranian International Conference on lighting*, Tehran, Nov 2014.

PRESENTATIONS AND INVITED LECTURES

- A. A. Shishegar, **A. Torabi**, *et al.*, "Workshop on Electromagnetic Wave Propagation in Indoor and Outdoor Environments in Millimeter-Wave Band," in *Iran Telecommunication Research Center (ITRC)*, Tehran, Iran, 2009.
- A. A. Shishegar, **A. Torabi**, V. Mohtashami, "Workshop on Electromagnetic Wave Propagation in Millimeter-wave Band," in *the first Conference of Millimeter-Wave and THz Technologies (MMWATT)*, AmirKabir University, Tehran, Iran, 2010.

PROFESSIONAL TRAINING

- “*THz Wave Application and Generation Workshop*”, by Dr. Ehsan Afshari from Cornell University, organized by Sharif University of Technology. 2013.

PROFESSIONAL SERVICE

- Prevalent referee in 13th and 14th *Iran Student Conference in Electrical Engineering (ICSEE)*, respectively organized by Tarbiat Modarres University (2010) and Islamic Azad University of Kazeroon (2013).

SOME PASEED COURSES

Out of 20

Advanced Electromagnetics	18.2	Antennas I	16
Numerical Methods in Electromagnetics	18.2	Fields and Waves	17
Fiber Optics	19.2	Time-Frequency Processing	18.5
Active Microwave Circuits	17	Numerical Optimizations	17
Asymptotic Methods in Electromagnetics	20	Filters	20
Satellite Communications	17	Electromagnetics	18
Magnetic Microwave Components	17	Engineering Mathematics	20
Semiconductor Microwave Components	17	Microwave I	19
Scattering	18	Advanced Engineering Mathematics	19

COMMUNITY MEMBERSHIP

- Student member of the Institute of Electrical and Electronics Engineers (IEEE), and below societies:
 - ✓ IEEE Antenna and Propagation Society (APS)
 - ✓ IEEE Geosciences and Remote Sensing
 - ✓ IEEE Communication Society
 - ✓ IEEE Photonic Society
- Student member of the Institute of Iranian Association of Electrical and Electronics Engineers (IAEEE).
- Student member of American Geophysical Union (AGU) and Radio Science (RS).

LANGUAGES

Persian: Native language,

English: Reading, Writing, Speaking,

COMPUTER SKILLS

Matlab	✓ M-file Programming, SIMULINK,
Simulation Softwares	✓ Microwave Office, ADS, HFSS, FEKO, CST, PSPICE, COMSOL , LabView,
Utility Softwares	✓ Excel, Powerpoint, Adobe Photoshop,

REFERENCES

- **Dr. Amir Ahmad Shishegar**, Associated Professor, Department of Electrical Engineering, Sharif University of Technology, Tehran, Iran. shishegar@sharif.edu
- **Prof. Reza Faraji-Dana**, Professor, Department of Electrical and computer Engineering, University of Tehran, Tehran, Iran. reza@ut.ac.ir
- **Dr. Fereydoun Behnia**, Associated Professor, behnia@sharif.edu

Department of Electrical Engineering, Sharif University of Technology, Tehran, Iran.

- **Prof. Bahman Mehri**, Professor, Department of Mathematical Science, Sharif University of Technology, Tehran, Iran.
- **Dr. Yahya Tabesh**, Associated Professor, Department of Mathematical Science, Sharif University of Technology, Tehran, Iran.

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