Dr. Muhammad Asim

University of Agriculture, Peshawar
Faculty of Management and Computer Sciences
Dept. of Computer Science & Information Technology
Professors Colony, Peshawar, Khyber Pakhtunkhwa
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Research Interests

My current research interest lies in Signal Processing for Wireless Communication, Channel Coding Schemes, Channel-Aware Receivers, Reconfigurable Computing platforms.

Education

Ph.**D**. in Information Technology, Department of Engineering and Architecture, University of Parma, Italy 2013 - 2016.

Thesis: *Advanced Receivers for Next Generation Wireless Communication Systems*.
Jointly Funded by Huawei Research Centre, Europe and Department of Engineering and Architecture (formerly, Department of Information Engineering), University of Parma, Italy

M.**Engg**. in Information and Communication, Department of Information and Communication Engineering, Chosun University, Republic of Korea 2010 - 2012.

GPA: **4.19 / 4.5**

Thesis: *An Efficient Implementation of LT Codes Based on its Optimized Degree Distribution Function*.
Funded by IT Global Talent Scholarship, Ministry of Knowledge and Economy, Republic of Korea

B.**E**. in Electrical Engineering, Department of Electrical Engineering, Cecos University, Pakistan 2004-2009

Thesis: *Designing Programmable Logic Controller based on 8051 Microcontroller, its implementation based on Human Machine Interface*.

Experience

Assistant Professor in Information Technology at the Department of Computer Science and Information Technology, Institute of Computer Sciences & Information Technology, Faculty of Management and Computer Sciences, **University of Agriculture**, **Peshawar**, Pakistan from January 2018 - till date

Assistant Professor in Information Technology at the Department of Computer Science, **Preston University**, Peshawar Campus, Pakistan from June 2016 - December 2017

Publications

International Journal Publications/Project Reports

1. Muhammad Asim, *A Study of Pragmatic Indoor Positioning Systems and Techniques*, Technical Report, Start-up Research Grant Project, Higher Education Commission, Islamabad, Pakistan (manuscript in preparation).
2. Muhammad Asim, Karamat Ullah Khan, Asfandyar Khan, Abdullah Khan, *WIFI based Indoor Positioning System based on 3D Trilateration approach*,(manuscript in preparation).
3. Muhammad Asim, Asfandyar Khan, Javed Iqbal Bangash, Abdullah Khan, *Channel-Aware Receiver for Phase Noise Channel*, submitted in June 2020 to Journal of Central South University - Springer.
4. Abdullah Khan, Haruna Chiroma, Muhammad Imran, Asfandyar khan, Javed Iqbal Bangash, Muhammad Asim, Mukhtar F. Hamza, Hanan Aljuaid, *Forecasting electricity consumption based on machine learning to improve performance: A case study for the organization of petroleum exporting countries (OPEC)*, in Computers Electrical Engineering, Volume 86, July 2020, pages–
5. M. Martalo, G. Ferrari, M. Asim, J. Gambini, C. Mazzucco, G. Cannalire, S. Bianchi, R. Raheli, *Iterative Synchronization for Dually-Polarized Independent Transmission Streams*," in IEEE Transactions on Communications, Volume 65, Issue 6, June 2017, pages: 2534 - 2542.
6. M. Martalo, G. Ferrari, M. Asim, J. Gambini, C. Mazzucco, G. Cannalire, S. Bianchi, R. Raheli, *Pragmatic phase noise compensation for high-order coded modulations*," in IET Communications, Volume 10, no. 15, October 2016 pages: 1956-1963.
7. M. Asim, G.S. Choi,*An Optimized Framework for Degree Distribution in the LT codes based on Power Law*, in Journal of Central South University - Springer, Volume 20, Issue 10, Oct 2013, pages:2693-2699.
8. M. Asim, G.S. Choi, *Evaluation of Achievable Rate for Concatenated Fountain Codes in Wireless Channels*,in Korea Society of Digital Industry & Information Management, Volume 8, Mar 2012, pages:147-155.
9. M. Martalo, M. Asim, G. Ferrari, and R. Raheli, *Phase Noise Suppression and Frequency Jumps Mitigation Algorithms, "Performance Check and Introduction of Specialized Algorithms"*, Technical Report, University of Parma, November 2013

International Conference Publications

1. Maawia, Rabiai Mohammed, Shahid Khan, Hazrat Ali, Safdar Nawaz Khan Marwat, Muhammad Asim, "Miniaturized Off-Centered Fed Dipole Slot Antenna for Multiband Wireless Applications," 2019 10th IEEE International Conference on Intelligent Data Acquisition and Advanced Computing Systems: Technology and Applications (IDAACS), Metz, France, 2019, pp. 443-447
2. M. Asim, M. Martalo, G. Ferrari and R. Raheli, *Pragmatic code-aided phase synchronization in iterative multi-sample receivers*, in 9th International Symposium on Turbo Codes and Iterative Information Processing (ISTC), 2016, pages: 1-5
3. M. Martalo, G. Ferrari, M. Asim, J. Gambini, C. Mazzucco, G. Cannalire, S. Bianchi, R.Raheli, *Reduced-complexity synchronization for high-order coded modulations*, IEEE International Conference on Communications (ICC), London, 2015, pages: 4721-4726
4. M. Martalo, G. Ferrari, M. Asim, J. Gambini, C. Mazzucco, G. Cannalire, S. Bianchi, R.Raheli, *Phase noise compensation for dually-polarized systems with independent transmission streams*, International Symposium on Wireless Communication Systems (ISWCS), Brussels, pages:251-255.

MS Thesis Supervision

Karamat Ullah Khan, "WIFI based Indoor Positioning System using Trilateration Approach".

Farhan ul Mulk, "Analysis of Passive Optical Network using Time Wavelength Division Multiplexing".

Maawia, "Dipole Antennas for Multiband Wireless Applications".

Ahmad Shah, "Software Cost Estimation using Algorithmic Models".

Aamir Khan, "Glaucoma Disease Detection using Convolutional Neural Network".

Research

Current Projects

Principal Investigator for *"A study of Real-time Multi-Object Tracking and Identification System"* to be funded under National Research Program for Universities, Higher Education Commission, Pakistan (Submitted Jan 2020)

Past Projects

Principal Investigator for *"A study of pragmatic indoor positioning systems and techniques"* funded by Start-up Research Grant Program, Higher Education Commission, Pakistan (Oct 2018 - Oct 2019)

Research Associate for *"Phase Noise Suppression and Frequency Jumps Mitigation Algorithms"* at Internet of Thing (formerly WASN) Lab at the Department of Engineering and Architecture, University of Parma, Italy (2012 - 2016)

Research Assistant for *"A Study of Reconfigurable Application Specific Instruction Set Processor for Decoding of Trellis Codes"* at System on Chip Lab, Department of Information and Communication Engineering, Chosun University, Republic of Korea (2010 - 2012)

Skills

Development Languages/Tools

C/C++, Assembly Language for 8-bit Processor, Rust programming for Embedded Systems

MATLAB, ModelSim Verilog, Cadence(SimVision), Synopsys (Design Vision, Astro), Codewarrior (PXA 255 ARM processor), 8051 and AVR Microcontroller, Xilinix Spartan 3 FPGA, STM32F3 Discovery board

Platforms

Windows 7/8/10, Solaris, Ubuntu Linux,

Professional Memberships

Registered Member of *Pakistan Engineering Council*(PEC) - Registration Number: Elect/26038

Member of *International Association of Engineers* (IAENG)

Member of *Institute of Electrical and Electronics Engineering* (IEEE)

Personal Information

Father Name: *Iqbal Ahmad*		**Gender**: *Male*
Date of Birth: 11-08-1986		**Martial Status** : *Married*
Passport Number: *CA1851153*		

References

1. Prof. Gianluigi Ferrari
   Associate Professor
   Department of Architecture and Engineering, University of Parma, Italy
   email: gianluigi.ferrari@unipr.it
2. Prof. Inayat Ullah Asim
   Associate Professor
   Department of Electrical Engineering, University of Engineering and Technology, Pakistan
   email: asim@uetpeshawar.edu.pk

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