

## Amir Mohsen Ahmadi Najafabadi

---

### CONTACT INFORMATION

EPFL  
EPFL STI IEM SCI-STI-AS ELB 017 (Bâtiment ELB)  
Station 11  
1015 Lausanne, Switzerland

Phone: +41-78-219-1365  
E-mail:  
amir.ahmadi@epfl.ch  
Website:  
people.epfl.ch/amir.ahmadi  
LinkedIn  
linkedin.com/in/amirmahmadi/

### EDUCATION

**École Polytechnique Fédérale de Lausanne (EPFL)**, Lausanne, Switzerland

Ph.D., Electrical Engineering, GPA: /4,

- Thesis Topic: *Target-Oriented mm-Wave Wireless Power Transfer for IoT Applications*
- Advisor: Prof. Anja Skrivervik

**Sabanci University**, Istanbul, Turkey

M.Sc., Electronics Engineering, GPA: 3.88/4, July 2022

- Thesis Topic: *A Novel Beam Steerable Antenna Array System for 5G mm-wave Applications*
- Advisor: Prof. Ibrahim Tekin
- Area of Study: RF/Microwave Systems, UWB Transceiver Hardware Design, Antennas and EMT

**Bilkent University**, Ankara, Turkey

B.Sc., Electrical and Electronics Engineering, GPA: 2.98/4, August 2020

- Senior Thesis: *Design of a Birdcage-like Transmit Array Coil with Non-symmetric Lumped Components for 3T MRI Scanners*

### RESEARCH INTERESTS

**mm-wave Antenna Design**, 5G Communication, Computational Electromagnetic, and Bio-Electromagnetics.

### PUBLICATIONS

- [1] A.M Ahmadi Najafabadi, G. A Ramirez, M. Ghorbanpoor, A. Vorobyov, P. Nussbaum, A. Skrivervik, "Plug-in Plug-Out Multibeam Dielectric Rod Antenna for Target Dedicated mm-Wave RF-WPT Applications", *2024 18th European Conference on Antennas and Propagation (EuCAP)*
- [2] M. Ghorbanpoor, E. Le Roux, A. M. Ahmadi Najafabadi, O. Vorobyov, P. Nussbaum, H. Wang, "A 24-GHz 4-Element Multi-Beam Wireless Energy Harvesting Array with Class-F Rectifiers Achieving 51.5% PCE", *2024 IEEE MTT-S International Microwave Symposium*
- [3] A.M Ahmadi Najafabadi, F.A. Ghani and I. Tekin, "A Slotted Microstrip Patch Antenna Array with Reduced Beam Squint for mm-Wave Applications", *IEEE Transactions on Vehicular Technology*, 2022, *Manuscript Submitted*
- [4] A.M Ahmadi Najafabadi, F.A. Ghani and I. Tekin, "Low-Cost Multibeam Millimeter-Wave Array Antennas for 5G Mobile Applications," *IEEE Transactions on Vehicular Technology*, 2022
- [5] A.M Ahmadi Najafabadi, F.A. Ghani and I. Tekin, "A 28 GHz beam steerable elliptic microstrip array antenna for 5G applications," *2022 16th European Conference on Antennas and Propagation (EuCAP)*, 2022.

- [6] F.A. Ghani, A.M. Ahmadi Najafabadi, H. Saleh, M. Kaya Yapici and I. Tekin, "A 28 GHz 2x2 antenna array with 10 beams using passive SPDT switch beamforming network," *MDPI Sensors*, 2021.
- [7] A. Uzun, F.A. Ghani, A.M. Ahmadi Najafabadi, H. Yenigün and I. Tekin, "Indoor positioning system based on global positioning system signals with down- and up-converters in 433 MHz ISM band," *MDPI Sensors*, 2021.

RESEARCH  
EXPERIENCE

**TUBITAK (The Scientific and Technological Research Council of Turkey)**, Istanbul, Turkey

*The Scientific and Technological Research (1001)* **September 2020 to September 2022**

- 5G Beam Steerable Antenna Array and SPDT MEMS Based Switching Network Integration for Mobile Stations
- Phased Array Antenna Design and Realization
- Butler Matrix Design and Realization
- Scattering and Gain Measurement
- Manufacturing Process
- Project Coordination

**TUBITAK (The Scientific and Technological Research Council of Turkey)**, Istanbul, Turkey

*Primary Subjects R&D (1003)* **September 2020 to May 2021**

- A Novel Indoor Positioning System Based on GPS Repeaters in 433 MHz ISM Band
- Measurement
- Validation

**UMRAM (National Magnetic Resonance Research Center)**, Ankara, Turkey

*Undergraduate Researcher* **August 2019 to February 2020**

- Design of a Birdcage-like Transmit Array Coil with Non-symmetric Lumped Components for 3T MRI Scanners

**Boğaziçi University**, Istanbul, Turkey

*Undergraduate Researcher* **Summer 2018**

- Implantable Antenna Design at ISM Band 2.4 GHz

TEACHING  
EXPERIENCE

**Sabancı University**, Istanbul, Turkey

*Supervisor* **September 2021 to June 2022**

- ENS 491/2 Graduation Project

*Teaching Assistant* **January 2022 to June 2022**

- EE 556 Antennas and Propagation for Wireless Communication
- EE 409 Microwaves
- ENS 201 Electromagnetics I

PROFESSIONAL  
EXPERIENCE

**CSEM**, Neuchatel, Switzerland

*Ph.D. Candidate* **October 2022 to November 2024**

**Futuris**, Ankara, Turkey

*FPGA Design Engineer* **September 2018 to January 2020**

- VHDL Design of Monochrome Military Video App.

**Arçelik**, Ankara, Turkey

*Summer Internship*

**August 2018**

- Industrial Internship

**ACADEMIC  
PROJECTS**

- Machine Learning Sentiment Analysis Project (Machine Learning Course)
- Nano-optics Simulations (Nano-Optics Course)
- Microstrip Antenna with Wood as Substrate (Antenna Course)
- Doppler Radar (Microwave Course)
- Wearable Patch Antenna Project (Antenna Course)
- Electromagnetic Project (Electromagnetic Course)
- FPGA Based AD9631 Video Transceiver System (Electronic Circuit Design Course)
- Three Stage Amplifier (Electronic Circuit Design Course)
- Health Monitor System Designed by 8051 (Microprocessor Course)
- Smart Home FPGA Design (Digital Circuit Design Course)
- Java Project (CS Course)
- TRC 10 Transmitter-Receiver (Analog Electronics Course)

**SCHOLARSHIPS  
AND AWARDS**

**Sabanci University**

- Project Scholarship (%100 tuition fee + full grant), 2020–2022

**Bilkent University**

- Scholarship for undergraduate students (%100 tuition fee), 2015–2020

**COMPUTER  
SKILLS**

Engineering Softwares:

- HFSS, CST, ADS
- ANSYS, COMSOL
- MATLAB
- Vivado

Software Programming Language:

- Python
- Java
- C++
- C

Hardware Programming Language:

- VHDL
- Assembly

Operating Systems:

- Linux, HPC, Windows, Mac OS

**LANGUAGES**

- Persian (Mothertongue)
- English (Professional working proficiency)
- Turkish (Professional working proficiency)
- French (Elementary proficiency)

**MEMBERSHIPS**

- IEEE Member (2022–present)
- Sigma Xi Member (2023–present)
- IEEE Graduate Student Member (2020–2022)
- IEEE Student Member (2015–2020)
- Tema Charity (2014–present)