Dr. Haider Ali

Assistant Professor
Department of Electronics Technology
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EDUCATION

Doctor of Philosophy (Ph.D) Communication & Electronic Engineering Mar. 2014
Telecommunication Subsystem Design for Small Satellites
University of Politecnico di Torino, Italy.

Masters of Science in Electronic Engineering Sep. 2010
University of Politecnico di Torino, Italy.

Bachelor of Science in Telecommunication Engineering June. 2007
National University of Computer & Emerging Sciences, Pakistan.

AWARDS AND ACHIEVEMENTS

- MS leading to PhD scholarship at Politecnico di Torino, Italy from Higher Education Commission of Pakistan under the project of UESTP-Italy (September 2008 to February 2014)
- Nominated for the Best University Teacher Award 2016 at Abasyn University Peshawar

TEACHING INTERESTS

Power Electronics, Advanced Power Electronic Systems, Linear Control Systems, Wireless Communication Systems, Electrical Network Analysis, Electromagnetic Field Theory
Communication Systems, Statistical Signal Analysis, Telecommunication Systems, RF Front End & Antenna Design ,Power Electronic Systems, Power Management Systems, Control Systems, Soft Switching Resonant Converters.

RESEARCH INTERESTS

Telecommunication Systems, RF Front End & Antenna Design ,Power Electronic Systems
Power Management Systems, Control Systems, Soft Switching Resonant Converters.

EXPERIENCE

Assistant Professor , Department of Electrical Engineering, Abasyn University Peshawar, Pakistan.
Post Graduate (EE) Program Coordinator

Researcher, Microelectronic Research Group, Politecnico di Torino, Italy.
Interaction with fellow researchers by executing several individual and group projects in the field of Small Satellites Development.

Researcher, RF, Microwave & Computational Electronics Research Group, Politecnico di Torino, Italy.
Interaction with fellow researchers by executing RF Thermal measurements, modelling and characterization work for RF devices.

Lab. Assistant, Electronics & Telecommunication Department, Politecnico di Torino, Italy.

Supervised laboratory sessions for Analog Circuits and Telecommunication Electronics course in which trained Master students for telecommunication electronics circuit design and power electronics related labs.

SOFTWARE SKILLS

PCB Design & Development Tools:
Mentor Graphics (Schematic Capture, Expedition PCB, PADs)
Altium Designer (Complete Suite)

Antenna and RF Design Tools:
CST Studio Suite (Micro-Strip Design, Microwave Studio)
Ansoft HFSS (Electromagnetic CAD)
AWR Microwave Office (RF Circuit Design)

Circuit Design Tools: LTSPICE, Multisim

Microntroller programming using Arduino electronic prototyping platform

Languages: C, C++, MATLAB, SystemC, Verilog/VHDL

RESEARCH PROJETS

Co-PI (10,000 Euros), "PoliTo at Pakistan (PAP) – Internationalization of academic affairs", Italian University Grant by Politecnico di Torino, Italy.
Project Member (1.3 Million PKR), Post Doc Researcher for PNSS-1 Project for the TMT, TCR, GSTAU and GSRAU Modules

WORKSHOPS CONDUCTED
- Conducted: One Days Workshop on Modular Architecture Design for Nano Satellites, Abasyn University, Peshawar, December 2016.
- Conducted: One day Workshop on Project Proposal Writing Abasyn University, Peshawar, December 2016.

MS SUPERVISION
- Performance Assessment of Reactive Routing Protocols in Mobile Ad-Hoc Networks under CBR Traffic using NS2
- Magnetorquer Coil Design for Micro-Satellites

RESEARCH PUBLICATIONS

[1] Waqas A. Imtiaz, **Haider Ali**, Affaq Qamar, Design and Analysis of Self-Healing Spectral Amplitude Coding OCDMA System, Security and Communication Networks, Willey Online Library, (IF:0.806)
[2] A. Ali, M. R. Mughal, **H. Ali**, L. M. Reyneri, M. N. Aman, "Design, implementation, and thermal modeling of embedded reconfigurable magnetorquer system for nanosatellites," in *IEEE Transactions on Aerospace and Electronic Systems*, vol. 51, no. 4, pp. 2669-2679, Oct. 2015.
[3] Anwar Ali, M. Rizwan Mughal, **Haider Ali**, Leonardo M.Reyneri; "Innovative Power Management, Attitude Determination and Control Tile for CubeSat Standard NanoSatellites", *Acta Astronautica*, 2014.
[4] **Haider Ali**, Anwar Ali, Claudio Sansoe, Affaq Qamar, Waqas Imtiaz, " RF Front End Design for Nano-Satellites Using Low Cost Commercial Components," International Journal of Aerospace Engineering. (SCIE IF: 0.889) (Submitted)

[5] **Haider Ali,** Anwar Ali, Claudio Sansoe, Affaq Qamar, Waqas Imtiaz, "Right Handed Circularly Polarized L-Shaped Patch Array Antenna for Nanosatellites," International Journal of Antennas and Propagation, (SCIE IF: 0.750) (Submitted)

[6] Wasi Ullah, **Haider Ali**, A. Wajid Ullah Khan, Arshad Farhad, Adnan Khan, Baseer Ahmad; "Performance Assessment of Reactive Routing Protocols in Mobile Ad-hoc Networks under CBR Traffic using NS2", WISPNET, IEEE Intl. Conference 23-25 Mar 2016.

[7] Muhammad Musiab Aleem Dildar, Anwar Ali, **Haider Ali**, M. Sadiq Khattak, Farhan Pervez; "Embedded Magnetorquer Coil Design for Micro-Satellite" ICEET Int. Conference April 7-8, 2016.

[8] Mughal M.R, Ali A., **Ali H.**, ReyneriL.M, Del Corso D.;" Free space and glass fiber based infrared communication system on board AraMiS satellite" 12th International Workshop on Advanced Infrared Technology and Applications,11-13 SEP 2013, Torino Italy.

[9] M. Rizwan Mughal, Anwar Ali, **Haider Ali**, Leonardo M. Reyneri; "UML for Space Systems: From Specification to Design and Implementation" 64th International Astronautical Congress , IAC-13,D1.3,7x18418, Beijing , China , 23-27 SEP 2013.

[10] Mughal M.R, Ali A., **Ali H.,** Reyneri L.M.; "Smart Honeycomb Tile for Small Satellites" 35th IEEE aerospace conference, Big Sky, Montana , USA, 1-8 MAR 2014.

[11] Anwar Ali, M. Rizwan Mughal, **Haider Ali**, Leonardo M. Reyneri, "Thermal Modeling of CubeSat standard NanoSatellite", 27th annual European Space Thermal Analysis Workshop, 3-4 December 2013 at ESTEC, Noordwijk, the Netherlands.

[12] **Ali H**., Aru A., Sansoe C., Ali A., Mughal R., Reconfigurable Antenna Design for Nanosatellites, Intl. ESTEL Conference, 2012, Rome, Italy, Sep, 2012.

[13] **Ali H**., Aru A., Sansoe C., Reyneri L., Design & Development of the Telecommunication Protocol for AraMiS Nanosatellites, 63rd International Astronautical Congress (IAC-2012),Naples, Italy, Sep, 2012.

[14] Mughal R., Reyneri L., De los Rios C., **Ali H**., Development of Optical Wireless Transceiver for Data Communication in Small Satellites, Intl. ESTEL Conference, 2012, Rome, Italy, Sep, 2012.

[15] Ali A., Reyneri L., De los Rios C., **Ali H**., Innovative Power Management Tile for Nano Satellites, 63rd International Astronautical Congress (IAC-2012),Naples, Italy, Sep, 2012.

[16] Ali A., Reyneri L., De los Rios J., **Ali H**., Mughal R., Reconfigurable Magnetorquer for the CubePMT Module of CubeSat Satellites, IEEE 15th International Multi Topic Conference 2012 (INMIC-2012), Islamabad, Pakistan, Dec 2012.

[17] Anwar Ali, Leonardo M. Reyneri, **Haider Ali**, M. Rizwan Mughal, "Components selection for a simple boost converter on the basis of power loss analysis", 63rd International Astronautical Congress (IAC), IAC-12-C3.4.3, Naples, Italy, 1-5 OCT 2012**.**

Books/ Lab Manuals

[18] Waqas A. Imtiaz, Affaq Qamar, Haider Ali, Sevia M. Idrus Impact of Fiber Duplication on Protection Architectures Feasibility for Passive Optical Network, Optical Communications, ISBN 978-953-51-5442-8. In Tech Publishers, 2017. (In Press)

[19] Power Electronics Lab Manual

[20] Linear Control System Lab Manual