Dr. MOHAMMED SALMAN BAIG, *IEEE Member*
+919028254519, msalman.binbaig@gmail.com
www.linkedin.com/in/Mohammed-Salman-Baig-PhD

PROFESSIONAL SUMMARY

13+ years of professional experience includes:

- 9+ years of research and development (R&D) experience in optical and wireless communication systems, RF antennas, applications of signal processing
- 2.5 years of Academic Experience as Dean and Head of the Department at MMANTC.
- 9+ years of Teaching experience at King Saud University
- 2+years of Industry experience at Tech Mahindra

ACADEMIC CREDENTIALS

- **Ph.D.** in Electrical Communication Engineering, **2012 - 2019**
  King Saud University, Riyadh, Saudi Arabia
  Dissertation: Spectrally Efficient Optical Orthogonal Frequency Division Multiplexing (O-OFDM) systems for Indoor Optical Wireless Communication

- **Master of Technology (M.Tech)** in Digital Communication Engineering, **2008 - 2010**
  M.S. Ramaiah Institute of Technology (M.S.R.I.T), Bangalore, India
  Graduated with a first class with distinction degree award.

- **Bachelor of Engineering (B.E.)** in Electronics and Communication Engineering, **2002 - 2006**
  Visveswaraya Technological University, Bangalore, India
  Graduated with a First-Class Degree award.

ACADEMIC EXPERIENCE

- **Dean Academics and Head of Department, Computer, Electronics & Telecommunication Engg.,** Maulana Mukhtar Ahmad Nadvi Technical Campus **(**MMANTC), Malegaon, Nashik, Jan 2021-

- **Research Faculty, King Saud University**, **Riyadh**, **2012-2020**

  - Taught more than 10 different undergraduate courses ranging in size from 60-70 students.
  - Mentoring and Supervision of students in final year projects for graduate and undergraduate students.
  - Responsible for handling laboratory sessions on Optical Communications to class of ~35 in a clean room facility.
  - Conducted advanced level optical communication experiments for 8 M.Sc and 3 Ph.D. students in clean room facility for a semester.

- **Project (Research Associate), Indian Institute of Science (IISc), Bangalore, India, 2011-2012**

  - Design and development of multifunctional wireless antennas for onboard applications of Boeing (U.S.)
  - Carrying out extensive experimental measurements in a fuselage (mock-cabin) setup.

- Developing data processing algorithms for extensive data analysis using various plot functions.

RESEARCH EXPERIENCE

- **PhD scholar, King Saud University**, **Riyadh**, **2012-2019**

  - Spearheaded collaboration between 2 principal investigators for thesis work
  - Designed novel spectrally efficient Optical Orthogonal Frequency Division Multiplexing (O-OFDM) Systems for Indoor Optical Wireless Communication.
  - Documenting and drafting various grants for research projects.
  - Tailored safety limits for Saudi Standards, Metrology and Quality Organization (SASO) by investigating and analyzing the effects of Electromagnetic Interference (EMI) from portable devices on Advanced Car Control Systems
  - Presented work at Local and International Scientific meetings.

- **Project Intern**, **M.S. Ramaiah School of Advanced studies**, **Bangalore**, **2009-2010**

  - Designed a Digital Beamforming Receiver System for Wireless Communication.
  - Mentored a graduate student's thesis.

INDUSTRIAL EXPERIENCE

- **Technical Associate, Tech Mahindra LTD., Bangalore, India, 2006 - 2008**

  Analysis, design, development, implementation and management of full life cycle Information Technology (IT) commercial applications for British Telecom (U.K.)

  Roles and Responsibilities:

  - Design and Development of load balancer (network traffic router manager) for B2B (Business to Business) IT-Telecom gateways of British Telecom.
  - Responsible for management and administration of database servers.

PATENTS FILED (PUBLISHED)

- Govind, R. Kadambi, Dipayan Mazumdar, Imran Ashraf and **Mohammed Salman Baig** "***Method, Device and Apparatus for DAC Transfer Function Compensation***", Indian Patent Application: 202041056806, December 29, 2020
- Govind, R. Kadambi, Dipayan Mazumdar, Imran Ashraf and **Mohammed Salman Baig** "*Digital Up – Converter for Multiple Channels including Multistage Non-Blocking Switch, Sigma Delta Noise Minimization and DAC Transfer Function Compensation*", Indian Patent Application: 202041056805, December 29, 2020.

SELECTED PUBLICATIONS

- **Mohammed Salman Baig**, A. F. Abas, M. T. Alresheedi & M. A. Mahdi, ***A spectrally efficient modified asymmetrically and symmetrically clipped optical (mASCO)-OFDM for IM/DD systems,*** Optical and Quantum Electronics, Vol. 55, 411, 2023.
- Baig, M.S. et al., ***"Carbon Footprint and Economic Assessment of LED Bulbs Recycling",In: Muthu, S.S. (eds)*** Environmental Assessment of Recycled Waste. Environmental Footprints and Eco-design of Products and Processes. Springer, 2023. https://doi.org/10.1007/978-981-19-8323-8_3
- **M. S. Salman Baig**, A. F. Abas, M. T. Alresheedi & M. A. Mahdi, "***Time domain diversity combining***

with delay-and-advanced operation in two layered asymmetrically clipped optical OFDM system*"* Optical and Quantum Electronics, Vol. 54, 450, 2022.

- **Mohammed Salman Baig,** Ahmad Fauzi Abas, Mohammed Thamer Alresheedi, and Mohd Adzir Mahdi**, "*IM/DD dual stream asymmetrically clipped optical OFDM system*,"** Optical Engineering 57(8), 086103 (6 August 2018). https://doi.org/10.1117/1.OE.57.8.086103
- A. F. ABAS*, **M. S. BAIG**, M. T. ALRESHEEDI, H. VETTIKALLADI, M. ABDEL-RAHMAN, "***Diversity and absolute combining time domain transmitter for enhanced asymmetrically and symmetrically clipped optical OFDM (EASCO-OFDM)***", Optoelectronics and Advanced Materials - Rapid Communications, 14, 9-10, September-October 2020, pp.399-409 (2020).
- **Mohammad Salman Baig,** Ahmad Fauzi Abas and Mohammed Thamer Alresheedi **,"*Time Domain Diversity Combining Transmitter for Spectrally Efficient Asymmetrically and Symmetrically Clipped Optical (SEASCO) OFDM System*",** 2017 IEEE 8th International Conference on Information Technology (ICIT), IEEE 2017.
- **M. S. Baig,** B. Ramaswamy Karthikeyan, Dipayan Mazumdar, Govind R. Kadambi**, "*Improved Receiver Architecture for Digital Beamforming Systems* ",** IEEE Proceedings of International Conference on Computer, Communication and Electrical Technology (ICCCET)**,** IEEE 2011.

ACADEMIC AWARDS AND ACHIEVEMENTS

- Awarded the merit-based fellowship for PhD by "**Attracting Outstanding Faculty and Researchers (AOFR)**", King Saud University, Saudi Arabia.
- Achieved the Best project award for M.Tech project titled "**DESIGN AND SIMULATION OF DIGITAL BEAMFORMING RECEIVER SYSTEM**", M.S. Ramaiah Institute of Technology, Bangalore.
- Achieved second prize in National level Technical paper presentation event "Synapse 09" for "**EMBEDDED EYE FOR VISUALLY IMPAIRED**" held at Chaitanya Bharathi Institute of Technology at Hyderabad, Andhra Pradesh.
- Achieved third prize in the Technical paper presentation event "TECHFEST 09" for "**TREATMENT OF BRAIN TUMER BY NANO ROBOTS**" held at M.S. Ramaiah Institute of Technology, Bangalore.

KEY SKILLS

Programming Languages	• MATLAB and Simulink • Python, R and C++ • Basics of SQL and Java
Tools	• VPI photonics • CST Microwave Studio • RF Spectrum Analyzer • ICE-CUBE Lattice • Anaconda Spyder • R Studio
Environment	• Anechoic chamber • Optical Clean room facility
Exposure	• Verilog • FPGA-VIVADO Xilinx and Intel Altera
Operating Systems	• Windows 2007/2010, Unix, MS Office 2016