

Ata Chizari
résumé

December 18, 2022

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0.1 Contact Information

ZH264, Biomedical Photonic Imaging (BMPI).
Technical Medical Centre, Faculty of Science and Technology (TNW),
University of Twente, Drienerlolaan 5,
7522 NB Enschede, The Netherlands.

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

0.2 Education

- **University of Twente, Enschede, The Netherlands** Feb. 2017 - Apr. 2021
Ph.D. with focus on Biomedical Optics,
Thesis: Handheld laser speckle contrast 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

- Certificate in Advanced English (C1) August 2022
- Driving licence (AM and B) March 2022
- Dutch as the second language level B2 (Nederlands als tweede taal (NT2) Programma II) .. July 2021
- Basic life support and defibrillation (BLS-D) including first aid May 2021
- Biophotonics graduate summer school (BIGSS) Aug. 2020

Conferences Proceedings Participation

- SPIE Photonics Europe, Strasbourg, France Apr 2022
- 16th International conference on LALS, ENSIC site, Nancy, France Apr 2022
- 10th IEEE/IET International Symposium on Communication Systems, Networks, and Digital Signal Processing (CSNDSP), Czech Technical University, Prague 2016
- 4th 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)

- Cambridge Proficiency English (C2) Sep. 2021- Feb. 2022
- Entrepreneurial researcher Nov. 2020
- Software Engineering Tutorial Sep. - Oct. 2018
- NT2 High Proficiency Dutch (C1) Sep. - Dec. 2018
- Cambridge Advanced English (C1) Apr. - Nov. 2018
- Dutch Follow-up III (B2) ... Mar. - Jun. 2018
- Cambridge First Certificate (B2) . Oct. 2017 - Apr. 2018
- Scientific Information Boot-camp .. Jan. 2018
- Dutch Follow-up II (B1) Nov. 2017 - Mar. 2018
- Laser Safety for Users Jan. 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 Workshop Sep. 2017
- Supervising Students Sep. 2017
- Research Data Management Sep. 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 2017 University 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 2015 Shahid Beheshti University
Thesis 19.75
Optoelectronics II Audited
- Fall 2014 Sharif 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 2014 Shahid 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	Signals and Systems20
	Technical English Language 20	Electrical Machines I 17
	Power Systems Analysis I18.6	Computer Architecture 17.5
	Physics of Electronics 19.75	Engineering Statistics and Probability .. 17.5
	Industrial Electronics19.75	Electronics Lab. I 19.5
	Linear Control Systems Lab. 20	Logic Circuits Lab. 20
	Communications Circuits Lab. 20	Physics Lab. I 20
	Electronics lab. III Project 19	Physics Lab. II 20
	Islamic Revolution and its Origins 19.5	Physical Education I 20
		Islamic Education II 17.5
• Summer 2012		
	Internship 18	
• Spring 2012		
	Communication Circuits20	• Fall 2010
	Electrical Machines II 20	Engineering Mathematics 17.7
	Engineering Economics 20	Electrical Circuits II 17
	Numerical Calculations 20	Electronics I 19.5
	Project 20	Logic Circuits 18.5
	General Workshop 20	Measurements and Circuits Lab. I 18.5
	Electrical Workshop 20	Electromagnetism 19
	Computer Architecture Lab. 20	Physical Education II 19
	Electrical Machines Lab. I 20	
	Electronics Lab. III 19.5	• Spring 2010
	Pulse Technique Lab. 16.5	General Mathematics II 20
	History of Islam 17.5	Computer Programming (C) 20
		General Differential Equations 16
		Electrical Circuits I 18.25
		Electrical Measurement 20
		Persian 18
		Islamic Texts 17.5
• Fall 2011		
	Communication Systems 19.5	
	Electronics III 20	• Fall 2009
	Microprocessor 18	Physics I 17.5
	Pulse Technique 17.25	Physics II 15
	Linear Control Systems 20	General Mathematics I 15
	Thermodynamics 20	English Language 19
	Electronics Lab. II 20	Industrial Drafting 18
		Islamic Education I 20
		Islamic Ethics and Education 17
• Spring 2011		
	Electronics II 19	

0.2.3 Self Study

- Saleh, B.E.A. and Teich, M.C., 2019. Fundamental of Photonics, New Jersey: John and Wiley & Sons.
- Goodman, J.W., 2007. Speckle phenomena in optics: theory and applications. Roberts and Company Publishers.
- Boudoux, C., 2017. Fundamentals of biomedical optics: From light interactions with cells to complex imaging systems. Pollux.

0.3 Honors and Awards

- Best Oral Communication Award in LALS, Nancy, France 2022
- Accomplished the Enschede Marathon running event.....2019, 2022
- Member of swimming team of University of Twente, ZPV Piranha, at Netherlands student swimming competitions (NSZK) 2018-2022
- 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

0.3.1 Media

- Iranian Scholars for Liberty at the University of Twente, Tubantia, November 30, 2022.
- A summary of my PhD research “Hand-held laser speckle imaging for flexible medical diagnostics”. U-Today, October 22, 2021.
- Being a team member of the PIHC granted project “Improving free flap transplantation with the use of handheld laser speckle perfusion imaging”. Tubantia, March 2021.
- A member of ZPV Piranha swimming team “The Netherlands student swimming competition (NSZK) 1, in Nijmegen”. U-Today, October 22, 2018.

0.4 Presentations

0.4.1 Oral Conferences

- Chizari, A., 2022, September. Wireless perfusion imaging to assist plastic surgeons during free flap breast reconstruction. The Dutch event in photonics, ASML, Veldhoven, The Netherlands. *Invited*
- Chizari, A., 2022, September. Addressing movement artefacts in handheld laser speckle contrast perfusion imaging. The 25th Congress of the International Commission for Optics (ICO), the 16th International Conference on Optics Within Life Sciences (OWLS), Dresden, Germany. *Invited*
- Chizari, A., Knop, T., Sirmacek, B., Van Der Heijden, F. and Steenbergen, W., 2022, March. Movement artefacts in handheld laser speckle contrast imaging. 16th International conference on Laser Applications in Life Sciences (LALS) 2020, Nancy, France (maintained in 2022). *Keynote*
- Chizari, A., Knop, T., Sirmacek, B., Van Der Heijden, F. and Steenbergen, W., 2022, March. Exploration of movement artefacts in a handheld laser speckle contrast imaging. 16th International conference on Laser Applications in Life Sciences (LALS) 2020, Nancy, France (maintained in 2022). *Best oral communication*
- Padmanaban, P., Chizari, A., Steenbergen, W. and Rouwkema, J., 2019, December. Flow and Form: Imaging biomechanical parameters to study the vascular tree formation within developing chicken embryo. In TERMIS EU Chapter Conference (postponed to 2023).
- Padmanaban, P., Chizari, A., Steenbergen, W. and Rouwkema, J., 2019, May. Modification of mechanical environment to control vascular organization within developing chicken embryo. In TERMIS European Chapter Meeting 2019: Tissue Engineering Therapies: From Concept to Clinical Translation & Commercialisation.

0.4.2 Other Talks

- “Study of movement artefacts in handheld laser speckle contrast perfusion imaging”, Monthly Meetings on Applied Nanophotonics (ANP), University of Twente, Enschede, The Netherlands Dec. 2022
- “Wireless perfusion imaging to assist plastic surgeons during free flap breast reconstruction”, Techmed research day, Enschede, The Netherlands. Jun. 2022
- “Laser Speckles and Microcirculatory Perfusion Imaging”, Monthly Meetings on Advances in Nanophotonics (ANP), University of Twente, Enschede, The Netherlands Oct. 2017

0.4.3 Selected Laboratory Demonstrations

- “Handheld and wireless laser speckle contrast imaging”, Output prototype of pioneers in healthcare innovation funding, Biomedical Photonic Imaging (BMPI), University of Twente, Enschede, The Netherlands February 2022
- “Simultaneous laser speckle-contrast/Doppler perfusion imaging”, User Committee Meeting for NWO project (14538), Biomedical Photonic Imaging (BMPI), University of Twente, Enschede, The Netherlands October 2019
- “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 September 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

- ORCID 0000-0001-7679-7077
- Scopus 57190381690
- Web of science R-5148-2017

0.5.1 Research Interests

- Laser speckle contrast perfusion imaging
- Laser Doppler perfusion imaging
- Side stream dark-field microscopy
- Electromagnetic tracking
- Macro-photography
- Tissue engineering
- Embryonic development and culturing systems

0.5.2 Research Positions

- Postdoctoral researcher May. 2022- Exp. May. 2023
Biomedical Photonic Imaging Group, University of Twente
Funding: pioneers in healthcare innovation
Title: The Bath Mat: technology for early detection of diabetic foot ulcers in the home setting
- Postdoctoral researcher May. 2021- May. 2022
Biomedical Photonic Imaging Group, University of Twente
Funding: pioneers in healthcare innovation
Title: improving free flap transplantations with the use of handheld laser speckle perfusion imaging

- PhD researcherFeb. 2017- May. 2021
Biomedical Photonic Imaging Group, University of Twente
Funding: open Technology program, Netherlands Organization for Scientific Research (NWO), Domain Applied and Engineering Sciences
Title: handheld device for optical microcirculatory perfusion imaging
- Visitor research assistantSep. 2014- Sep. 2016
Optical Networks Research Lab., Sharif University of Technology

0.5.3 Publications

(Visit Google Scholar)

Patents

- W. Steenbergen, A. Chizari, and T. Knop, “Handheld laser-based perfusion imaging apparatus and method of using said apparatus”, filed at Netherlands Patent Office (2027331) 2021
- 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 Articles

- Schaap, M.J., Chizari, A., Knop, T., Groenewoud, H.M., van Erp, P.E., de Jong, E.M., Steenbergen, W. and Seyger, M.M., 2021. Perfusion measured by laser speckle contrast imaging as a predictor for expansion of psoriasis lesions. *Skin Research and Technology*.
- Padmanaban, P., Chizari, A., Knop, T., Zhang, J., Trikalitis, V.D., Koopman, B., Steenbergen, W. and Rouwkema, J., 2021. Assessment of flow within developing chicken vasculature and biofabricated vascularized tissues using multimodal imaging techniques. *Scientific reports*, 11(1), pp.1-14.
- Chizari, A., Schaap, M.J., Knop, T., Boink, Y.E., Seyger, M. and Steenbergen, W., 2021. Handheld versus mounted laser speckle contrast perfusion imaging demonstrated in psoriasis lesions. *Scientific reports*, 11(1), pp.1-13.
- Chizari, A., Knop, T., Tsong, W., Schwieters, S. and Steenbergen, W., 2021. Influence of wavefront types on movement artefacts in handheld laser speckle contrast perfusion imaging. *OSA Continuum*, 4(6), pp.1875-1888.
- Chizari, A., Knop, T., Sirmacek, B., van der Heijden, F. and Steenbergen, W., 2020. Exploration of movement artefacts in handheld laser speckle contrast perfusion imaging. *Biomedical Optics Express*, 11(5), pp.2352-2365.
- 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*, 66(10), pp.4706-4723.
- 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*, 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.
- 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.

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 (Long Version). arXiv preprint arXiv:1801.07402.
- 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.

Conference Papers

- Ata Chizari, Wilson Tsong, Tom Knop, Wiendelt Steenbergen, "Modeling movement artefacts in hand-held laser speckle contrast perfusion imaging: influence of wavefront types," Proc. SPIE 11959, Dynamics and Fluctuations in Biomedical Photonics XIX, 1195905 (2 March 2022); <https://doi.org/10.1117/12.2609849>
- Ata Chizari, Mirjam J. Schaap, Tom Knop, Marieke M. B. Seyger, Wiendelt Steenbergen, "Reliability of handheld laser speckle contrast perfusion imaging demonstrated in psoriasis lesions," Proc. SPIE 11934, Photonics in Dermatology and Plastic Surgery 2022, 119340A (3 March 2022); <https://doi.org/10.1117/12.2608663>
- Hosseinianfar, H., Chizari, A. and Salehi, J.A., 2019, January. GOPA: Geometrical Optics Positioning Algorithm. In 2019 IEEE International Conference on Consumer Electronics (ICCE) (pp. 1-6). IEEE.
- Pouryousef, S., Rezaiee, M. and Chizari, A., 2018, August. Let me Join Two Worlds! Analyzing the Integration of Web and Native Technologies in Hybrid Mobile Apps. In 2018 17th IEEE International Conference On Trust, Security And Privacy In Computing And Communications/12th IEEE International Conference On Big Data Science And Engineering (TrustCom/BigDataSE) (pp. 1814-1819). IEEE.
- 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 data 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.

Posters

- Padmanaban, P., Chizari, A., Steenbergen, W. and Rouwkema, J., 2018, November. Inside the box: 3D system to probe the vascular networks within developing chicken embryo. In 27th NBTE Annual Meeting 2018.
- Fischer, B., Chizari, A., Knop, T., and Steenbergen, W., 2017. Chilli pepper and keeping cancer under control. TEKNOLOGY-NWO.

0.5.4 Awarded Research Grants

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

0.5.5 Technical Review Activities

(Visit Peer Review tab in Web of Science)

- IEEE Transaction on Medical Imaging
- IEEE Transaction on Vehicular Technology
- IEEE Vehicular Technology Magazine
- IEEE Photonics Journal
- IEEE Access
- IEEE Communications Letters
- Optics Communications
- Physical Communication
- Chinese Optics Letters
- Optik - International Journal for Light and Electron Optics
- Journal of Optical Communications and Networking
- Optics Letters
- Optics Express
- Journal of Biomedical Optics
- Biomedical Optics Express
- Journal of the Optical Society of America A
- Sensors, Electronics, Micromachines, Energies, Symmetry, Entropy (MDPI)

0.5.6 Subscription and Membership

- International society for optics and photonics (SPIE) 2022-present
- Nature journal 2019-present
- IEEE Communications Society (93943136) 2016

0.5.7 Selected Accomplished Projects

University of Twente Feb. 2017- Apr. 2022

- Handheld and wireless laser speckle contrast imaging system based on a Raspberry Pi 4
- Optimization of an incubating system for culturing chicken embryos
- Simultaneous speckle contrast imaging and localization of a handheld probe (MATLAB)
- Mapping 3 dimensional movement of a handheld probe on a 2 dimensional surface using 6 degrees of freedom localization sensor of an electromagnetic tracking system (MATLAB)
- Implementation of laser Doppler perfusion imaging/monitoring systems based on a high-speed camera (MATLAB)
- Estimation of the refractive index of a contact lens using ultrasound technique (MATLAB)

- Implementation of a real-time and GUI-based laser speckle contrast imaging/monitoring system including post processing of raw data (MATLAB)
- 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 Students

- Alieke Keurhorst (technical medicine, M2) Oct. 2022
 Internship title: Bath Mat: an automated diabetic ulcer warning system for the entire foot, integrated in a domestic setting, University of Twente.
 Role: daily supervisor
 Supervisor: Prof.dr. W. Steenbergen

- Sacha Teunissen (technical medicine, M3) Aug. 2022
Thesis title: Wireless laser speckle contrast imaging during DIEP flap breast reconstruction: an evaluation of the first prototype, University of Twente.
Role: daily supervisor
Supervisor: Prof.dr. W. Steenbergen
- Wilson Tsong (applied physics) Aug. 2021
Thesis title: Theoretical prediction of translational movement artefacts in laser speckle contrast imaging, University of Twente.
Role: daily supervisor
Supervisor: Prof.dr. W. Steenbergen
- Mona Zarrinsaz Sorkhabi (communication systems) 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).
Role: daily supervisor
Supervisor: Dr. A. Dargahi

Capita Selecta

- Wilson Tsong (applied physics) Apr. 2020
Capita Selecta assignment title: Simulation of time integrated dynamic optical speckles, University of Twente.
Role: daily supervisor
Supervisor: Prof.dr. W. Steenbergen

Undergraduate Students

- Ralph Gerlings (advanced technology) Aug. 2022
Thesis Title: Thermal imaging as a quantitative measurement method of blood perfusion in the skin, University of Twente.
Role: daily supervisor
Supervisor: Prof.dr. W. Steenbergen
- M.J. (Ries) van Walsum (biomedical technology) Feb. 2022
Thesis Title: Development of a skin-mimicking layer for a photoacoustic breast phantom, University of Twente.
Role: external committee member
Supervisor: Prof.dr. S. Manohar
- Micha de Bont (applied physics) Feb. 2022
Thesis Title: Thermal measurements of absolute skin perfusion: a proof of concept, University of Twente.
Role: daily supervisor
Supervisor: Prof.dr. W. Steenbergen
- Sven Schwieters (biomedical technology) Jul. 2021
Thesis Title: Detection of on-surface movements employing optical flow and its relation with speckle contrast, University of Twente.
Role: daily supervisor
Supervisor: Prof.dr. W. Steenbergen
- Tommie Verouden (applied physics) Nov. 2020
Thesis Title: Hardware-based prevention & simulation of movement artefacts in laser speckle contrast perfusion imaging, University of Twente.
Role: daily supervisor
Supervisor: Prof.dr. W. Steenbergen
- Klaas Vlasma (biomedical technology) Jul. 2018
Thesis Title: Motion artifacts in laser speckle contrast imaging of blood flow, University of Twente.
Role: daily supervisor
Supervisor: Prof.dr. W. Steenbergen

- Mirjam J. Marseille (applied physics).....Sep. 2017
Thesis Title: Analysis of human skin perfusion based on laser Doppler perfusion imaging and Monte Carlo simulation, University of Twente.
Role: daily supervisor
Supervisor: Prof.dr. W. Steenbergen
- Pouya Shiri (electronics) 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).
Role: daily supervisor
Supervisor: Prof. M. Eshghi

0.6.2 Teaching Assistantships

- Microscopic detection of cancer cells.....Feb. 2022
Role: jury for the optics part of final poster pitch
Prof.dr. S. Manohar University of Twente (undergraduate, module 2)
- Fiber Optic Communications Fall 2014, Spring 2015, Fall 2015
Dr. A. Dargahi Shahid Beheshti University
- Electronics II Spring 2013
Dr. F. Hajati Tafresh University
- Logical Circuits and 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 (master).....2017, 2018, 2021, 2022
Prof.dr. W. Steenbergen, Prof.dr. S. Manohar, Prof.dr. I.M. Vellekoop, and Dr. N. Bosschart
University of Twente
- Ultrasound (bachelor) Spring 2018, Spring 2019, Spring 2020
Prof.dr. W. Steenbergen University of Twente
- Field-Programmable Gate Array (FPGA) (bachelor) Fall 2014
Dr. A. Dargahi Shahid Beheshti University
- Microprocessors (bachelor) Spring 2014
Prof. M. Eshghi Shahid Beheshti University
- Logical Circuits (bachelor) Fall 2013
Prof. M. Eshghi Shahid Beheshti University

0.7 Personal Skills

0.7.1 Languages

Communication

- English, C1 certified (followed course on C2)
- Persian, Native
- Dutch, B2 certified (followed course on C1)

Programming

- Python
- C
- Assembly
- MATLAB
- VHDL

Music

- Piano (self study, Alfred book 1)

0.7.2 Software

- Operating Systems:
Linux, Mac, Windows
- Documentations:
L^AT_EX, Microsoft Office
- Simulators:
MATLAB, Opti-System, CST Design Studio,
Cadence (Analog Circuits)
- Compilers:
Thonny, CodeVision AVR, AVR Studio, Quar-
tus, Xilinx ISE
- Designers:
Adobe Illustrator, Adobe Photoshop, Auto-
CAD, Altium Designer
- Version Controller:
GIT bash, GIT GUI

0.8 References

- **Prof. Wiendelt Steenbergen**.....(E-mail: w [dot] steenbergen [at] utwente [dot] nl)
Faculty of Science and Technology (TNW),
University of Twente
- **Dr. Ferdinand (Ferdinand) van der Heijden** (E-mail: f [dot] vanderheijden [at] utwente [dot] nl)
Faculty of Electrical Engineering, Mathematics and Computer Science
University of Twente
- **Dr. Jeroen Rouwkema** (E-mail: j [dot] rouwkema [at] utwente [dot] nl)
Faculty of Engineering Technology,
University of Twente
- **Dr. Marieke Seyger** (E-mail: Marieke [dot] Seyger [at] radboudumc [dot] nl)
Department of dermatology, Radboud Institute for Health Sciences,
Radboud University Nijmegen Medical Center
- **Prof. Jawad A. Salehi** (E-mail: jasalehi [at] sharif [dot] edu)
Department of Electrical Engineering,
Sharif University of Technology

0.9 Links

- Google Scholar
- Research Gate
- LinkedIn
- Strava
- Swimrankings
- Twitter (atachizari)
- Facebook (ata.chizari)
- Instagram (atachizari)
- YouTube
- SPIE

0.10 Sports

- Triathlon
 - 2022 IRONMAN 70.3 Maastricht-Limburg (1/2nd)
Swimming 2 km, 43:51
 - 2022 IRONMAN 70.3 Westfriesland (1/2nd)
Swimming 2 km, 46:10

- Cycling 90 km, 3:20.43
- Running 21.1 km, 2:41.20
- UT-Triathlon 2022 (1/4th)
 - Swimming 1 km, 20:12
 - Cycling 38 km, 1:16.04
 - Running 9.6 km, 55:32
- UT-Triathlon 2021 (1/4th)
 - Swimming 1 km, 20:27
 - Cycling 38 km, 1:28.33
 - Running 9.6 km, 59:11
- UT-Triathlon 2019 (1/8th)
 - Swimming 500 m, 10:29
 - Cycling 19 km, 46:42
 - Running 4.8 km, 22:56
- Swimming
 - Also check swim rankings
 - 44th Zechstein swim tournament (Veen-
dam, Oct. 2022)
 - 100 m, butterfly, 1:51.42
 - NSZK (Nijmegen, Oct. 2022)
 - 200 m, breaststroke, 3:53.66
 - 400 m, freestyle, 7:42.84
 - ONMK (Eindhoven, May 2022)
 - 100 m, butterfly, 1:44.65
 - NSZK III Maastricht 2022
 - 100 m, backstroke, 1:40.45
 - 100 m, butterfly, 1:41.37
 - 50 m, freestyle (relay), 35.13
 - NSZK I Heerenveen 2021
 - 200 m, breaststroke, 3:53.25
 - 50 m, backstroke, 48.61
 - 50 m, backstroke (relay), 46.95
 - ONKS Delft 2020
 - 50 m, backstroke, 45.94
 - 100 m, backstroke, 1:44.46
 - NSZK II Utrecht 2019
 - 50 m, breaststroke, 43.28
 - 100 m, breaststroke, 1:41.60
 - 50 m, freestyle, 34.68
 - NSZK I Wageningen 2019
 - 50 m, freestyle, 32.44
 - 50 m, butterfly, 41.10
 - 50 m, backstroke, 45.10
 - NSZK IV Enschede 2019
 - 100 m, freestyle, 1:17.92
 - 100 m, Medley, 1:34.00 (DIS)
 - NSZK III Amsterdam 2019
 - 200 m, backstroke, 4:05.51
 - 400 m, freestyle, 7:15.67
 - ONKS Rotterdam 2019
 - 200 m, medley, 3:45.65 (DIS)
 - 200 m, freestyle, 3:14.34
 - 100 m, freestyle, 1:24.07
- NSZK II Heerenveen 2018
 - 100 m, backstroke, 1:48.81
 - 100 m, butterfly, 1:49.25
 - 50 m, freestyle, 34.22
- NSZK I Nijmegen 2018
 - 200 m, medley, 3:45.65
 - 200 m, breaststroke, 3:56.67
- Zwem4Daagse 2019; 4 days of each 1 km
freestyle (20:00 min/km)
- Zwem4Daagse 2018; 4 days of each 1 km
freestyle (19:57 min/km)
- 12th Iran Sport-Cultural University
Olympiad 2014
 - 200 m, breaststroke, 3:30.20
 - 400 m, freestyle stroke, 7:03.83
- Cycling
 - Enschede rondje 63 km (18 km/h) ... Sep.
2108
 - Enschede to Sallandse Heuvelrug national
park round trip 103 km (20 km/h) .. July
2018
 - Tafresh-Kohandan-Vasfownjerd-Nayeh-
Tafresh 94.3 km (10.51 km/h) mountain
biking Apr. 2013
 - Tafresh-Sarabadan-Abredar-Kharazan-
Tafresh 80 km mountain biking Sep.
2012
 - Tehran-Jajrud-Latian National Park
round trip 89.4 km (14.23 km/h) moun-
tain biking Jul.
2012
 - Tafresh-Garakan-Ashtian-Ahoo-Tafresh
64 km mountain biking Sep. 2011
 - Tafresh-Sarabadan 34 km mountain bik-
ing round trip.....Apr.
2011
- Running
 - Total runs from Mar. 2017 till Apr. 2022
recorded on Strava: 263 (2000 km)
 - Enschede Marathon 2022, 42.195 km, to-
tal time: 4:59:37
 - Enschede Marathon 2019, 42.195 km, to-
tal time: 4:27:00
 - Alfa Laval Stevensloop half marathon
2022, 21.10 km, total time: 1:56:41
 - Oldenzaal half marathon 2022, 21.10 km,
total time: 1:59:44
 - Oldenzaal half marathon 2021, 21.10 km,
total time: 1:51:27
 - Oldenzaal half marathon 2019, 21.10 km,
total time: 2:05:40
 - NN Zevenheuvelenloop 2019, 15 km (5:14
min/km)
 - NN Zevenheuvelenloop 2018, 15 km (5:07
min/km)

- Enschede Singelloop 2019, 8.2 km (5:34 min/km)
- Enschede Singelloop 2018, 8.2 km (4:37 min/km)
- Ready for take off 2021, 10 km, total time: 51:53
- Batavierenrace 2020, 6 km (6:05 min/km)

- Batavierenrace 2019, 10.7 km (5:01 min/km)
- Batavierenrace 2018, 9.4 km (4:41 min/km)
- Batavierenrace 2017, 9.9 km (5:30 min/km)

0.11 Free time

0.11.1 Activities

- Scuba diving
 - SSI recognition: level 3
 - SSI Diver ID (MID):2527470
 - Master dive center:ZPV Piranha (714007)
 - Total dives:34
 - Specialties:
 - * Deep diving Sep. 2021
 - * Dry suit diving Sep. 2021
 - * Diver Stress and rescue ... Aug. 2021
 - * Basic life support and defibrillation (BLSD) including first AID (DAN-Europe) May 2021
 - * Night and limited visibility Sep. 2019
 - * NavigationSep. 2019
 - Upgrades:
 - * Advanced open water diver Sep. 2021
 - * Specialty diver Oct. 2019
 - * Open water diver Jul. 2019
 - Dive sites:
 - Slijk-Ewijk
 - Enschede Diveworld
 - Het Grasbroek
 - Bussloo
 - Boschmolenplas
 - Bronsbergen
- First aid provider at medical team Twente for MC Hamac Harfsen
 - 12 Sep. 2021
 - 16 Oct. 2021 (half-day)
 - 1 May 2022
 - 28 May 2022 (green vibrations)
- Hiking
 - Zevenheuvelenhike 2022, Nijmegen, 28k, 4h 38m
- Water-skiing
- Tennis
- Table tennis
- Water polo
- Badminton
- Volleyball
- Tandem skydiving
- Cooking
- Shopping
- Organizing things
- Gardening

0.11.2 Reading

- Konnikova, M., 2020. The Biggest Bluff. Penguin Press.
- Austen, J., 2014. Northanger Abbey. Vintage Classics Austen Series.
- Gordin, M.D., 2020. Einstein in Bohemia. Princeton University Press.
- Robinson, A., 2019. Einstein on the Run: How Britain Saved the World's Greatest Scientist. Yale University Press.
- Terlouw, J.C., 2017. Het touwtje uit de brievenbus en Katoren revisited. Rubinstein Publishing BV.
- Abdolah, K., 2011. De Kraai. Uitgeverij De Geus BV.
- Bernlef, J., 2008. De pianoman. Em. Querido's Uitgeverij BV.
- Hesabi, I., 2006. Master of love (a biography of Prof. Mahmoud Hessabi). Iran Ministry of Culture and Islamic Guide.