

Ata Chizari

CONTACT INFORMATION

Biomedical Photonic Imaging Group
Faculty of Science and Technology
University of Twente, The Netherlands

E-mail: a [dot] chizari [at] utwente [dot] nl
Website: atachizari.com

RESEARCH INTERESTS

- Laser based perfusion imaging
- Analog optical signal processing
- Metamaterials
- Visible light communications and indoor positioning
- Underwater wireless optical communications

EDUCATION

University of Twente, Enschede, The Netherlands Feb. 2017 - Exp. 2021

Ph.D. with focus on Biomedical Photonics;

- Thesis: Designing A Handheld Device for Optical Microcirculatory Perfusion Imaging.
Supervisor: Prof. Wiendelt Steenbergen

Shahid Beheshti University (SBU), Tehran, Iran Sep. 2013 - Sep. 2015

M.Sc. with focus on Communication Systems; **GPA:17.79/20.00 (3.81/4)**

- Thesis: Designing A Dimmable OPPM-Based VLC System Under Channel Constraints.
Supervisor: Dr. Akbar Dargahi

Tafresh University, Tafresh, Iran Sep. 2009 - Sep. 2013

B.Sc. with focus on Electronics; **GPA:18.72/20.00(3.96/4)**

- Thesis: Remote Control Switching Device of Electricity Keys with Capability of Easy Installation.
Supervisor: Dr. Ali M. Fotouhi

HONORS & AWARDS

- Awarded scholarship for Ph.D. studies from University at Twente 2017
- IEEE/IET Student Travel Grant Award for 10th IEEE/IET CSNDSP 2016, Prague 2016
- Financial Support for U.S. Patent Application by Iran National Science Foundation 2016
- Ranked 3rd among Communication Systems students of Shahid Beheshti University 2015
- Member of swimming team of Shahid Beheshti University at 12nd Nationwide Student Sport Olympiad 2014
- Accepted as talented student for graduate studies at Shahid Beheshti University 2013
- Ranked 1st among 120 students in class of 2009 Electrical Engineering entrants 2013
- Ranked top 3% in the National Entrance Exam among Electrical Engineering students of Iran for M.Sc. studies 2013
- Ranked top 4% in the Nationwide University Entrance Exam (KONKOOR) for B.Sc. studies 2009
- Ranked 1st among 150 students in class of 2004 Mathematics and Physics of Bahonar High School 2007

PATENTS & PUBLICATIONS

Patents

- J.A. Salehi, H. Hosseinianfar, and **A. Chizari**, “Methods and Systems for Geometrical Optics Positioning using Spatial Color Coded LEDs”, **US Patent**, app. No. 15275431, 2016.
- A. M. Fotouhi and **A. Chizari**, “Remote Control Switching Device of Electricity Keys with Capability of Easy Installation”, **Iran Patent**, registration number: 73930, 2012.

Journal Papers

- **A. Chizari**, S. AbdollahRamezani, M.V. Jamali, and J. A. Salehi, “Analog Computing Technique Based on Dielectric Meta-reflect-array”, **OSA Optics Letters**, vol. 41, no. 15, pp. 3451-3454, August 2016.
- Ali Eshaghian Dorche, Sajjad AbdollahRamezani, **A. Chizari**, and Amin Khavasi, “Broadband, Polarization-insensitive, and Wide-angle Optical Absorber Based on Fractal Plasmonics”, **IEEE Photonics Technology Letters**, Vol. 28, no. 22, pp. 2545-2548, 2016.
- M.V. Jamali, **A. Chizari**, and J.A. Salehi, “Performance Analysis of Multi-Hop Underwater Wireless Optical Communication Systems”, submitted to **IEEE Photonics Technology Letters**, October, 2016.

Conference Papers

- **A. Chizari**, M.V. Jamali, S. AbdollahRamezani, J.A. Salehi, and A. Dargahi, “Designing A Dimmable OPPM-Based VLC System Under Channel Constraints”, 10th IEEE/IET International Symposium on Communication Systems, Networks and Digital Signal Processing (CSNDSP), 2016.
- Ali Lotfi-Rezaabad, Siamak Talebi, and **A. Chizari**, “Two Quasi Orthogonal Space-Time Block Codes with Better Performance and Low Complexity Decoder”, 10th IEEE/IET International Symposium on Communication Systems, Networks and Digital Signal Processing (CSNDSP), 2016.
- Elnaz Ghahremanirad, Saeed Olyaei, and **A. Chizari**, “Nano-plasmonic Thin-Film Solar Cell Receiver in Visible Light Communication”, 10th IEEE/IET International Symposium on Communication Systems, Networks and Digital Signal Processing (CSNDSP), 2016.
- M.V. Jamali, P. Khorramshahi, A. Tashakori, **A. Chizari**, S. Shahsavari, S. AbdollahRamezani, M. Fazelian, S. Bahrani, and J.A. Salehi, “Statistical Distribution of Intensity Fluctuations for Underwater Wireless Optical Channels in the Presence of Air Bubbles”, Iran Workshop on Communications and Information Theory (IWCIT), 2016.
- M. Fazelian, S. AbdollahRamezani, S. Bahrani, **A. Chizari**, M.V. Jamali, P. Khorramshahi, A. Tashakori, S. Shahsavari, and J.A. Salehi, “Mining Data Sequences Based on Spatially Coded Technique Using Spatial Light Modulator”, Iran Workshop on Communications and Information Theory (IWCIT), 2016.
- Saeed Olyaei, Ali Nikoosohbat, Ahmad Mohebzadeh Bahabady, and **A. Chizari**, “Square-Hexagonal Nanostructured Photonic Crystal Fiber At 1550 nm Wavelength”, 10th IEEE/IET International Symposium on Communication Systems, Networks and Digital Signal Processing (CSNDSP), 2016.

PROFESSIONAL EXPERIENCE

Optical Networks Research Lab (ONRL)

Sep. 2014 - Sep. 2016

Research Assistant, Sharif University of Technology

- Opto-Electronics
- Optical Wireless Communications
- Spatial Light Modulation (SLM)
- Visible Light Indoor Positioning

Fiber Optics Communications Lab

Jun. 2014 - Jun. 2015

Research Assistant, Shahid Beheshti University

- Simulation and analysis of fiber optic communication systems (Opti-System)
- Implementing an LED-based fiber optic transceiver using evaluation boards

Afra Engineering Group

Feb. 2014 - Sep. 2016

Head of Development, Shahid Beheshti University

- RFID-based smart card service for:
 - The 22nd Iranian Conference on Electrical Engineering (ICEE 2014)
 - The 21st Iranian Conference on Optics and Photonics (ICOP 2015)
 - The 9th Iranian Conference on Machine Vision and Image Processing (MVIP 2015)
 - The 13th International Conference on Information Security and Cryptology (ISC 2016)

Digital Circuits Lab

Jan. 2012 - Jun. 2013

Laboratory Assistant, Tafresh University

- Teaching VHDL programming
- Supervising FPGA-based projects of undergraduate students
- Revising laboratory instructions according to FPGA evaluation boards

**TECHNICAL
REVIEW
ACTIVITY**

- IEEE Transaction on Vehicular Technology
- IEEE Photonics Journal
- IEEE Vehicular Technology Magazine
- IEEE Communications Letters
- Journal of Optical Communications and Networking

MEMBERSHIP

- IEEE Communications Society (93943136) 2016

**TEACHING
EXPERIENCES**

- Teaching Assistant for “Computer Architecture”, Prof. A. Raie, Tafresh University Fall 2011
- Teaching Assistant for “Electrical Circuits”, Dr. H. Meshgin, Tafresh University Spring 2012
- Teaching Assistant for “Microprocessors”, Dr. A.M. Fotouhi, Tafresh University Fall 2012
- Teaching Assistant for “Digital circuits”, Dr. A.M. Fotouhi, Tafresh University Fall 2012
- Teaching Assistant for “Electronics”, Dr. F. Hajati, Tafresh University Spring 2013
- Teaching Assistant for “Logical Circuits Lab”, Prof. M. Eshghi, Shahid Beheshti University Fall 2013
- Teaching Assistant for “Microprocessors Lab”, Prof. M. Eshghi, Shahid Beheshti University Spring 2014
- Teaching Assistant for “FPGA Lab”, Dr. A. Dargahi, Shahid Beheshti University Fall 2014
- Teaching Assistant for “Fiber Optic Communications”, Dr. A. Dargahi, Shahid Beheshti University Fall 2014
- Teaching Assistant for “Fiber Optic Communications”, Dr. A. Dargahi, Shahid Beheshti University Spring 2015
- Teaching Assistant for “Fiber Optic Communications”, Dr. A. Dargahi, Shahid Beheshti University Fall 2015

SELECTED COURSES

Graduate Courses

- Adv. Communication Theory 17.6/20.0
- Wireless Communications 19.75/20.0
- Inf. Theory and Coding 17.3/20.0
- Spread Spectrum 17.5/20.0
- Optical Comm. Systems 17.0/20.0
- Statistical Optical Comm. audited
- Optical Comm. Networks audited
- Data Communication Networks audited
- Adv. Data Comm. Networks audited
- Opto-electronics I 17.7/20.0
- Opto-electronics II audited
- EE seminar 19.0/20.0
- Thesis 19.75/20.0

Undergraduate Courses

- Technical English..... 20.0/20.0
- General Mathematics 20.0/20.0
- General Physics 17.5/20.0
- Engineering Prob. and Stat. 17.5/20.0
- Communication Systems 19.5/20.0
- Communication Circuits 20.0/20.0
- Numerical Calculations 20.0/20.0
- Physic Electronics 19.75/20.0
- Image Processing 20.0/20.0
- Electrical Circuits 18.25/20.0
- Computer Programming (C) 20.0/20.0
- Engineering Mathematics 17.7/20.0
- Electronics I 19.5/20.0
- Electronics II 19.0/20.0
- Electronics III 20.0/20.0
- Engineering Economics 20.0/20.0
- Pulse Circuits 17.25/20.0
- Power Electronics 19.75/20.0
- Linear Control Systems 20.0/20.0
- Electrical Installations 17.0/20.0
- Electrical Measurements 20.0/20.0
- Computer Architecture 17.5/20.0
- Microprocessors 18/20.0
- Thesis 20.0/20.0

Certifications

- Participation in 10th IEEE/IET International Symposium on Communication Systems, Networks, and Digital Signal Processing (CSNDSP), Czech Technical University, Prague 2016
- Participation in 4th Iran Workshop on Comm. and Inf. Theory (IWCIT), Sharif University of Technology, Tehran 2016
- Participation in 3rd Iran Workshop on Comm. and Inf. Theory (IWCIT), Sharif University of Technology, Tehran 2015
- Participation in 21st Iranian Conference on Optics and Photonics (ICOP), Shahid Beheshti University, Tehran 2015
- Participation in 22nd Iranian Conference on Electrical Engineering (ICEE), Shahid Beheshti University, Tehran 2014
- Participation in International Symposium on Telecommunications (IST), Iran Telecommunications Research Center (ITRC), Tehran 2014
- Participation in workshop on Optical Wireless Communication Systems: Indoor and Outdoor, Iran Telecommunications Research Center (ITRC), Tehran 2014

SELECTED PROJECTS AND TERM PAPERS

Sharif University of Technology

- Simulation of dielectric meta-transmit-array (CST)
- Design and implementation of visible light indoor positioning system (MATLAB)

- Design and implementation of LED-based illumination systems for indoor and outdoor environments

Shahid Beheshti University

- Developing a GUI-based transceiver with various modulation schemes, such as QAM and DPSK, in the presence of AWGN considering ISI and equalizer effects (Advanced Communications Theory, Monte Carlo Simulation, MATLAB)
- Developing a GUI-based random access network with various techniques, such as ALOHA and CSMA (Wireless Communications, MATLAB)
- Simulation and analysis of an indirect optical fiber transceiver using Mach-Zehnder modulator (Fiber Optic Communications, Opti-system)
- Developing an RFID-based smart card service for conference participants (AVR microprocessors, Altium Designer)

Tafresh University

- Design and implementation of a remote control switching device of electricity key with capability of easy installation (AVR microprocessors, Code Vision AVR, Altium Designer)
- Design and implementation of a switching mode power supply and a power amplifier (Electronics Lab Project, Altium Designer, Fairchild Semiconductor Software)
- Design and implementation of a binary to BCD converter using VHDL on FPGA (Digital Lab, Quartus)
- Design and implementation of an auto-irrigating system for gardens (Microprocessors Lab, Code Vision AVR)

TECHNICAL SKILLS

Computer Skills

- **Numerical Simulations:** Opti-System, COMSOL Multiphysics, CST Design Studio, Code Vision AVR, AVR Studio, Quartus, AutoCAD, Photoshop
- **Programming:** MATLAB, \LaTeX , C
- **Computer and OS:** Microsoft Windows, Microsoft Office, Mac

Languages

- **English:** Professional working proficiency
- **Dutch:** Limited working proficiency
- **Persian:** Native

REFERENCE AVAILABLE TO CONTACT

- **Prof. Wiendelt Steenbergen (E-mail: w [dot] steenbergen [at] utwente [dot] nl)**
Professor, Faculty of Science and Technology, University of Twente (PhD: Delft Uni. of Tech.)
- **Prof. Jawad A. Salehi (E-mail: jasalehi [at] sharif [dot] edu)**
Professor, IEEE Fellow, Electrical Engineering, Sharif University of Technology (PhD: USC)
- **Dr. Akbar Dargahi (E-mail: a-dargahi [at] sbu [dot] ac [dot] ir)**
Assistant Professor, Electrical Engineering, Shahid Beheshti University (PhD: Uni. of Wales)
- **Dr. S. Ali Ghorashi (E-mail: a_ghorashi [at] sbu [dot] ac [dot] ir)**
Associate Professor, Electrical Engineering, Shahid Beheshti University (PhD: King's Collenge London)
- **Dr. Farah Torkamani-Azar (E-mail: f-torkamani [at] sbu [dot] ac [dot] ir)**
Associate Professor, Electrical Engineering, Shahid Beheshti University (PhD: New South Wales University)
- **Dr. Ali M. Fotouhi (E-mail: fotouhi [at] tafreshu [dot] ac [dot] ir)**
Assistant Professor, Electrical Engineering, Tafresh University (PhD: Amirkabir Uni. of Tech.)