IMRAN AZIZ

Microwave Group, Solid State Electronics Division, Uppsala University, Sweden
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ACADEMICS

Uppsala University, Sweden *Oct 2016-present*
PhD in Engineering Sciences with specialization in Microwave Technology

The University of Azad Jammu and Kashmir, Muzaffarabad, Pakistan *2008-2010*
Masters in Electrical Engineering (Telecommunications)

The University of Azad Jammu and Kashmir, Muzaffarabad, Pakistan *2002-2006*
Bachelor in Electrical Engineering (Electronics & Telecommunications)

EXPERIENCE

Uppsala University Oct 2016 - Till date
PhD student *Uppsala, Sweden.*

· Design different antenna arrays for 5G millimeter Wave and fixed wireless access (FWA) applications
· Working on linear and circular polarized phased antenna arrays for beam-steering applications
· Carrying out technical investigations in the antenna design
· Performing simulations using HFSS, ADS and CST.
· Having close collaboration with the other team members to get the final product out of research
· Writing MATLAB scripts to control the measuring instruments and perform the post-processing analysis
· Perform linear and circular polarized antenna arrays and radio frequency module measurements in the an-echoic chamber
· One week extensive **courses** attended during PhD:

- Antenna measurements at mm and sub-mm wavelengths — Aalto University, Finland.
- Antenna systems for 5G communication — Chalmers University, Sweden.
- Millimeter wave antenna design and technologies — IETR, University of Rennes, France.
- Industrial antenna design — IMST, Kamp-Lintfort, Germany.
- Arrays and reflectarrays — UC Louvain, Belgium.

· Participation in **conferences** with oral and poster presentations:

- European conference on antenna and propagation (EuCAP), London, UK. 2018 — Oral
- GigaHertz symposium, Lund, Sweden. 2018 — Poster
- European microwave week (EuMW), Paris, France. 2019 — Oral
- Vienna conference on Instrumentations (VCI), Vienna, Austria. 2019 — Poster
- EuCAP 2020. Online — Poster

Mirpur University of Science & Technology (MUST) May 2012 - Oct 2016
Lecturer *Mirpur AJK, Pakistan*

· Teaching bachelors courses "Circuit Analysis", "Transmission Lines and Antennas" and "Mobile Communications".
· Designing and supervision of lab experiments for "Circuit Analysis" and "Basic Electrical Engineering"

· Remained member of technical purchase committee of MUST

Huawei Technologies Jan 2012 - May 2012
Electrical Engineer *Islamabad, Pakistan*

· BSC (base station controller) Operation & Maintenance
· Implementation of FCB (fast charging batteries) during BSS power swap

Special Communications Organization (SCO) Feb 2007 - Jan 2012
Communication Engineer *Mirpur AJK, Pakistan*

· Involved with Radio Network Planning & Optimization and BSS (base station subsystem) Operation & Maintenance
· Operation & Maintenance of NSS (network switching subsystem) for CDMA services

TECHNICAL TRAININGS AND SKILLS

Computer-Aided Design Software	Ansys HFSS, ADS Keysight, CST Studio Suite
Computer Programming	MATLAB, C++
Millimeter wave Measurements	VNA, Spectrum Analyzer, Oscilloscope, etc.
GSM Planning & Optimization	Mentum Planet, NEMO Outdoor & Analyse, BSS O&M training at Huawei Technologies, China

GRANTS AND SCHOLARSHIPS

• Three times recipient of Anna Maria Lundins (AML) travel grant to participate in different PhD courses and attend different conferences

TEACHING ACTIVIES AT UPPSALA UNIVERSITY

Lab Assistant for:

• Design of Wireless Interfaces for Embedded Systems (1TE748)

• Microcontroller Programming (1TE723)

• Analog Electronics (1TE725)

PUBLICATIONS

• **I. Aziz**, R. Dahlbäck, E. Öjefors, K. Sjögren, A. Rydberg and D. Dancila, **"60 GHz compact broadband antenna arrays with wide-angle beam steering"** in The Journal of Engineering, vol. 2019, no. 8, pp. 5407-5414, 8 2019, doi: 10.1049/joe.2018.5343.

• **I. Aziz**, D. Dancila, S. Dittmeier, A. Siligaris, C. Dehos, P. De Lurgio, Z. Djurcic, G. Drake, J. Jimenez, L. Gustaffson, D. W. Kim, E. Locci, U. Pfeiffer, P. R. Vazquez, D. Rhrich, A. Schning, H. K. Soltveit, K. Ullaland, P. Vincent, S. Yang and R. Brenner, **"Effects of proton irradiation on 60 GHz CMOS transceiver chip for multi-Gbps communication in high-energy physics experiments"** in The Journal of Engineering, vol. 2019, no. 8, pp. 5391-5396, 8 2019, doi: 10.1049/joe.2018.5402.

• **I. Aziz**, R. Dahlbck, E. jefors, A. Rydberg and D. Dancila, **"High gain compact 57-66 GHz antenna array for backhaul & access communications"** 12th European Conference on Antennas and Propagation (EuCAP 2018), London, 2018, pp. 1-4, doi: 10.1049/cp.2018.0362.

• **I. Aziz**, A Rydberg and D Dancila, **"Electromagnetically Coupled Multilayer Patch Antenna for 60 GHz Communications"** GigaHertz Symposium, Lund, May 24-25, 2018.

• **I. Aziz**, E. jefors, R. Dahlbck, A. Rydberg, G. Engblom and D. Dancila, **"Broadband Connected Slots Phased Array Feeding a High Gain Lens Antenna at 60 GHz"** 2019 49th European Microwave Conference (EuMC), Paris, France, 2019, pp. 718-721, doi: 10.23919/EuMC.2019.8910856.

• **I. Aziz** on behalf of WADAPT collaboration, **"Proton Irradiation Hardness Investigations of 60 GHz Transceiver Chips for High Energy Physics Experimentations"** poster presented at VCI2019- The 15th Vienna conference on instrumentation, 18-22 Feb, 2019.
URL: https://indico.cern.ch/event/716539/contributions/3256662/

• **I. Aziz**, W. Liao, H. Aliakbari and W. Simon, **"Compact and Low Cost Linear Antenna Array for Millimeter Wave Automotive Radar Applications"** 2020 14th European Conference on Antennas and Propagation (EuCAP), Copenhagen, Denmark, 2020, pp. 1-4,
doi: 10.23919/EuCAP48036.2020.9135772.

• **I. Aziz**, D. Wu, E. jefors, J. Hanning, E. Wiklund and D. Dancila, **"Broadband fan-out phased antenna array at 28 GHz for 5G applications"** Accepted for EuMW2020.