

Ata Chizari
résumé

October 21, 2018

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0.1 Contact Information

ZH264, Biomedical Photonic Imaging Group (BMPI).
MIRA Institute for biomedical Technology and Technical Medicine,
University of Twente, Faculty of Science and Technology (TNW),
Drienerlolaan 5, 7522 NB Enschede, The Netherlands.

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Website atachizari.com

0.2 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. dr. 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: Design and Implementation of a Remote Control Switching Device for Electricity Keys with
Capability of Easy Installation,
Supervisor: Dr. Ali M. Fotouhi.

0.2.1 Certifications

Conferences Proceedings Participation

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

Generic Courses and Educational Workshops Provided by University of Twente, Center for Training and Development (CTD)

- NT2 High Proficiency Dutch (C1) Exp. Sep. - Dec. 2018
- Cambridge First Certificate (B2) . Oct. 2017 - Apr. 2018
- Cambridge Advanced English (C1) Apr. - Exp. Nov. 2018
- Scientific Information Boot-camp .. Jan. 2018
- Dutch Follow-up III (B2) ... Mar. - Jun. 2018
- Dutch Follow-up II (B1) Nov. 2017 - Mar. 2018

- Laser Safety for UsersJan. 2018
- Designing a Lesson and a Course ...Jan. 2018
- Write to Publicize Nov.- Dec. 2017
- English for Lectures Nov.- Dec. 2017
- Creative Thinking Nov. 2017
- Storytelling and How to make your Lessons Stick Nov. 2017
- Dutch Follow-up I (A2)Sep.- Nov. 2017
- Basics on How to Create an Industrial Video Oct. 2017
- Practical Teaching Skills Oct. 2017
- Project Management for PhD Students .. Oct. 2017
- PhD Introductory WorkshopSep. 2017
- Supervising StudentsSep. 2017
- Research Data ManagementSep. 2017
- Orientation on the University of Twente Bachelor Educational Program Jul. 2017
- Getting Started with the CE Stamp on your Medical Devices Jun. 2017
- Dutch for Beginners (A1) ... Apr. - Jun. 2017
- From Idea to Patent and to Business May 2017
- Transferable Skills Apr. 2017

0.2.2 Accomplished Disciplinary Courses

Graduate Courses (grades are out of 20)

- Spring 2017University of Twente
Biomedical Optics Audited
- Spring 2015 Sharif University of Tech.
Data Communication Networks Audited
Advanced Data Comm. Networks Audited
Optical Comm. Networks Audited
- Spring 2015Shahid Beheshti University
Thesis19.75
Optoelectronics II Audited
- Fall 2014Sharif University of Tech.
Statistical Optical Comm. Audited
- Fall 2014 Shahid Beheshti University
Thesis Proj. Cont.
- Information theory and Coding I 17.3
Optoelectronics I 17.8
- Spring 2014Shahid Beheshti University
Spread Spectrum 17.5
Optical Communication Systems 17
Wireless Communications 19.75
Seminar 19
- Fall 2013 Shahid Beheshti University
Stochastic Processes 15.5
Advanced Communication Theory 17.6
Digital Signal Processing 15.15
- Spring 2013 Tafresh University
Image Processing 20

Undergraduate Courses at Tafresh University (grades are out of 20)

- Spring 2013
Electrical Installations17
Technical English Language 20
Power Systems Analysis I 18.6
Physics of Electronics 19.75
Industrial Electronics19.75
Linear Control Systems Lab. 20
Communications Circuits Lab. 20
Electronics lab. III Project 19
Islamic Revolution and its Origins 19.5
- Summer 2012
Internship 18
- Spring 2012
Communication Circuits 20
Electrical Machines II 20
Engineering Economics 20
Numerical Calculations 20
Project 20
General Workshop 20
Electrical Workshop 20
Computer Architecture Lab. 20
Electrical Machines Lab. I 20
Electronics Lab. III 19.5
Pulse Technique Lab. 16.5
History of Islam 17.5

• Fall 2011	Electronics I	19.5	• Spring 2010	General Mathematics II	20
Communication Systems	19.5	Logic Circuits	Computer Programming (C)	20	
Electronics III	20	Measurements and Circuits Lab. I	General Differential Equations	16	
Microprocessor	18	Electromagnetism	Electrical Circuits I	18.25	
Pulse Technique	17.25	Physical Education II	Electrical Measurement	20	
Linear Control Systems	20		Persian	18	
Thermodynamics	20		Islamic Texts	17.5	
Electronics Lab. II	20				
• Spring 2011			• Fall 2009	Physics I	17.5
Electronics II	19		Physics II	15	
Signals and Systems	20		General Mathematics I	15	
Electrical Machines I	17		English Language	19	
Computer Architecture	17.5		Industrial Drafting	18	
Engineering Statistics and Probability ..	17.5		Islamic Education I	20	
Electronics Lab. I	19.5		Islamic Ethics and Education	17	
Logic Circuits Lab.	20				
Physics Lab. I	20				
Physics Lab. II	20				
Physical Education I	20				
Islamic Education II	17.5				
• Fall 2010					
Engineering Mathematics	17.7				
Electrical Circuits II	17				

0.3 Honors and Awards

- Awarded Scholarship for Ph.D. Studies from University at Twente 2017 - 2021
- 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 (INSF) 2016
- Ranked 3rd Among Communication Systems Students of Shahid Beheshti University 2015
- Member of Swimming Team of Shahid Beheshti University at 12th Iran Sport-Cultural University 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

0.4 Presentations

0.4.1 Selected Talks

- “Laser Speckles and Microcirculatory Perfusion Imaging”, Monthly Meetings on Advances in Nanophotonics (ANP), University of Twente, Enschede, The Netherlands.....Oct. 2017
- “Designing a dimmable OPPM-based VLC system under channel constraints”, IEEE 10th International Symposium on Communication Systems, Networks and Digital Signal Processing (CSNDSP), Czech Technical University, Prague, Czech Republic Jul. 2016

- “Nano-plasmonic thin-film solar cell receiver in visible light communication”, IEEE 10th International Symposium on Communication Systems, Networks and Digital Signal Processing (CSNDSP), Czech Technical University, Prague, Czech Republic Jul. 2016
- “Two quasi orthogonal space-time block codes with better performance and low complexity decoder”, IEEE 10th International Symposium on Communication Systems, Networks and Digital Signal Processing (CSNDSP), Czech Technical University, Prague, Czech Republic.....Jul. 2016
- “Square-hexagonal nanostructured photonic crystal fiber at 1550 nm wavelength”, IEEE 10th International Symposium on Communication Systems, Networks and Digital Signal Processing (CSNDSP), Czech Technical University, Prague, Czech Republic Jul. 2016
- “Mining DNA sequences based on spatially coded technique using spatial light modulator”, IEEE Iran Workshop on Communications and Information Theory (IWCIT), Sharif University of Technology, Tehran, Iran May 2016

0.4.2 Selected Laboratory Demonstrations

- “A Standard Setup for Laser Speckle Contrast Imaging (LSCI)”, User Committee Meeting for STW-NWO Funded Project Designing a Handheld Device for Optical Microcirculatory Perfusion Imaging, Biomedical Photonic Imaging Group (BMPI), University of Twente, Enschede, The Netherlands.Sep. 2017
- “Smartphone-based Geometrical Optics Indoor Positioning using Spatial Color Coded LED Arrays”, IEEE Iran Workshop on Communications and Information Theory (IWCIT), Optical Networks Research Lab (ONRL), Sharif University of Technology, Tehran, Iran.....May 2015

0.5 Research

- Researcher IDR-5148-2017
- ORCID ID 0000-0001-7679-7077
- Scopus ID 57190381690
- Publons ID1562206

0.5.1 Research Interests

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

0.5.2 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. 15/275,431 2018
- 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 and Preprints

- Hosseinianfar, H., Chizari, A. and Salehi, J.A., 2018. GOPA: Geometrical Optics Positioning Algorithm Using Spatial Color Coded LEDs (Extended Version). arXiv preprint arXiv:1807.06931.
- Jamali, M.V., Mirani, A., Parsay, A., Abolhassani, B., Nabavi, P., Chizari, A., Khorramshahi, P., Abdollahramezani, S. and Salehi, J.A., 2018. Statistical Studies of Fading in Underwater Wireless Optical Channels in the Presence of Air Bubble, Temperature, and Salinity Random Variations. *IEEE Transactions on Communications*.
- Chizari, A., Jamali, M.V., Abdollahramezani, S., Salehi, J.A. and Dargahi, A., 2017. Visible light for communication, indoor positioning, and dimmable illumination: A system design based on overlapping pulse position modulation. *Optik-International Journal for Light and Electron Optics*, 151, pp.110-122.
- Abdollahramezani, S., Chizari, A., Dorche, A.E., Jamali, M.V. and Salehi, J.A., 2017. Dielectric metasurfaces solve differential and integro-differential equations. *Optics letters*, 42(7), pp.1197-1200.
- Jamali, M.V., Chizari, A. and Salehi, J.A., 2017. Performance analysis of multi-hop underwater wireless optical communication systems. *IEEE Photon. Technol. Lett.*, 29(5), pp.462-465.
- Dorche, A.E., Abdollahramezani, S., Chizari, A. and Khavasi, A., 2016. Broadband, polarization-insensitive, and wide-angle optical absorber based on fractal plasmonics. *IEEE Photonics Technology Letters*, 28(22), pp.2545-2548.
- Jamali, M.V., Chizari, A. and Salehi, J.A., 2016. Performance analysis of multi-hop underwater wireless optical communication systems (extended version). arXiv preprint:1603.02895.
- Chizari, A., Abdollahramezani, S., Jamali, M.V. and Salehi, J.A., 2016. Analog optical computing based on a dielectric meta-reflect array. *Optics letters*, 41(15), pp.3451-3454.

Conference Proceedings

- Chizari, A., Jamali, M.V., AbdollahRamezani, S., Salehi, J.A. and Dargahi, A., 2016, July. Designing a dimmable OPPM-based VLC system under channel constraints. In *Communication Systems, Networks and Digital Signal Processing (CSNDSP), 2016 10th International Symposium on* (pp. 1-6). IEEE.
- Olyaei, S., Nikoosohbat, A., Mohebzadeh-Bahabady, A. and Chizari, A., 2016, July. Square-hexagonal nanostructured photonic crystal fiber at 1550 nm wavelength. In *Communication Systems, Networks and Digital Signal Processing (CSNDSP), 2016 10th International Symposium on* (pp. 1-4). IEEE.
- Ghahremanirad, E., Olyaei, S. and Chizari, A., 2016, July. Nano-plasmonic thin-film solar cell receiver in visible light communication. In *Communication Systems, Networks and Digital Signal Processing (CSNDSP), 2016 10th International Symposium on* (pp. 1-5). IEEE.
- Lotfi-Rezaabad, A., Talebi, S. and Chizari, A., 2016, July. Two quasi orthogonal space-time block codes with better performance and low complexity decoder. In *Communication Systems, Networks and Digital Signal Processing (CSNDSP), 2016 10th International Symposium on* (pp. 1-5). IEEE.
- Fazelian, M., AbdollahRamezani, S., Bahrani, S., Chizari, A., Jamali, M.V., Khorramshahi, P., Tashakori, A., Shahsavari, S. and Salehi, J.A., 2016, May. Mining DNA sequences based on spatially coded technique using spatial light modulator. In *Communication and Information Theory (IWCIT), 2016 Iran Workshop on* (pp. 1-6). IEEE.
- Jamali, M.V., Khorramshahi, P., Tashakori, A., Chizari, A., Shahsavari, S., AbdollahRamezani, S., Fazelian, M., Bahrani, S. and Salehi, J.A., 2016, May. Statistical distribution of intensity fluctuations for underwater wireless optical channels in the presence of air bubbles. In *Communication and Information Theory (IWCIT), 2016 Iran Workshop on* (pp. 1-6). IEEE.

0.5.3 Awarded Research Grants

- PhD Scholarship, University of Twente, 100k euros 2017 - 2021
- IEEE/IET Student Travel Grant Award for 10th IEEE/IET CSNDSP 2016, Prague, Czech Republic, 300 euros.....2016
- US Patent Application, Iran National Science Foundation (INSF), 17k USD.....2016

0.5.4 Technical Review Activities

- Optik - International Journal for Light and Electron Optics
- IEEE Access
- IEEE Photonics Journal
- Journal of Optical Communications and Networking
- working
- IEEE Vehicular Technology Magazine
- IEEE Transaction on Vehicular Technology
- IEEE Communications Letters

0.5.5 Membership

IEEE Communications Society (93943136) 2016

0.5.6 Selected Accomplished Projects

University of Twente Feb. 2017- Exp. 2021

- Implementation of a real-time and GUI-based laser Doppler perfusion monitoring system based on a high-speed camera (MATLAB)
- Estimation of the Refractive Index of a Contact Lens using Ultrasound Technique (MATLAB, Labview)
- Implementation of real-time and GUI-based laser speckle contrast imaging/monitoring system (MATLAB), Jan. 2018
- Simulation of laser Doppler/speckle-contrast imaging/monitoring systems via computer generated speckle patterns (MATLAB)

Sharif University of Technology Sep. 2014- Sep. 2016

- 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

Afra Engineering Group Feb. 2014 - Sep. 2016

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

Shahid Beheshti University Sep. 2013- Sep. 2015

- 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 **Sep. 2009 - Sep. 2013**

- 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)

0.6 Teaching

0.6.1 Advisees

Master Student

Mona Zarrinsaz Sorkhabi Sep. 2015
Thesis Title: Analysis of the Poynting vector error effect on the multi-input multi-output receivers in wireless communication systems, Shahid Beheshti University (SBU).
Main Supervisor: Dr. Akbar Dargahi

Undergraduate Students

- Klaas Vlasma Jul. 2018
Thesis Title: Motion artifacts in laser speckle contrast imaging of blood flow, University of Twente.
Main Supervisor: Prof. Dr. Wiendelt Steenbergen
- Mirjam J. Marseille Sep. 2017
Thesis Title: Analysis of human skin perfusion based on laser Doppler perfusion imaging and Monte Carlo simulation, University of Twente.
Main Supervisor: Prof. Dr. Wiendelt Steenbergen
- Pouya Shiri Sep. 2014
Thesis Title: Design and implementation of a donut shaped three dimensional display based on a single light emitting diode, Shahid Beheshti University (SBU).
Main Supervisor: Prof. Mohammad Eshghi

0.6.2 Teaching Assistantships

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

0.6.3 Laboratory Assistantships

- “Biomedical Optics”, Prof. Dr. W. Steenbergen, Prof. Dr. S. Manohar, Dr. I. Vellekoop, and Dr. N. Bosschart, University of Twente Summer 2017, Summer 2018
- “Ultrasound”, Prof. Dr. W. Steenbergen, University of Twente Winter 2018
- “Field-programmable Gate Array (FPGA)”, Dr. A. Dargahi, Shahid Beheshti University .. Fall 2014
- “Microprocessors”, Prof. M. Eshghi, Shahid Beheshti University Spring 2014
- “Logical Circuits”, Prof. M. Eshghi, Shahid Beheshti University Fall 2013

0.7 Personal Skills

0.7.1 Languages

Communication

- English, Professional Working Proficiency (B2)
- Dutch, Limited Working Proficiency (B2)
- Persian, Native

Programming

- MATLAB
- C
- VHDL
- Assembly

0.7.2 Softwares

- Operating Systems: Windows, Mac
- Documentations: Microsoft Office, L^AT_EX, Adobe Acrobat
- Simulators: MATLAB, Opti-System, CST Design Studio,
- Cadence (Analog Circuits)
- Compilers: CodeVision AVR, AVR Studio, Quartus, Xilinx ISE
- Designers: AutoCAD, Adobe Photoshop, Altium Designer

0.8 References

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

0.9 Links

- Google Scholar
- Research Gate
- Mendeley
- LinkedIn
- Twitter (atachizari)
- Facebook (ata.chizari)
- Instagram (atachizari)

0.10 Citizenship

- Permanent Citizen of Iran
- Temporal Resident of The Netherlands

0.11 Leisure Activities

- Swimming
 - NSZK 1 Nijmegen 2018
200 m, medley, 3:45
200 m, breaststroke, 3:56
 - Zwem4Daagse 2018; 4 days of each 1 km
freestyle stroke (19:57 /km)
 - 12th Iran Sport-Cultural University
Olympiad 2014
200 m, breaststroke, 3:30.20
400 m, freestyle stroke, 7:03.83
- Running
 - Enschede Singelloop 2018, 8.2 km (4:37
per km)
 - Batavierenrace 2018, 9.4 km (4:41 per km)
 - Batavierenrace 2017, 9.9 km (5:30 per km)
- Cycling
 - Enschede to Sallandse Heuvelrug national
park round trip 100 km (20 km/h)
- Mountaineering
- Diving
 - SSI Diver ID (MID):2527470
 - Master dive center:ZPV Piranha
(714007)
- Waterskiing
- Tennis
- Ping pong
- Badminton