

DR. SALAUDDIN MOHAMMAD

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SUMMARY

A seasoned and conscientious professional with over 9 years of experience in Academics, Research, Publication and Education Sector. Possesses in-depth knowledge of electronics, instrumentation and control, and has hands-on experience in teaching engineering students. Capable of designing effective teaching methodologies to inculcate sound knowledge of Advanced Digital System Design, VLSI System Design, VLSI Technology and Design of IEEE 802.16e mobile broadband communications using FPGA's. Low power VLSI Design, Electronic Devices and Electronic Circuits, Control Systems, Micro Processors & Controllers, Digital IC Applications, and Digital Signal Processing.

KEY SKILLS

- Certified for FPGA based VHDL Design for Advanced Mobile Algorithms & Architectures.
- Excellent design skills using FPGA's
- Familiar with latest FPGA Boards like ZYBO and Red Pitaya, Virtex-5 etc.
- HW-SW Co-Design
- Knowledge of Microbalze.
- FPGA-to-FPGA communication(16 nm technology)
- Real time system implementation
- Integrating different areas of Research(RTL, Embedded, MATLAB, Antennas)
- Chipscope debugging
- Xilinx IP cores
- Embedded SoC Design
- OFDMA implementation on FPGA
- Filter bank for 5G Technology
- Software Defined Radio

PROJECTS HANDLED

1. Developing a communication system with FPGA's where the beam of the antenna at the Receiver FPGA will be automatically adjusted with the digital coefficients (On Going worth 2 Lakhs funding).
2. Designed Surge Protection circuit in extension box and wireless Fan automation for Indo-Siemen Company, New-Delhi of worth Rs. 2 Lakhs
3. Developing a communication system with FPGA's where the beam of the antenna at the Receiver FPGA will be adjusted with the mechanical rotation.
4. Developed MIMO system using FPGA's 2X2 done. Trials for 4X4 system.
5. Implementing Cascade Integer Comb applications for software defined radio applications.
6. Implementation of low cost logic signal analyzer (LSA) on Spartan-FPGA.
7. A genetically tuned PID controller.
8. CORDIC algorithm Implementation.
9. FIR Filter Design for band limiting applications.
10. Design of OFDMA Architecture with improved SNR.
11. A Symbol-Rate Timing Synchronization Method for Low Power Wireless OFDM Systems
12. Behavioral Synthesis of Asynchronous Circuits
13. Fixed Angle of Rotation Using CORDIC Designs
14. Design of FPGA based 32-bit Floating Point Arithmetic Unit
15. Design and Synthesis of a Field Programmable CRC Circuit Architecture
16. Design of an On-Chip Permutation Network for Multiprocessor SOC
17. VHDL Environment for Floating Point Arithmetic Logic Unit
18. Design and Implementation of Efficient Systolic Array Architecture
19. Design and Implementation of High Speed DDR SDRAM Controller
20. Design and Synthesis of QPSK
21. Design and Simulation of FFT Processor Using Radix-4 Algorithm Using FPGA
22. Design and Implementation of 32-bit RISC Processor

EDUCATIONAL QUALIFICATIONS

- **Doctorate in Engineering (Electronics & Communication) from University of Petroleum and Energy Studies (Dehradun)-2017.**
Thesis: "Tracking Loop Enhancements for Mitigating Signal Interference and Adjusting Signal Power"
- M.Tech in VLSI System Design from Sri Kavitha Engineering College, Khammam, affiliated to JNTU, Hyderabad in the year 2011
- B.Tech in Electronics and Communication Engineering from Sri Kavitha Engineering College, Khammam, affiliated to JNTU, Hyderabad in the year 2008

PROFESSIONAL EXPERIENCE

Organization	University of Petroleum and Energy Studies, Dehradun (NAAC Accredited)
Designation	Assistant Professor (Senior Scale)
Duration	May 2012 till Date

Organization	Sree Kavitha Engineering College (NBA Accredited College), Jawaharlal Nehru Technological University affiliated to AICTE, New Delhi
Designation	Assistant Professor
Duration	November 2008 to May 2012

Organization	Assurgent Technologies Solutions Pvt. Ltd. (Hyderabad, India)
Designation	Software Trainee
Duration	April 2008 to November 2008

KEY RESPONSIBILITIES AT JOB

- Acting as **Academic Planning Coordinator** for the Department
- Acting as consultative committee member and being responsible for modification in the content of the course of electronics engineering
- Acting as **Course Coordinator** for the final year students.
- Setting question papers of various subjects in UPES-Dehradun, University of Technology & Management, Shillong, and Uttarakhand Technical University, Dehradun
- Acting as the Course Coordinator for Electronics and Communication Engineering students for 5 years.
- Serving as industrial tour In-charge for 3 academic years viz. 2014-15, 2015-16, 2016-17
- Conducting technical fests in the university under various student chapters
- Delivering GATE coaching classes to the electronics engineering students as a departmental activity
- Designed syllabus for M.Tech Robotics subject titled Optimization Techniques in UPES
- Evaluating B.Tech. and M.Tech Level Answer Sheets and working as subject coordinator for common courses like basic electrical and electronics
- Supervising project / thesis including 21 B.Tech projects (Minor and Major) and 12 M.Tech dissertation
- Holding social events like blood donation camps and Swatch Bharat Abhiyan in the university every semester

ACHEIVEMENTS

- Very recently on 3rd February Organized a workshop titled "Digital Design with FPGA using Xilinx IP Cores under the IEEE student chapter UP section.
- Received Certificate for participating in 15 days faculty Training program-Abhigyat titled FPGA based VHDL design for advanced mobile algorithms & architectures from Dec-23rd 2017 to 10th Jan 2018.

- Contributed as a Reviewer for International Conference on Intelligent Communication, Control and Devices- ICICCD-2016 and ICICCD-2017
- Contributed as Session Chair in the track Intelligent Communication/ Intelligent Control/ Intelligent Devices for International Conference on Intelligent Communication, Control and Devices-ICICCD-2016 &2017
- Designed Surge Protection circuit in extension box and wireless Fan automation for Indo-Siemen Company, New-Delhi of worth Rs. 2 Lakhs
- Award winners for the projects done under me by the students at RISE- Research Initiative for Students of Engineering for two consecutive years and still continuing in the coming year 2017
- Organized a workshop titled “Optical Communication and Networking” on September 10th and 11th 2014 under IEEE student chapter
- Received certificate for participating a two week ISTE workshop titled” Control Systems (Dec 02-12, 2014)” under the National Mission on Education through ICT (MHRD, Govt. of. INDIA) conducted by IIT Kharagpur
- Received certificate for participating a workshop titled” Short term course on Telecommunication Networks with State-of-the-Art Hands-On-Experiments (July 01-08, 2014)” organized by IIT Kharagpur
- Got Certificate for working on 3 projects in one academic year at post graduation level
- Got trained as an Assistant Professor for Teaching Methodology in National Institute of Technical Teachers Training & Research, Chennai. Also received certificate of training

PUBLICATIONS

1. “3D Multilayer Mesh NoC Communication and FPGA Synthesis” in Technological Advancements in Wireless & Optical Communication Systems-wireless personal communications, **SCI Indexed Journal**.
2. Implementation of FM Transceiver for SDR using FPGA to FPGA Communication” ” in Technological Advancements in Wireless & Optical Communication Systems-wireless personal communications, **SCI Indexed Journal- Publication in process**
3. “Reduction of BER in the physical Layer of OFDMA” in International Conference on Emerging Developments in Engineering & Technology-2017- Scopus Indexed-**publication in process**.
4. “Comparative Analysis of Adaptive Beamforming Algorithms for Wireless Communication” in International Conference on Emerging Developments in Engineering & Technology-2017--**publication in process**.
5. Published a paper titled The Digital Tracking Loop Enhancements for Mitigating Signal Interference in DVB-H and DVB-T at International conference on Intelligent Systems, Control and Manufacturing Technology, March16-17,2015, Abu Dhabi, **Scopus Indexed**, ISBN 978-93-84422-10-3
6. Published a paper titled BER Performance of OFDM System with various OFDM frames in AWGN, Rayleigh and Rician Fading Channel in International Journal of Applied Engineering Research ISSN 0973-4562 Volume 10, Number 19 (2015) pp 39911, **Scopus Indexed Journal**
7. Published a technical paper titled FPGA Design and Implementation of FFT processor for OFDMA system in International Journal of Applied Engineering Research ISSN 0973-4562 Volume 10, Number 24 (2015) pp 43923-43925, **Scopus Indexed Journal**
8. Published a paper in International Conference on Intelligent Communication, Control and Devices titled “FFT window positioning in the presence of Interference for mitigating signal interference.” **Scopus Index Journal, Springer ASIC series**. ISBN: 978-981-10-1707-0 (Print) 978-981-10-1708-7 (Online)
9. Published a paper in International Conference on Intelligent Communication, Control and Devices titled Achievable spectral efficiency with SIT based channel estimation in 4G and 5G cellular networks, **Scopus Index Journal, Springer ASIC series**. ISBN: 978-981-10-1707-0 (Print) 978-981-10-1708-7 (Online)
10. Published a paper in International Conference on Intelligent Communication, Control and Devices titled Mitigation of Signal Interference by positioning FFT window for OFDMA system Scopus Index Journal, **Springer ASIC series**. ISBN: 978-981-10-1707-0 (Print) 978-981-10-1708-7 (Online)
11. Presented a paper in MDPI- Electronics Journal titled Low Complexity ICI Suppression Methods Utilizing Cyclic Prefix for OFDM Systems in High Mobility Fading Channel with ISSN 2079-9292, **Scopus Indexed Journal**-publication in process

SUBJECTS TAUGHT (UG/PG LEVEL)

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| <ul style="list-style-type: none"> • Advanced Digital System Design • Electronic Circuit Analysis | <ul style="list-style-type: none"> • Micro Processor & Controller • Real Time Operating System |
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- Wireless Communication
- Digital IC applications
- Digital Electronics
- VLSI system Design
- VLSI Technology
- Control System

- Embedded Systems
- Electronic Devices and Circuits
- Wireless and Mobile Communication
- Antenna and Wave propagation
- Laboratory of all Electronics & Communication Experiments
- Laboratory of Advance FPGA-VHDL programming

IT SKILLS

Hardware Languages	VHDL, VERILOG
Programming Languages	C, Core Java.
System Works	Work with Excel & MS Office Suite with good exposure of networking
Simulation Tools	Xilinx14.2, ModelSim 10.2, MATLAB, TINA Design Suite, P-SPICE, Proteus
Operating Systems	MS DOS, Windows, Linux

Classroom Achievements

- My greatest strengths are from the experiences I had through hands-on lab experiences. The classroom work was only helpful with core content about Student development.
- Conducted the subject lectures regularly, keeping an eye on the understanding of the students.
- Carried out practical sessions with explanation about the purpose of the experiment and the procedures that follow to seek results.
- Internal Assessment has been taken throughout the semester by conducting Assignments, Class tests and Quiz tests.
- Taking special care of slow learners by providing continuous feedback to them.
- Donating blood to blood banks every quarter year and encouraging other students to come forward and donate for the noble cause.
- Carried out debate sessions in regular classes to help students to understand the subject better.
- Arranged expert meets for students on a periodic basis to create an interest about the subject.
- Encouraged students to build committees among themselves and allocating Class Representatives in the class.
- Provided students with information outside the classroom such as the future prospects in the subject, the competitive exams, etc.
- Got Certificate for acting as School Pupil Leader for 2 years.
- Acted as the project leader of my batch during graduation level.
- My greatest strengths as a teacher are being able to connect with the children and getting on their level. Education Program contributes by allowing me the opportunity to work with children in my classes.

- I feel that one of my greatest strengths as a teacher is managing a classroom and building and maintaining a warm, successful learning classroom environment.
- Another area in which I have excelled as a result of Assistant Professor is my ability to plan lessons that are interdisciplinary and integrate technology.
- Listening and respecting students and developing creative and well-thought out plans and activities. Being a Assistant Professor, I learned how to do this VERY well.
- I feel that my presentation skills are strong. The professor's showed me ways of getting the students motivated and presenting an interesting lesson without losing my audience.
- Love of teaching, subject matter mastery, and ability to adapt to changing circumstances.
- My greatest strengths are being organized and finding fun ways to do subject areas.
- I write good lessons using information not always in the text. I am expertise to bring in outside material and I am also a perfectionist at writing my lessons.
- I think my greatest strengths as a teacher is my ability to relate to the students and to use a variety of methods that incorporate other disciplines as well. The most useful class I had during my teacher preparation was ADSD subject.
- I learned very practical ways to help my students learn in that class. As a result of what I learned there, practical examples have been incorporated into my teaching of History in many ways.

PERSONAL DETAILS

Date of Birth	July 19, 1986
Address	H.No:21, Megh Enclave, Balliwala chowk, Dehradun.
Languages Known	English, Hindi, Urdu and Telugu

DATE:24-01-2018

Dr. MD. SALAUDDIN