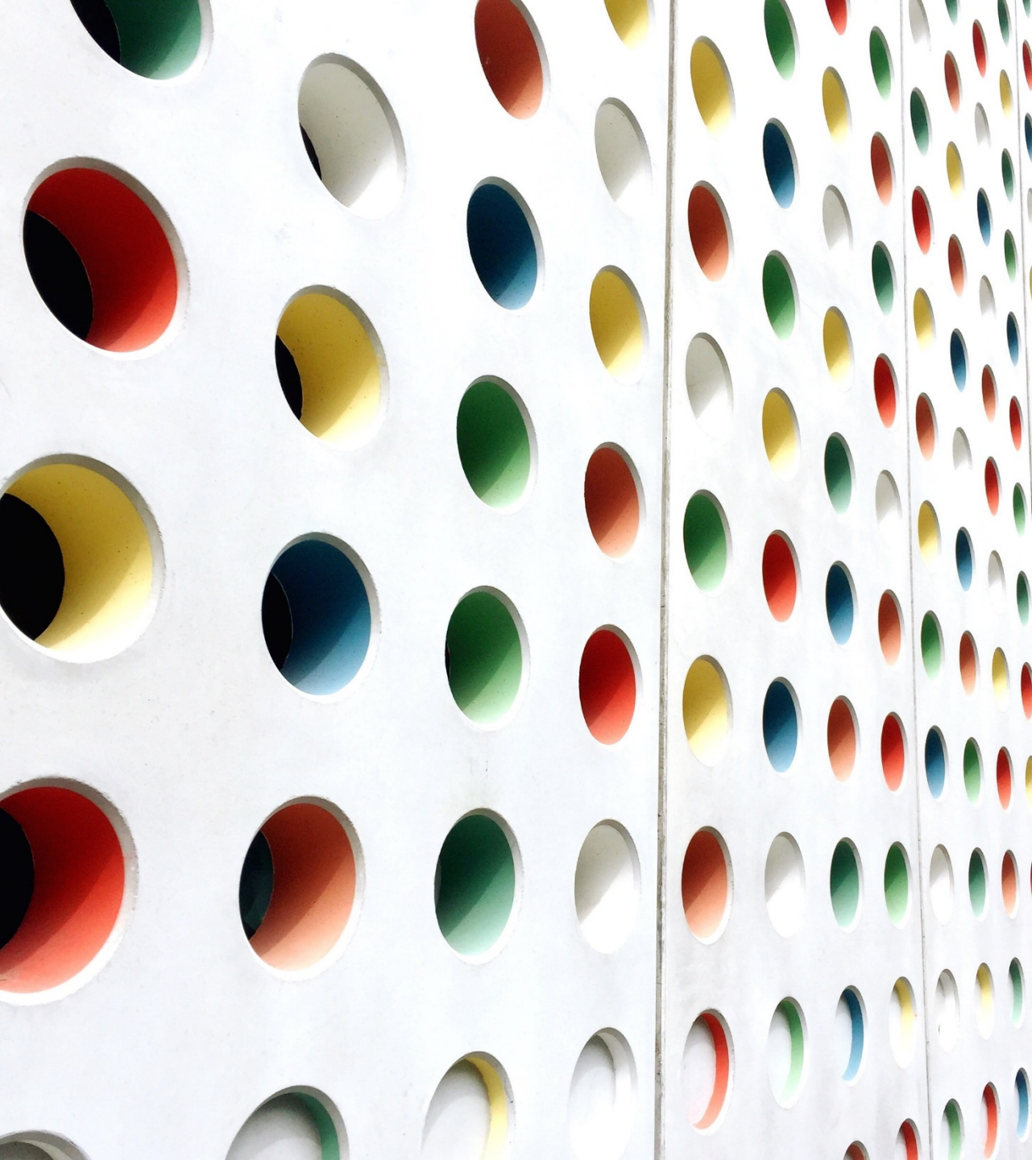


DFG 2020
BECAUSE RESEARCH MATTERS

Amirkabir University of Technology
(Tehran Polytechnic)

AUT - DFG

Joint Matchmaking Webinar

April 2021

WiTeM (Wireless Terminals Measurements Lab)

Webpage:

https://witem.ee.kntu.ac.ir/

https://wp.kntu.ac.ir/aliakbarian/

Research Group Interest

- Antennas Arrays, (Digital) Beam Forming, Beam Shaping in 5G
- Applied Electromagnetics (Agriculture, Health, ...)
- EMC measurements: Absorbers, Anechoic Chamber, Shielding,

Group Research/Industrial Projects

- Research Projects:
  - Design and Fabrication of High Precision Steering Beam Transmit-array Antenna by Using Adaptable Feed Characteristics (partially funded by MCI)
  - Advanced Antenna Systems (AAS) for mmWave 5G Wireless Applications (partially funded by MCI)
  - A Case Study on the Inactivation of SARS-CoV 2 by Using Microwave Exposure
  - New resistive-sheet-based absorber structures to improve the performance of anechoic chambers
- Industrial Projects:
  - Applying for Type Approval License of Backhaul Radio Link Tests (and ISO/IEC 17025)
  - A Case Study on the Application of Microwave for Agricultural Farms of Tehran Province (funded by Agricultural Organization of Tehran Province)

List of Equipments:

NO.	Device	Device Model	Manufacurer	Specifications
1	Vector Network Analyzer	ZVA 40	Rohde & Schwarz	4 ports Frequency range: 10 MHZ to 40 GHz
2	Vector Network Analyzer and Spectrum Analyzer	ZVL13	Rohde & Schwarz	2 ports Frequency Range: 9KHz to 13.5 GHz Dynamic Range: 115 dB
3	Reverberation Chamber	RTS60	Bluetest	
4	Power Meter	NRP2	Rohde & Schwarz	Frequency Range: DC to 110 GHz Dynamic Range: -67 Bm to +45 dBm
5	Frequency Synthesizer	HM8135	Rohde & Schwarz	Frequency Range: 1 Hz to 3 GHz Output Power: -127 dBm to +13 dBm Frequency resolution: 1 Hz
6	Spectrum Analyzer	HMS3010	Rohde & Schwarz	Frequency Range: 100 KHz to 3 GHz Dynamic Range: -114 dBm to +20 dBm
7	Oscilloscope	HMO3524	Rohde & Schwarz	4 channels Sampling Frequency: 4 GSa/s Frequency Range: up to 350 MHz
8	DC Power Supplier	HMP4040	Rohde & Schwarz	Output Power: 348 KW
9	Radio Tester	CMU 200	Rohde & Schwarz	3GPP WCDMA (FDD) 3GPP HSPA GSM/GPRS/EDGE GSM-R
10	SDR	USRP N210	Ettus	
11	Broadband Field Meter	NARDA-NBM-550	Narda Safety Test Solutions	Frequency Range: 3 MHz to 18 GHz

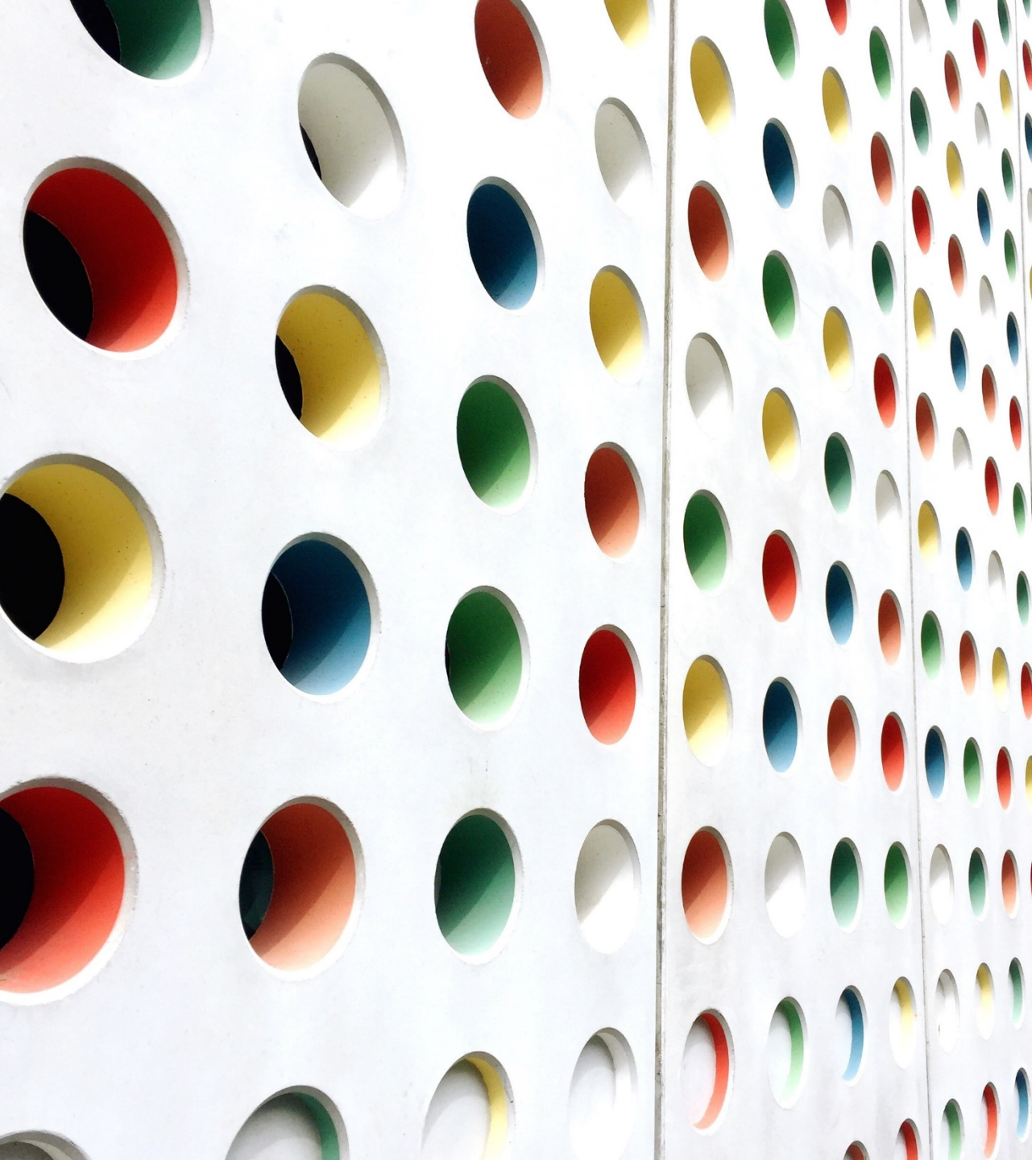
Group Contact Information

- Faculty of Electrical Engineering, K.N.Toosi Univ. of Tech., PO Box, 16315-1355,Tehran, 1431714191, Iran.
- Laboratory: +98-21-84062373.
- Lab Manager: +98-21-84062303.
- E-mail: aliakbarian@kntu.ac.ir witem@eetd.kntu.ac.ir

Webpage:

https://witem.ee.kntu.ac.ir/

https://wp.kntu.ac.ir/aliakbarian/



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Research Group CV

Prof. Dr. Xiaoyi Jiang, Professor of University of Münster, Department of Computer Science
Dean of Faculty of Mathematics and Computer Science
Research interest: Machine learning, Computer vision, Pattern Recognition, Biomedical image analysis

Prof. Dr. Karim Faez, Professor of Electrical Engineering Department, Amirkabir University of Technology
Research interests: Biometric Recognition, Pattern Recognition, Farsi/Arabic Character Recognition, Neural Networks, Image Processing, Computer Networks, Earthquake Signal Processing

Dr. Marjan Firouznia, Postdoc of Electrical Engineering Department, Amirkabir University of Technology
Research interests: Optimization, Video object tracking, Computer vision, Chaos theory, Medical imaging

Research Group Interest

Communication, Information, and Data science

Group Research/Industrial Projects

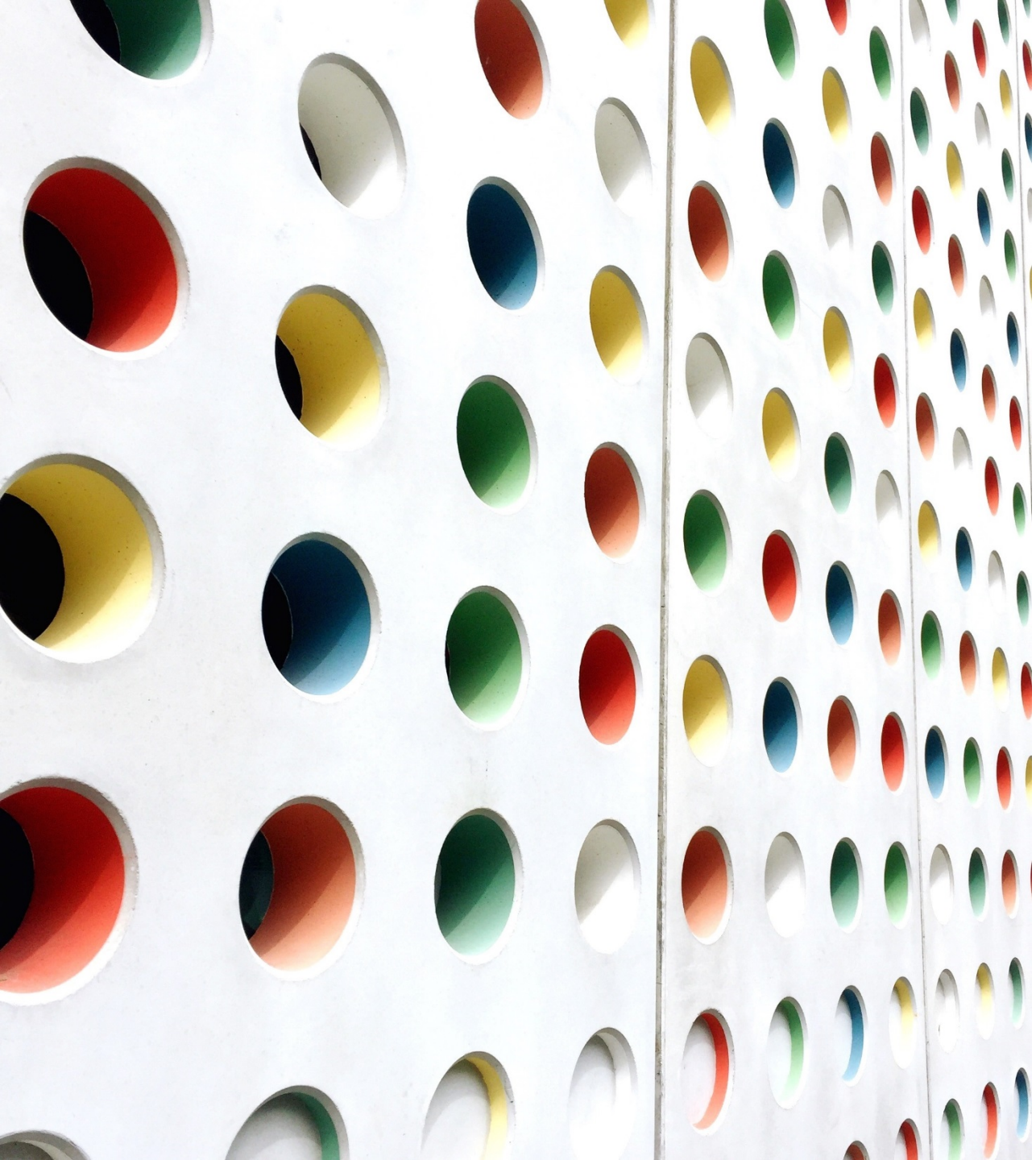
Submitted grant: DFG, The Initiation of international collaboration program, 2021.
Team: Prof. Xiaoyi Jiang, Prof. Karim Faez, Marjan Firouznia
Proposal Title: 3D CT/MRI segmentation using deep learning and chaos theory

Group Supervised Labs

Machine Vision Research Laboratory (MVRL), Amirkabir University of Technology

Group Contact Information

E-mails : Xjiang@uni-muenster.de
Kfaez@aut.ac.ir
Marjan.abdechiri@gmail.com



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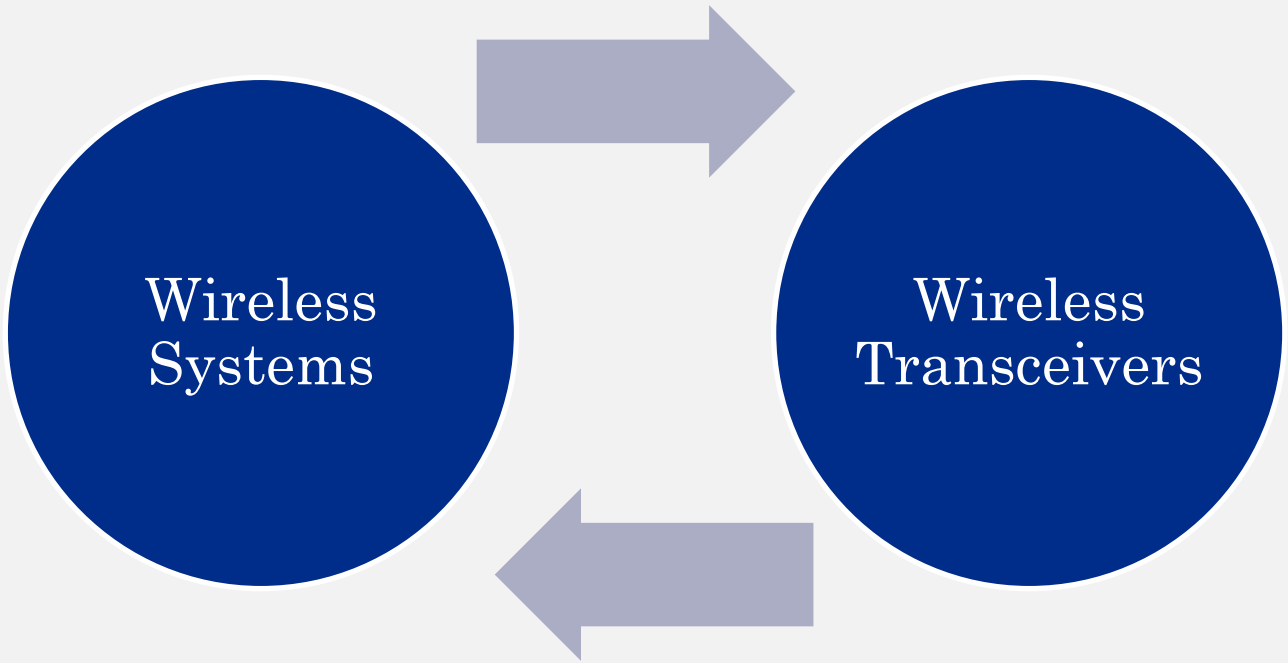
Research Group CV

Wireless Communications research laboratory

Director: Prof. Abbas Mohammadi

- 7 Ph.D. Candidates
- 10 M.Sc. Students
- More than 90 M.Sc. & Ph.D. & Postdoctoral Alumni

Research Group Interest



Wireless Systems

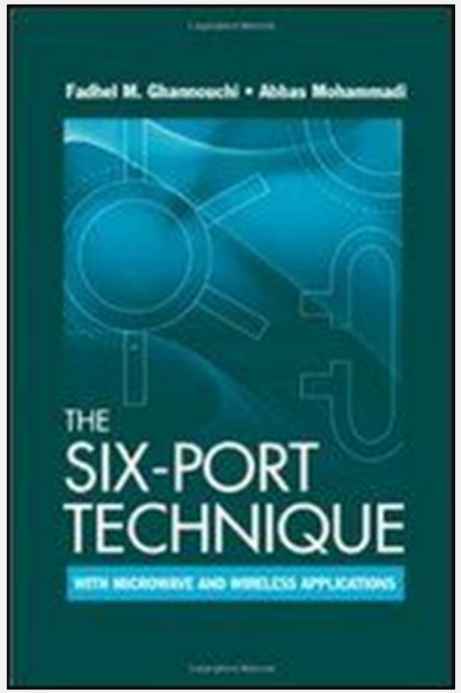
- 5G
- Advanced Modulation
- Relay Networks
- Cognitive Radio
- Ad-Hoc Networks

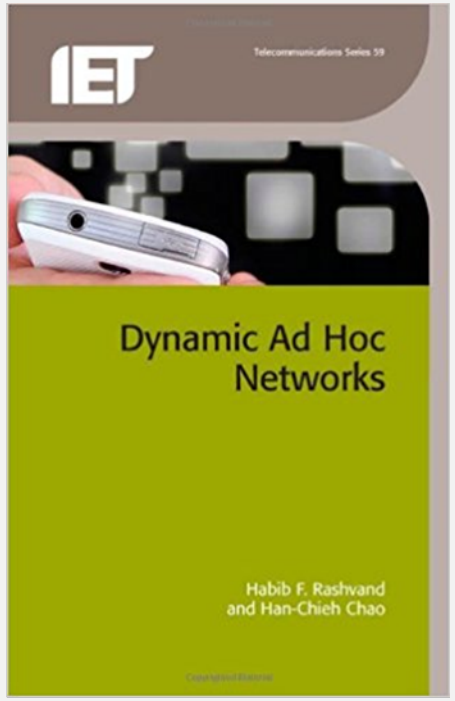
Wireless Transceivers

- Single Front-End MIMO
- PA & Transmitter Linearization
- Constant Envelop OFDM
- SDR & SR Techniques
- Transceiver Impairment Modeling

Group Research/Industrial Projects

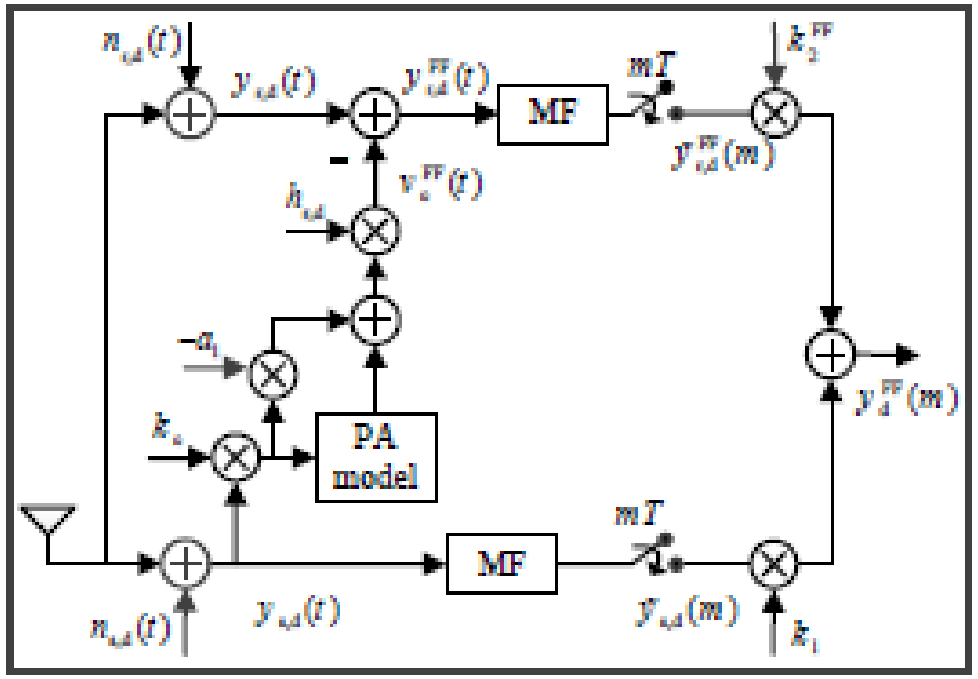
- Two Books and a book chapter
- Four U.S. and Canadian Patents
- About 200 Journal & Conference Papers

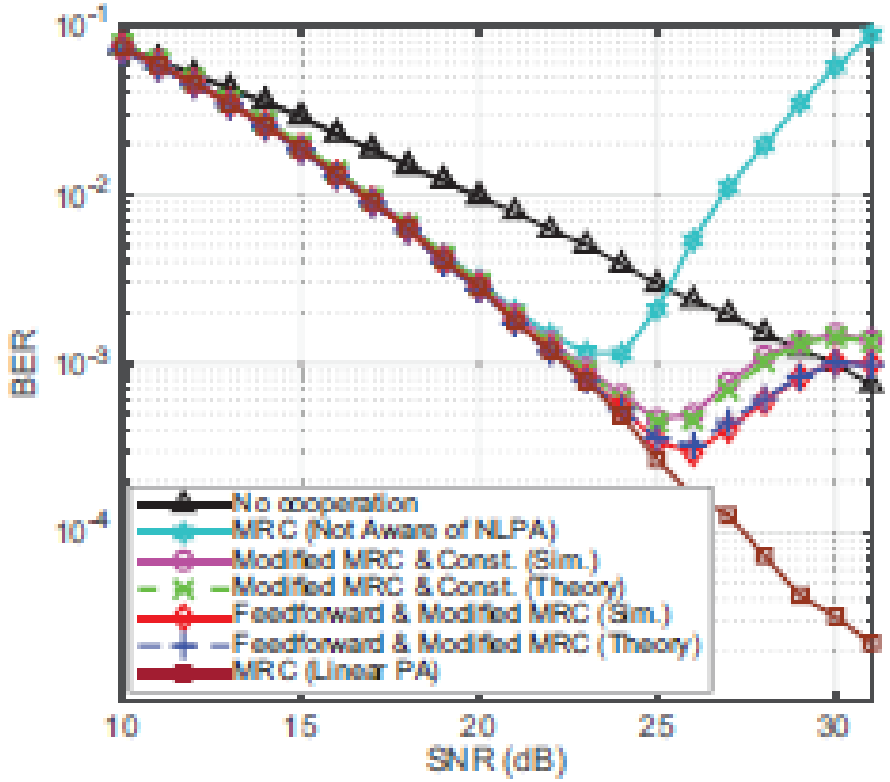




Group Research/Industrial Projects

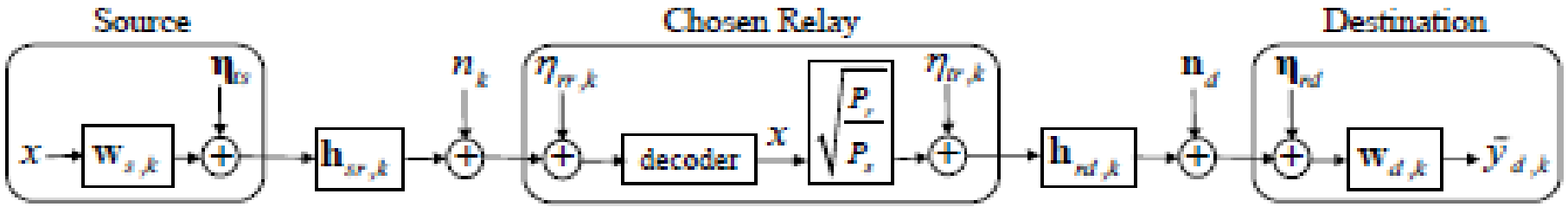
Mehdi Majidi, **Abbas Mohammadi**, Abdolali Abdipour, Mikko Valkama, "Characterization and Performance Improvement of Cooperative Wireless Networks With Nonlinear Power Amplifier at Relay", *IEEE TRANSACTIONS ON VEHICULAR TECHNOLOGY*, Vol. 69, Num. 3, Page 3244-3255, March 2020,

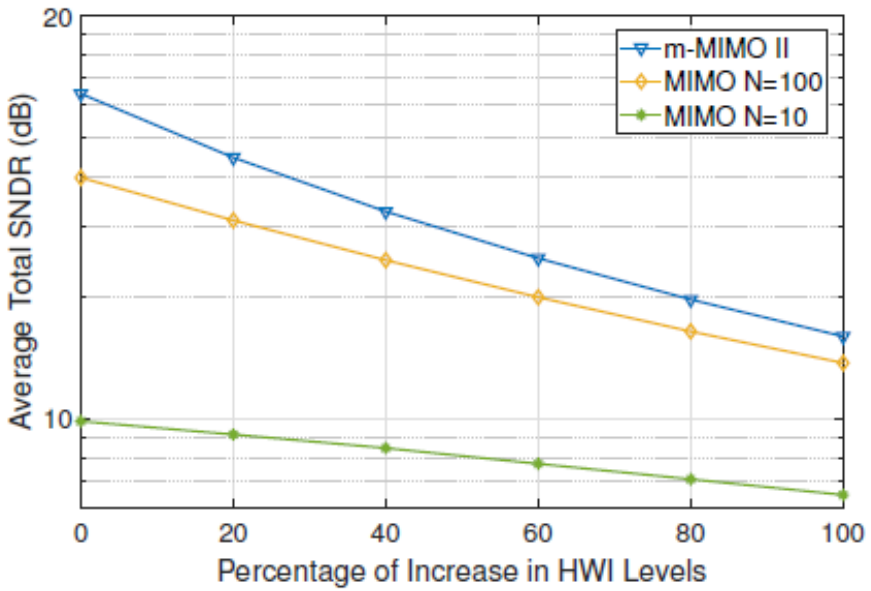


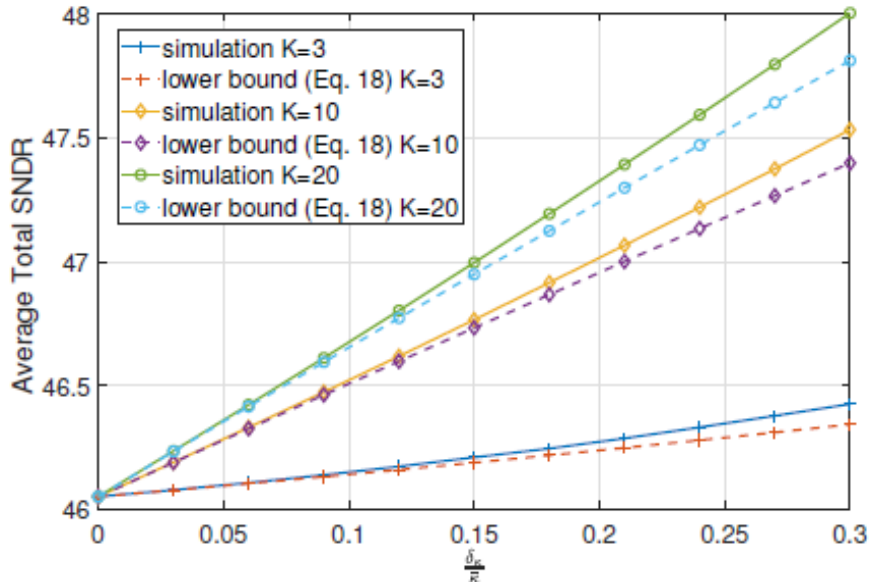


Group Research/Industrial Projects

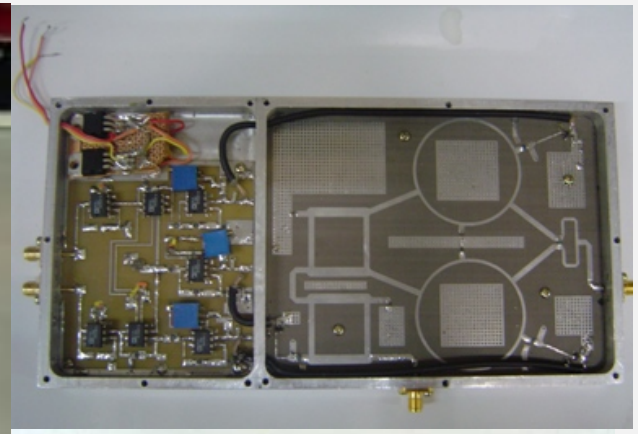
Mohammad Kazemi, **Abbas Mohammadi**, Tulga Duman, "Analysis of DF Relay Selection in Massive MIMO Systems with Hardware Impairments", *IEEE TRANSACTIONS ON VEHICULAR TECHNOLOGY*, Page 1-12, January 2020,

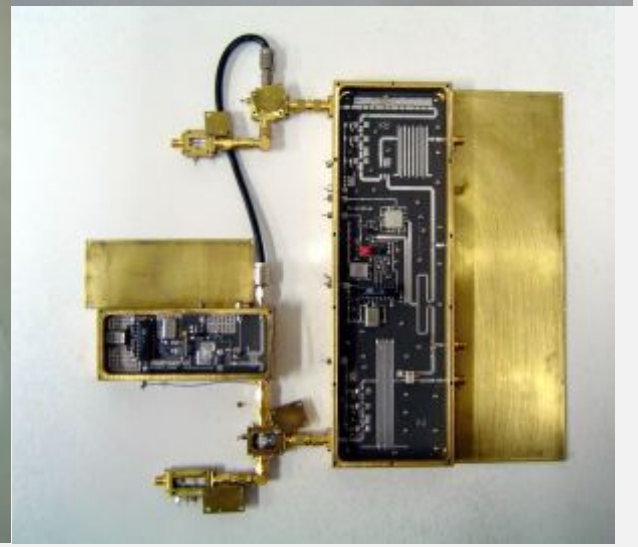






Group Supervised Labs





Group Contact Information

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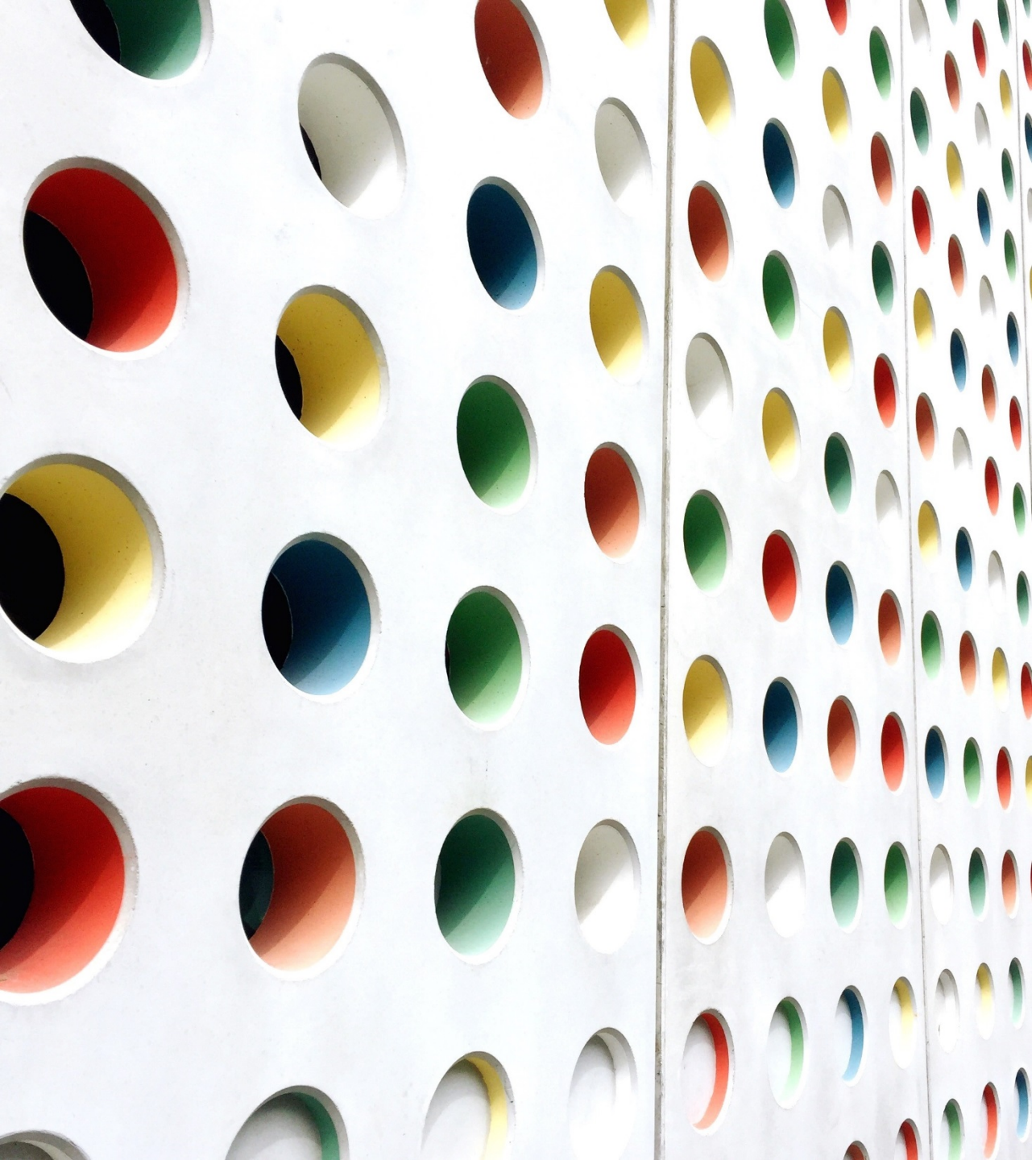
Tel: +98-9123766390



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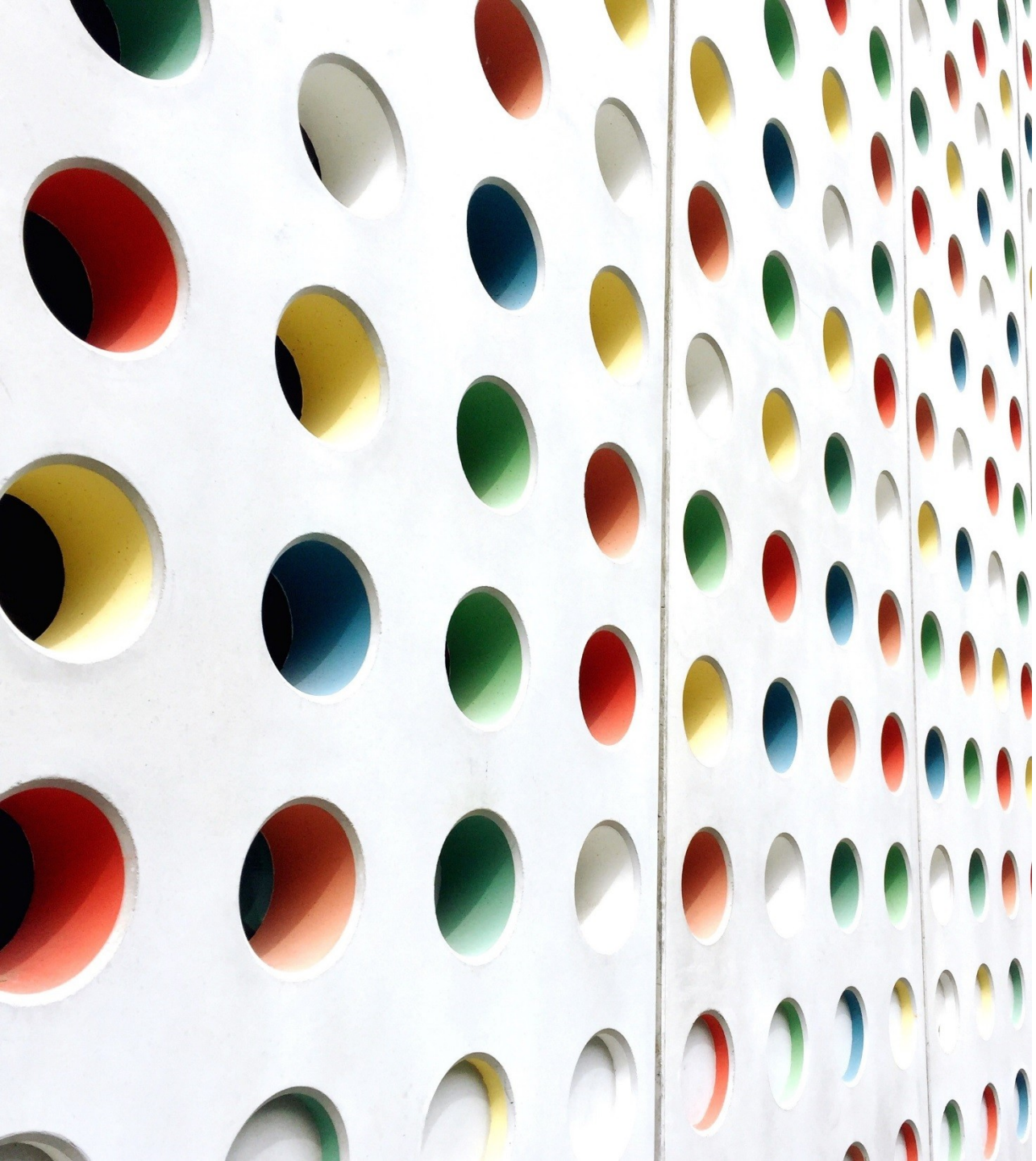
Research Group CV

Research Group Interest

Group Research/Industrial Projects

Group Supervised Labs

Group Contact Information



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Research CV – Farnaz Sheikhi

Assistant Professor, February 2019 - So far
Faculty of Computer Engineering, K. N. Toosi University of Technology,
Seyyed Khandan, Tehran, Iran
P.O.Box: 16315-1355
Postal Code: 14317-14191
Email: f.sheikhi@kntu.ac.ir
URL: https://wp.kntu.ac.ir/f.sheikhi/

Research CV – Educational Background

Postdoctoral researcher, April 2018 - February 2019
Institute for Research in Fundamental Sciences (IPM), Tehran, Iran

Ph.D. in Computer Science, September 2010 - October 2016
Amirkabir University of Technology, Tehran, Iran
Thesis: *Separating Points by Non-convex Shapes*
Supervisor: Prof. Ali Mohades
Advisor: Prof. Dr. Mark de Berg
GPA: 19.89/20
(Ranked as the best (top) student)

M.Sc. in Computer Science, September 2008 - September 2010
Amirkabir University of Technology, Tehran, Iran
Thesis: *Covering a Set of Points in the Plane with Geometric Shapes*
Supervisor: Prof. Ali Mohades
Advisor: Prof. Marzieh Eskandari
GPA: 19.2/20
(Ranked as the best (top) student)

B.S. in Computer Science, September 2004 - July 2008
Shahid Beheshti University, Tehran, Iran
GPA: 17.07/20
(Ranked as the 2nd best student)

Research CV - Publications

1. Farnaz Sheikhi and Ali Mohades. Maximum Separability by L-shapes. In *Proc. 2020 25th International Computer Conference, Computer Society of Iran (CSICC)*, 1–7, Tehran, Iran, 2020
(Awarded as the best paper of the conference)

2. Farnaz Sheikhi and Ali Mohades. Planar maximum box problem revisited. *Theoretical Computer Science*, 729:57-67, 2018.

3. Farnaz Sheikhi, Ali Mohades, Mark de Berg, and Ali Mehrabi. Separability of imprecise points. *Computational Geometry: Theory and Applications*, 61:24-37, 2017.

4. Farnaz Sheikhi, Ali Mohades, Mark de Berg, and Mansoor Davoodi. Separating bichromatic point sets by L-shapes. *Computational Geometry: Theory and Applications*, 48:673-687, 2015.

5. Mansoor Davoodi, Ali Mohades, Farnaz Sheikhi, and Payam Khanteimouri. Data imprecision under λ-geometry. *Information Sciences*, 295:126-144, 2015.

Research CV - Publications

6. Mark de Berg, Ali Mehrabi, and Farnaz Sheikhi. Separability of imprecise points. *14th Scandinavian Symposium and Workshop on Algorithm Theory (SWAT)*, Lecture Notes in Computer Science, 8503:146-157, 2014.

7. Bahareh Banyasady, Farnaz Sheikhi, Mohammad Asgaripour, Ali Mohades, and Ali Najafi. Covering points with outliers by two boxes (in Persian). Accepted in the *the 2nd Conference on Computer and Information Technology*, Tabriz, Iran, 2014.

8. Farnaz Sheikhi, Ali Mohades, and Mansoor Davoodi. An improved algorithm for finding monochromatic L-shapes in bichromatic point sets. In *Proc. the Contemporary Issues in Computer and Information Sciences*, 36–39, Zanjan, Iran, 2011.

9. Bahram Kouhestani, Farnaz Sheikhi, Mahsa Soheil Shamaee, and Ali Mohades. Guarding a terrain by a single k-modem watchtower. In *Proc. the First CSUT Conference on Computer, Communication and Information Technology*, 2:344–349, Tabriz, Iran, 2011.

10. Mansoor Davoodi, Payam Khanteimouri, Farnaz Sheikhi, and Ali Mohades. Data imprecision under λ-Geometry: finding the largest axis-aligned bounding box. In *Proc. the 27th European Workshop on Computational Geometry*, 135–138, 2011.

Research CV - Publications

11. Farnaz Sheikhi, Mark de Berg, Ali Mohades, Mansoor Davoodi, and Marzieh Eskandari. Finding monochromatic L-shapes. In *Proc. of the Contemporary Issues in Computer and Information Sciences*, 24- 28, Zanjan, Iran, 2010.

12. Farnaz Sheikhi, Mark de Berg, Ali Mohades, and Mansoor Davoodi. Finding monochromatic L-shapes in bichromatic point sets. In *Proc. the 22nd Canadian Conference on Computational Geometry*, 269–272, 2010.

13. Ahmad Javad, Ali Mohades, Mansoor Davoodi, and Farnaz Sheikhi. Convex hull of imprecise points modeled by segments in the plane. In *Proc. the 26th European Workshop on Computational Geometry*, 193–196, 2010.

Research Group Interest

Computational Geometry, Approximation and Randomized algorithms, Algorithmic Graph Theory

Group Contact Information

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Assistant Professor,
Faculty of Computer Engineering
K. N. Toosi University of Technology
Seyyed Khandan, Tehran, Iran

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Postal Code: 14317-14191

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