Mohammadreza Rohaninezhad

PhD in Telecommunications Engineering | Researcher in Metamaterials, Antennas, and Terahertz Devices

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Professional Summary

Innovative telecommunications engineer with a PhD in Electrical Engineering, specializing in metamaterials, antennas, and terahertz devices. Author of multiple ISI papers, reviewer for top-tier journals, and winner of international invention awards. Passionate about advancing RF, antenna, and THz technology.

Research Interests

- Metamaterials & Terahertz Absorbers
- Transparent Antennas & Electromagnetic Band Gap (EBG)
- Computational Electromagnetics & Multiphysics
- RIS & 6G Technologies
- MIMO Systems & Full-Duplex Relays

Education

Master of Engineering (M.Eng.), Electrical and Telecommunications Engineering

University: Semnan University, Semnan

Thesis: “Reducing Mutual Coupling in Array Antennas with Liquid Dielectric”

Doctor of Philosophy (PhD), Electrical and Telecommunications Engineering

University: Urmia University, Urmia

Thesis: “Design and Analysis of Metamaterial Absorbers for Terahertz Applications”

Research Experience

Independent Researcher – Design Metamaterials, Terahertz and antenna

Location: Urmia University Laboratory | Year: 2018 – Present

My current research interests include electromagnetic wave scattering in complex media, computational electromagnetics and multiphysics, application of metasurfaces in the propagation of electromagnetic waves, the design of telecommunication transmitters and receivers, frequency selective surfaces and applications, RCS, RCSR, electromagnetic band gap, metamaterial absorbers for THz frequencies, array antennas and application of materials in electromagnetics.

- Worked with CST, MATLAB, and COMSOL for electromagnetic and THz simulations.

Work Experience

1. Core Network

Company: NAK | World-class telecom managed services company | Year: Feb 2025- Present

- Planning and Optimization

1. 5G Technology Management Team

Company: NAK | World-class telecom managed services company | Year: Jul 2024 - Feb 2025

- Future technologies 6G, RIS, Metasurface and antenna designer.

2. RAN Engineer

Company: NAK | World-class telecom managed services company | Year: Aug 2023 - Jul 2024

- Specialized in interference mitigation and Network monitoring.

Selected Publications

1. Articles (ISI)

Rohaninezhad, M., “Design and fabrication of a super-wideband transparent antenna implanted on a solar cell substrate,” Nature group, [2023].

Rohaninezhad, M., “Design of an applied method with graphite structure for suppression of surface electromagnetic waves between array antennas,” AIP Advances, [2023].

Rohaninezhad, M., “Reduction of mutual coupling in a microstrip array antenna with circular polarization in the C-frequency band using a combination of DGS and EBG methods,” Engineering Research Express, [2023].

Rohaninezhad, M., “Design of a Transparent System for Mutual Coupling Reduction of Microstrip Array Antennas with Confined Water,” Physica status solidi (a), [2023].

2. Books

Rohaninezhad, M., “Free Space Optics Technologies in B5G and 6G Era Recent Advances, New Perspectives and Application,” IntechOpen, [2024].

Patents

• Reducing Mutual Coupling in Array Antennas with Liquid Dielectric – H01Q 1/52 – 2022

- Inventor of the world's first method of reducing mutual coupling in liquid dielectric antennas.

• Beamforming array antenna based on a liquid dielectric radiator with beam rotation capability

Skills

• CST Studio Suite, HFSS, COMSOL, MATLAB, LaTeX

• RF Circuit Design, Terahertz Devices, MIMO Systems, Full-Duplex Relays

• Scientific Writing, Peer Reviewing, Academic Presentation

Certifications & Courses

• Outstanding Reviewer Awards – IOP Publishing – 2025

• IOP Trusted Reviewer status– IOP Publishing – 2025

• Peer Review Excellence online training graduate – IOP Publishing – 2025

• certificate of inv membership –International Federation of Inventors' Associations (IFIA) – 2025

Honors & Awards of the world

🏆 Outstanding Reviewer Awards of the world- Institute of Physics, UK and Ireland - 2025

🏅 Gold Medal – Swiss International Inventions Competition, 2025

🥈 Silver Medal – Swiss International Inventions Competition, 2024

🥈 Silver Medal – Swiss International Inventions Competition, 2023

🎓 Scholarship – Ministry of Science, Research and Technology (Iran), 2020

🌍 Selected among 1% of the world's outstanding inventors by IFIA – 2022

Languages

• Persian – Native

• English

Journal Referee

• Transactions On Emerging Telecommunications Technologies – Apr 2024 - Present

• AEU - International Journal of Electronics and Communications – Jan 2024 - Present

• Physica Scripta journal – May 2023 – Present

• Smart Materials and Structures - Aug 2025 – Present

• Engineering Research Express - June 2025 – Present

• Measurement: Journal of the International Measurement Confederation – Oct 2024 – Present

• International Journal of Wireless Communications and Mobile Computing – May 2025 - Present

• International Academic Conference on Optics and Photonics – Jan 2024 - Present

• International Conference on Sustainable Technologies for Industry 5.0 (STI 2024) – Sep 2024

• Jordanian Journal of Computers and Information Technology – Jan 2023 – Present

• International Journal of Wireless Communications and Mobile Computing – May 2025 - Present

• TABRIZ JOURNAL OF ELECTRICAL ENGINEERING – Aug 2018 - Present

• Journal of Iranian Association of Electrical and Electronics Engineers – May 2022 – Present

- Selected as a trusted reviewer and top 15% of IOP (Institute of Physics, UK and Ireland) reviewers in 2025.

- Invitation to undertake the prestigious Peer Review Excellence training graduate course by the Institute of Physics, UK and Ireland