

SEYEDEH ATIYEH ABBASI JALAL

CONTACT INFORMATION

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EDUCATION

PH.D. STUDENT OF **Electrical and Computer Engineering** 2022- PRESENT
UNIVERSITY OF SOUTHERN CALIFORNIA (USC), Los Angeles, CA, USA.
GPA: (3.75/4)

M.SC. **Electronics Engineering-Micro and Nanoelectronic Devices** 2017-2020
TARBIAT MODARES UNIVERSITY (TMU), Tehran, Iran.
Note: Ranked 8th best global universities in Iran by US News rankings
GPA: (3.77/4)

THESIS TITLE: Designing phononic crystal devices based on Lamb wave.
SUPERVISOR: [Prof. Mohammad Kazem Moravvej-Farshi](#)
ADVISOR: [Dr. Sara Darbari](#)

B.SC. **Electronics Engineering** 2012-2016
BU-ALI SINA UNIVERSITY, Hamadan, Iran.
GPA: (3.43/4)
SUPERVISOR: [Dr. Seyed Manouchehr Hosseini Pilangorgi](#).

RESEARCH INTERESTS

OPTICAL NEURAL NETWORKS
OPTOELECTRONICS
OSCILLATOR-BASED COMPUTING SYSTEMS
NANOELECTRONICS
METAMATERIALS
ACOUSTICS

AWARDS & HONORS

- Ranked within the top 10% of graduate students, Department of Electronics Engineering, 2020.
- Received full National fellowship for domestic master studies from Tarbiat Modares University, 2017.
- Ranked within the top 2% among more than 30,000 participants in the Nationwide Graduate University Entrance Exam in Electrical Engineering, 2017.
- Ranked within the top 20% of undergraduate students, Department of Electrical and Computer Engineering, 2016.
- Ranked within the top 1.9% among more than 260,000 participants in Iranian University entrance exam, 2012.

PUBLICATIONS

- Ahsan, R., Uk Chae H., **Abbasi Jalal, A.**, Tao, J., Das, S., ..., Kapadia, R. Ultra-low power in-sensor neuronal computing with oscillatory retinal neurons for frequency-multiplexed, parallel machine vision. *Nature* 2023., Under revision.
- Ahsan, R., **Abbasi Jalal, A.**, Kapadia, R. A scalable and variation tolerant Fitzhugh-Nagumo neuron. Under preparation.
- **Abbasi Jalal, A.**, Moravvej-Farshi, M.K., Darbari, S. (2019). Design and Simulation of Phononic Crystal Plate Microwaveguide. *The 1st Iranian Conference on Microelectronics.*

WORK EXPERIENCE

- English teacher at Simin language institute, Hamadan, Iran, 2016.

ACADEMIC PROJECTS

- Genetic algorithm and Binary Particle Swarm Optimization for an ultra-compact meta-surface polarization beam splitter@code, Lecturer:Constantine Sideris, 2023.
- Calculation of reflection and transmission of zero order mode based on the variation of input wavelength with using RCWA method, MATLAB@code, Lecturer:Davood Fathi, 2019.
- Investigating the energy structure of nanoribbons with using tight-binding approximation by regeneration of "Selection rule for the optical absorption of graphene nanoribbons", Physical Review B 76, 2007, MATLAB@code, Lecturer: Prof. Vahid Ahmadi, 2018.
- Regeneration of "Simulation based Analysis of Capacitive Pressure Sensor with COMSOL Multiphysics@," , International Journal of Engineering Research and Technology, 2015, Lecturer: Sara Darbari, 2018.
- Regeneration of "Two-dimensional simulation studies on high-efficiency point contact back heterojunction (a-Si:H/c-Si) solar cells", Solar energy 105, 2014, Lecturer: Prof. Vahid Ahmadi, 2017.
- Simulation of a HEMT transistor with the aim of investigating its operation with Silvaco@, Lecturer: Dr. Sara Darbari, 2017.

CERTIFICATES

- Certificate For A Scientific Workshop on the Occasion of the international Day of Light, "Contemporary Advance in the Science and Technology of Light", Tarbiat Modares University, Tehran, Iran, April 2019.

SKILLS

Computer Skills

Softwares

- COMSOL Multiphysics, MATLAB, Altium Designer, LaTeX, Microsoft Word, Microsoft Excel, Microsoft PowerPoint, Familiar with Silvaco.

Programming language

- Python, C

Language Skills

- Persian: Mother Tongue
- English: Fluent

TOEFL IBT: 97

SELECTED COURSES & GRADES

Graduate

- Computational Electromagnetics for Engineers: 4/4
- Optics: 4/4
- Introduction to Quantum Electronics: 4/4
- Semiconductor devices: 4/4
- Theory and Fabrication Technology of semiconductor devices: 4/4
- Nanoelectronics: 4/4
- Micro-electromechanical system: 4/4
- Optoelectronics: 4/4
- Computational optics and photonics: 4/4