

Curriculum Vitae

Dr. Farooq Ahmad Khanday (M.Sc., M. Phil., Ph.D.)

Sr. Assistant Professor, Department of *Electronics and Instrumentation Technology*, University of Kashmir



Contact Information

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Short Biography

Dr. Farooq Ahmad Khanday (M'15, SM'19) received B.Sc., M.Sc., M. Phil. and Ph.D. Degrees from University of Kashmir in 2001, 2004 2010 and 2013 respectively. From June 2005 to Jan. 2009, he served as Assistant Professor on contractual basis at University of Kashmir, Department of Electronics and Instrumentation Technology. In 2009, he joined to Department of Higher Education J&K and Department of Electronics and Vocational Studies, Islamia College of Science and Commerce Srinagar, as Assistant Professor. From May 2010, he is Sr. Assistant Professor in the Department of Electronics and Instrumentation Technology, University of Kashmir. His research interests include Fractional-order Circuits, Nano-Electronics, Low-voltage analog integrated circuit design, Hardware Neural Network, Quantum Computing, Stochastic Computing and Biomedical Circuit Design. He is author or co-author of more than 100 publications in peer reviewed indexed International and National journals/conferences of repute and three book chapters. He is the Management Committee (MC) Observer of the COST Action CA15225 (Fractional-order systems - analysis, synthesis and their importance for future design) of European Union. He is the senior member of IEEE and member of several professional societies. He is serving as a reviewer for many International and National scientific journals in Electronics. He has successfully guided thesis of three Ph. D & one M. Phil scholars and several M. Tech students. Five Ph. D. scholars and Six M. Tech. students are currently under his supervision. He has completed two research projects from UGC and one research project is ongoing to the tune of ~Rs. 54 Lacs from SERB DST under EMR scheme.

Research Interest

High-performance integrated circuit design, Fractional-order Circuits and Systems, Nano-Electronics, Neuromorphic Computing, Stochastic Computing, Quantum Computing, Biomedical System Design.

Education

Ph.D.	June 2013	<i>Electronics and Instrumentation Technology, University of Kashmir, J&K, India.</i> Ph.D. Thesis: <i>Realization of Integrable Low-Voltage Companding Filters for Portable System Applications</i> (Supervisor: Prof. (Dr.) N. A. Shah)
M. Phil.	June 2010	<i>Electronics and Instrumentation Technology, University of Kashmir, J&K, India.</i> M.Phil. Dissertation: <i>Study of Log-Domain Multi-Function Filters.</i> (Supervisor: Prof. (Dr.) N. A. Shah)
M.Sc.	September 2004	<i>Electronics and Instrumentation Technology, University of Kashmir, J&K, India.</i> M.Sc. Dissertation: <i>A novel technique for secure multi-user communication using FH-CDMA.</i> (Supervisor: Prof. (Dr.) G. M. Bhat)
B. Ed.	September 2006	<i>University of Kashmir</i>
B. Sc. (Non-Medical)	March 2001	<i>University of Kashmir</i>

Qualifying examinations:

(H310510): UGC National Eligibility Test (NET) For Lectureship in Electronic Science in 2004 in First Attempt.

Awards:

- ❖ *Departmental Gold Medalist from Kashmir University (2003).*
- ❖ *Best Technical Paper Award in IEEE IMPACT 2013, AMU, Aligarh, India.*
- ❖ *INSA visiting Scientist 2020-21 Fellowship by Indian National Science Academy, Government of India.*
- ❖ *MC Observer of the COST Action CA15225 of European Union from 10th October 2018 (<https://www.cost.eu/actions/CA15225/#tabs\Name:parties>).*
- ❖ *Outstanding contribution in Reviewing Award by Microelectronics Journal, Netherland 2018.*
- ❖ *Outstanding contribution in Reviewing Award by AEUE – International Journal of Electronics and Communications, Netherland 2017.*

Scholarships

Merit Scholarship at PG level from University of Kashmir.

Research Programmes:

- ❖ *Participated for about Seven Weeks (14th Jan. to 28th Feb. 2013) Collaborative Research programme in the Electronics Laboratory, Physics Department, University of Patras, 26504 Rio Patras, Greece.*

Training:

- ❖ *One month academic training programme on MATLAB, Mobile Communication, Artificial Neural Networks and Fuzzy Logic applications in the Department of Electrical Engineering Faculty of Engineering and Technology, Jamia Millia Islamia, New Delhi.*

Qualifications

Software Knowledge: Cadence Virtuoso, ATLAS TCAD, HSPICE, PSpice Orcad, Workbench, Multisim-7, QCA Designer, VHDL/Verilog, C, C++

Windows applications: Microsoft Office applications

Operating system known: Windows, Vista, Linux

Math tools: MATLAB

Interests

History, Cricket, Volleyball, Travelling

Courses Taught:

M. Tech.

- Advanced Digital System Design*
- CPLD and FPGA Architectures*
- Mixed Signal Embedded Systems*

M. Sc.

- CMOS circuit design: Analog and Mixed*
- CMOS VLSI and Nano-Electronics –I (MOSFET Theory)*
- CMOS VLSI and Nano-Electronics –I (Digital IC Design)*
- CMOS VLSI and Nano-Electronics –I (Analog and Mixed IC Design)*
- CMOS VLSI and Nano-Electronics –I (Nanotechnology and Nano Electronics)*
- Physics of Semiconductor Devices*
- Linear Integrated Circuits and Applications*
- Numerical Techniques*
- Object Oriented Programming*
- Active Filters: Theory and Design*
- Digital Signal Processing*
- Control system Engineering*
- Electronic Instrumentation*

B. Tech.

- Digital IC Design*
- Solid State Devices*
- Linear Integrated Circuits*
- Electronic Circuits-I*

- e. *Simulation Tools*
- f. *Basic Instrumentation*
- g. *Electrical Sciences.*

B. Sc.

- h. *Analog and Digital Communication*
- i. *Semiconductor Devices and Network Analysis*

Supervised Projects

Post-Graduate

1. *Mudasir Ahmad Khanday, Ambeer Khan, Shabroza Hassan and Urfana Ali (Arduino Based Baby Cry Detector) (2019).*
2. *Sabiya Rashid, Rayees Ahmad Bhat and Muntazir Mohi-ud-din (Performance Analysis of Dopant Segregation Layer-Schottky Barrier-MOSFET) (2019).*
3. *Syed Fatima, Bisma Sheraz, Tabassum Khrshid, Insha Majeed and Musrat Maqbool (Design of Low Power Sinh-domain Circuits and OTA Based Memristor Emulator Using 32-nm CNTFET Technology) (2018).*
4. *Syed Basit, Tanveer Najar, Irfan Ahmed Thoker, Tawbeed Hussain Baba and Mebraj Ud Din Wali (Android Controlled Robotic Wheelchair) (2018).*
5. *Syed Mubashir Raqvi, Noor ul Islam, Zabid Hameed Rather, Rafi Ahmad Mir and Zaboora ud Din Shah (Raspberry PI based face recognition system) (2018).*
6. *Faisal Ahmad Bhat, Sobiya Qayoom, Aanisa Samreen, Uzma Gul and Nargis Bano (LPG weight and leakage detection system using GSM technology) (2017).*
7. *Solihah Gul, Sheetal Parimoo (Design of low-cost oximeter using off-the shelf components) (2015).*
8. *Gul Feroz Malik, Javed Ahmad Bhat and Aiman Jan (M. Sc.) (Automatic Greenhouse Environment Monitoring and Control with Real Time Alert System) (2014).*
9. *Ahmer Rashid, Tawseef Ahmad and Imtiaz Ahmad (M. Sc.) (Design and Implementation of Memristor Emulator and its Applications using Off-Shelf Components) (2013).*
10. *Rameez Ahmad, Mohamad Asif and Reyaz Ahmad (M. Sc.) (Efficient Low Cost Geyser Design) (2012).*
11. *Shafat Ahmad, Asma and Mohamad Shabid (M. Sc.) (Cardiovascular Monitoring System) (2012).*
12. *Shabir Ahmad Gajree and Mohamad Iqbal (M. Sc.) (Digital LCR Meter) (2008).*
13. *Mohamad Rafiq and Faisal Ahmad (M. Sc.) (FDM to TDM Trans-Multiplexer) (2007).*
14. *Mohamad Asif, Mohamad Inayat and Irsbad ahmad (Unguided Optical Communication b/w PCs using Laser as a Carrier) (2006).*

Graduate

15. *Mohammad Inam Farooq Wani, Mohammad Ateeb Munshi, Irfan Gulzar Dar, Sameer Ahmad Mir and Imtiaz Ahmad (Mihalas-Niebur Neuron Model Implementation Using Low-Power Low-Voltage Sinh Integrators) (2017).*
16. *Mir Yavar Hayat, Rouf Rahman Sheikh, Zabid Muzaffar and Haris Rehman Paray (Low voltage design of activation functions and neural networks using sinh companding) (2017).*
17. *Subail Ahmad, Athar-u-Nisa, Shazia Akhter, Injila and Dawar Ahmad (Non-invasive Thyroid Measurement System) (2015).*
18. *Tanveer Ahmad, Mohsib, (Automatic Electronic Ghat distribution and Maintenance System) (2015).*
19. *Furqan Zaboora, Tamana Nazeer, Sebrish Imtiaz and Zia Malik (Demonstration of the Working of Cochlear Implant Using Off Shelf Components) (2014).*

20. *Itmenon Towfeeq, Mebran Manzoor Zargar, Mudasir Ahmad Bakshi, Talib Hussain Beigh and Tajamul Bashir (Realization of Mem-Devices from Off-Shelf Components and Demonstration of an Application) (2014).*
21. *Nusrat Jan, (B. Tech.) (Automated multistoried car parking system)(2011).*
22. *Adil Bashir Ahmad, Mudasir Javid Sofi and Bisma Nisar Wani (B. Tech.) (Prepaid Energy Meter) (2010).*
23. *Mohsin Ahmad (B. Tech.) (Respiratory Rate Meter) (2010).*
24. *Saqib Ahmad (B. Tech.) (Square Root Design of Analog Applications) (2009).*
25. *Sajid Ahmad (B. Tech.) (Design and Development of DTMF Remote Control System for Domestic and Commercial Applications) (2009).*

Seminars Attended

- i)** *Attended a two day seminar on “Advances in Soft Computing” organized by Postgraduate Department of Electronics and Instrumentation Technology, University of Kashmir, J&K, India from 7th Oct.-8th Oct. 2005.*
- ii)** *Attended a two day seminar on “Recent Trends on Nanotechnology” organized by Postgraduate Department of Electronics and Instrumentation Technology, University of Kashmir, J&K, India from 19th June-20th June 2006.*
- iii)** *Attended a two day seminar on “Information Technology and Investment” organized by Postgraduate Department of Electronics and Instrumentation Technology, University of Kashmir, J&K, India from 15th Nov.-16th Nov. 2006.*
- iv)** *Attended a two day “National Seminar on Electronic Devices, Systems and Information Security, SEEDS-2015” organized by Postgraduate Department of Electronics and Instrumentation Technology, University of Kashmir, J&K, India from 16th March-17th March 2015.*
- v)** *Attended a two day “National Seminar on Electronic Devices, Systems and Information Security, SEEDS-2016” organized by Postgraduate Department of Electronics and Instrumentation Technology, University of Kashmir, J&K, India from 18th March-19th March 2016.*
- vi)** *Attended a two day “National Seminar on Electronic Devices, Systems and Information Security, SEEDS-2017” organized by Postgraduate Department of Electronics and Instrumentation Technology, University of Kashmir, J&K, India from 24th March-25th March 2017.*
- vii)** *Attended a two day “National Seminar on Electronic Devices, Systems and Information Security, SEEDS-2018” organized by Postgraduate Department of Electronics and Instrumentation Technology, University of Kashmir, J&K, India from 3rd April-4th April 2018*

Conferences Attended

- i)** *Attended a three day national conference “4th JK Science Congress” organized by University of Kashmir, J&K, India from 12th Nov.-14th Nov. 2008.*
- ii)** *Attended a three day national conference “6th JK Science Congress” organized by University of Kashmir, J&K, India from 2nd Dec.-4th Dec. 2010.*
- iii)** *Attended a three day national conference “7th JK Science Congress” organized by University of Jammu, J&K, India from 13th Oct.-15th Oct. 2011.*
- iv)** *Attended a two day International conference on “Recent Advances in Electronics and Computer Engineering” Eternal University, Baru Sabib (H.P.), India from 17th Dec.-18th Dec. 2011.*

- v) *Attended a three day national conference "9th JK Science Congress" organized by University of Kashmir, J&K, India from 1st Oct.-3rd Oct. 2013.*
- vi) *Attended a three day International conference on "Computers, Communication and Electronic Engineering, COMMUNE-2015" organized by Department of Electronics and Instrumentation Technology, University of Kashmir, J&K, India from 16th March-18th March 2015.*
- vii) *Attended a two day 2016 IEEE International conference on Recent Trends in Electronics, Information & Communication Technology organized by Department of Electronics and Communication Engineering (RTEICT-2016), Sri Venkateshwara College of Engineering, Bengluru, India from 20th May-21st May 2016.*
- viii) *Attended a two day IEEE and IET sponsored 3rd International conference on Electrical, Electronics, Engineering Trends, Communication, Optimization and Sciences (EEECOS/E³COS)-2016 organized by SASI Institute of Technology and Engineering, Tadepalligudem, West Godavari District, Andhra Pradesh, India from 1st June-2nd June 2016.*
- ix) *Attended a three day second IEEE International conference on Electrical, Computer and Communication Technologies (ICECCT-2017) organized by SVS College of Engineering, Arasampalayam, Coimbatore, Tamil Nadu, India from 22nd -24th February 2017.*
- x) *Attended a two day 3rd International Conference on Communication and Electronics Systems (ICCES 2018) organized by PPG Institute of Technology, Coimbatore, India from 15th -16th October 2018.*
- xi) *Attended Two day International Conference on "Recent Advances in Interdisciplinary Sciences" organized by Department of Electronics, University of Jammu, 11-12 January 2019.*
- xii) *Attended a two day International Conference on Electrical, Communication, Electronics, Instrumentation and Computing ICECEIC organized by Sri Chandrasekharendra Saraswathi Viswa Mahavidyalaya, Chennai, Tamil Nadu, India from 30th -31st January 2019.*

Refreshers/Orientations/Workshops/Short Term Courses Attended

- i) *Attended Five day national workshop on "Fractional Order System (FOS20)" organized by Department of Electrical Engineering, Indian Institute of Technology, Kharagpur, from 15th February 2020 to 19th February 2020.*
- ii) *Attended one week Short Course on "Artificial Intelligence: From Devices to Circuits" Indian Institute of Technology Roorkee, Roorkee Uttarakhand, India from 9th January 2020 to 13th January 2020.*
- iii) *Attended Three day International workshop on "Nano/Micro 2D-3D Fabrication, Manufacturing of Electronic-Biomedical Devices and Applications" Indian Institute of Technology, Mandi, India from 31st October 2018 to 2nd November 2018.*
- iv) *Completed Sixty online Course on "Embedded Computing for IOT Systems" organized by IEEE under IEEE Blended Learning Program, 08 October 2018.*
- v) *Attended Three week summer school refresher course in "Interdisciplinary Sciences" at Academic Staff College, University of Kashmir, Srinagar, from 9th August 2018 to 8th September 2018.*
- vi) *Attended Five day national workshop on "Fractional Order System (FOS18)" organized by Department of Electrical Engineering, Indian Institute of Technology, Kharagpur, from 16th February 2018 to 20th February 2018.*
- vii) *Attended Five day national workshop on "Logic Design Under Paradigm of Rebooting Computing" organized by Department of Electronics and Communication Engineering, Indian Institute of Technology, Roorkee, from 25th December 2017 to 29th December 2017 under Global Initiative For Academic Networks (GLAN) of Ministry of Human Resource Development, Govt. of India.*
- viii) *Attended Five-day national workshop on "Introduction to Spintronics" organized by Department of Electronics and Communication Engineering, Indian Institute of Technology, Roorkee, from 18th December*

2017 to 22nd December 2017 under Global Initiative For Academic Networks (GLAN) of Ministry of Human Resource Development, Govt. of India.

- ix)** *Attended three week winter school refresher course on "VLSI Design and Nanotechnology: Issues and Challenges" at Department of Electronics and Telecommunication Engineering, Jadavpur University, Kolkata, from 28th November 2016 to 17th December 2016.*
- x)** *Attended two day workshop on "Vocationalization of Higher Education & Base Line Survey" at Amarsingh College, Srinagar from 7th August 2014 to 8th August 2014 organized by Project (Mission) Directorate Rashtriya Uchchatar Shiksha Abhiyan (RUSA), Govt. of India. (Lead the team formed by the Project (Mission) Directorate Rashtriya Uchchatar Shiksha Abhiyan (RUSA), Govt. of India, to frame the syllabus of vocational course "Auto Electrical and Electronics")*
- xi)** *Attended three week winter school refresher course on "Nanodevices and low power VLSI design" at Department of Electronics and Telecommunication Engineering, Jadavpur University, Kolkata, from 11th December 2013 to 2nd January 2014.*
- xii)** *Attended Three days INUP Familiarization Workshop on "Nanofabrication Technologies" conducted in Centre for Nano Science and Engineering (CeNSE), Indian Institute of Science (IISc), Bangalore, during 29th October – 31st October 2012.*
- xiii)** *Attended One month 57th general Orientation Course organized by Academic Staff College, University of Kashmir, J&K, India from 9th Feb. -10th March 2012.*
- xiv)** *Attended One week workshop on "Multimedia Signal Processing" in the Department of Electronics and Communication Engineering, Zakir Hussain College of Engineering, AMU, from 6th Feb. to 12th Feb 2011.*
- xv)** *Attended One week Short Term Course on "Mechatronics" organized by Department of Electronics and Instrumentation Technology, University of Kashmir, J&K, India in collaboration with Department of Mechanical Engineering, NIT Srinagar and Academic Staff College, University of Kashmir, , J&K, India from 21st June -26th June, 2011.*
- xvi)** *Attended Two weeks training on "VLSI design and VHDL" in the Department of Electronics and Communication Engineering, NIT, Srinagar, J&K, India from 24th March -5th April 2008.*

Session Chairs

- ❖ *Chaired a session in 2nd International Conference on VLSI Device, Circuit and Systems (IEEE VLSI DCS 2020) organized by IEEE EDS MSIT SBC Kolkata, West Bengal, India, 19th July 2020.*
- ❖ *Chaired a session in International Conference on Recent Advances in Interdisciplinary Sciences" organized by Department of Electronics, University of Jammu organized by Department of Electronics and Instrumentation Technology University of Kashmir, 10th to 11th January 2019.*
- ❖ *Chaired a session in 13th JK science congress organized by University of Kashmir.*
- ❖ *Chaired a session in SEEDS-2018 organized by Department of Electronics and Instrumentation Technology University of Kashmir.*
- ❖ *Chaired a session in SEEDS-2017 organized by Department of Electronics and Instrumentation Technology University of Kashmir.*
- ❖ *Chaired a session in SEEDS-2016 organized by Department of Electronics and Instrumentation Technology University of Kashmir.*
- ❖ *Chaired a session in COMMUNE-2015 organized by Department of Electronics and Instrumentation Technology University of Kashmir.*
- ❖ *Chaired a session in SEEDS-2015 organized by Department of Electronics and Instrumentation Technology University of Kashmir.*

Coordinator

- ❖ *Coordinated Faculty Orientation Programme for DEEEP organized by NIELIT, Chandigarh at Department of Electronics and Instrumentation Technology, University of Kashmir, during February 2014.*

Chairs

- ❖ *Finance chair COMMUNE-2015*
- ❖ *Finance chair SEEDS-2015*
- ❖ *Finance chair SEEDS-2016*
- ❖ *Finance chair SEEDS-2017*
- ❖ *Finance chair SEEDS-2018*
- ❖ *Member of Print, Publishing and Finance committees of 13th JK Science Congress 2018.*

Nodal Office

- ❖ *Departmental Nodal Officer for DIQAU since March 2016*

Reviewing Activities

- ❖ *IEEE Transactions on Device and Materials Reliability*
- ❖ *IEEE Transactions on Nanotechnology*
- ❖ *IEEE Transactions on Circuits and Systems-II*
- ❖ *IEEE Access*
- ❖ *IEEE Transaction on Neural Networks and Learning Systems*
- ❖ *IEEE Transaction on Electron Devices*
- ❖ *IET Journal of Circuits, Devices and Systems*
- ❖ *Microelectronics Journal (Elsevier)*
- ❖ *AEU-International Journal of Electronics and Communications*
- ❖ *International Journal of Electronics (Taylor and Francis)*
- ❖ *Analog Integrated Circuits and Signal Processing (Springer)*
- ❖ *Journal of Circuits, Systems and Signal Processing (Springer)*
- ❖ *Journal of Low Power Electronics and Applications (American Scientific Publishers)*
- ❖ *Journal of Circuits, Systems and Computers (World Scientific)*
- ❖ *Journal of the Institution of Engineers (India) – Series B (Springer)*
- ❖ *Journal of Computational Electronics (Springer)*
- ❖ *Advances in Electrical and Electronic Engineering (VSB-Technical University of Ostrava)*
- ❖ *Springerplus (Springer)*
- ❖ *Engineering Review*
- ❖ *International Journal of Numerical Modeling Electronic Networks Devices and Fields*
- ❖ *IET Circuits Devices and Systems*

Collaboration

- ❖ *Electronics Laboratory, Physics Department, University of Patras, 26504 Rio Patras, Greece.*
- ❖ *Department of Microelectronics, Brno University of Technology, Czech Republic*
- ❖ *Department of Telecommunications, Brno University of Technology, Czech Republic*
- ❖ *Electrical and Electronic Engineering Department, Universiti Teknologi PETRONAS, 32610 Seri Iskandar, Perak, Malaysia*
- ❖ *Physics Department, Universitat de les Illes Balears, Campus UIB, Cra. Valldemossa km. 7.5, Ed. MO Palma de Mallorca, Balears, 07122 Spain*
- ❖ *Department of Earthquake Engineering, Indian Institute of Technology (IIT), Roorkee, 247667, Uttarakhand, India*
- ❖ *NISC centre, Egypt*
- ❖ *Department of Electronics and Telecommunication Engineering, Jadavpur University, Kolkata, India*
- ❖ *Department of Electronics and Communication Engineering, IIT, Roorkee, India*
- ❖ *Department of Electrical Engineering, IIT, Kharagpur, India*

Invited Lectures

- i)** *Delivered a lecture on “Recent advances in the design and applications of fractional order analog integrated circuits and systems”, Workshop on “Fractional Order System FOS’20” organized by Department of Electrical Engineering, Indian Institute of Technology, Kharagpur, 19th February 2020.*
- ii)** *Delivered a lecture on “Fractional Order Elements and their Applications” in Short Term Course on “Emerging Electron Devices for Integrated Circuit Applications” organized by Department of Electronics and Communication Engineering, NIT Srinagar, 18th July 2019.*
- iii)** *Delivered a lecture on “Fractional-order Systems: Circuit Realizations and Applications”, in International Conference on Recent Advances in Interdisciplinary Sciences” organized by Department of Electronics, University of Jammu, 12th January 2019.*
- iv)** *Delivered a lecture on “Recent Advances in Nano-Devices for the Development of Future Computers”, Workshop on “Recent Advances in Nanoscience and Nanotechnology” organized by Department of Physics, SP College, Srinagar, 6th October 2018.*
- v)** *Delivered a lecture on “Recent advances in the design and applications of fractional order analog integrated circuits and systems”, Workshop on “Fractional Order System FOS’18” organized by Department of Electrical Engineering, IIT, Kharagpur, 20th February 2018.*
- vi)** *Delivered a lecture on “Significance of Simulation in ICT” in one week (24th March 2014-30th March 2014) UGC sponsored Faculty Development Workshop on “ICT and E-learning in higher education” organized by Department of Computer Applications”, Islamia College of Science and Commerce, Srinagar, 28th March 2014.*
- vii)** *Delivered lecture on “Memristor: A Future Nano-Device And its Applications” in three week UGC sponsored Refresher Course organized by Department of Electronics and Telecommunication Engineering, Jadavpur University, Kolkata, 11th Dec. 2013 -2nd Jan. 2014.*
- viii)** *Delivered lecture on “The Miracle of Electricity in the Body (Nervous System and Heart)” in One month 57th general Orientation Course organized by Academic Staff College, University of Kashmir, Srinagar, 9th February -10th March 2012.*
- ix)** *Delivered lecture on “Motors and Mechatronics-An Introduction” in One week Short Term Course on “Mechatronics” organized by Department of Electronics and Instrumentation Technology, University of Kashmir in collaboration with Department of Mechanical Engineering, NIT Srinagar and Academic Staff College, University of Kashmir, June 21-26, 2011.*

Membership of Professional Societies

- ❖ *Senior Member IEEE (Membership ID: 93701418, Senior Member since 2019, Member since 2015)*
- ❖ *Member, London Journals Press, "Quarterly Franklin Membership" (Membership ID#GC60425)*
- ❖ *Member, Rashtriya Uchchatar Shiksha Abhiyan (RUSA), Govt. of India.*
- ❖ *Member, The Society of Digital Information and Wireless Communications (SDIWC) (Member No: 14752).*
- ❖ *Life time member of LAENG Society of Electrical Engineering, Hong-Kong (Member No: 110649).*
- ❖ *Member, Board for Affiliation of various hardware courses in NIELIT under Ministry of communications and Information Technology, Govt. of India.*
- ❖ *Member, Board of Postgraduate and Undergraduate Studies, Department of Electronics and Instrumentation Technology, University of Kashmir, Srinagar*
- ❖ *Member, Departmental Purchase Committee, Department of Electronics and Instrumentation Technology, University of Kashmir, Srinagar*
- ❖ *Member, Departmental Research Committee, Department of Electronics and Instrumentation Technology, University of Kashmir, Srinagar*
- ❖ *Member, Board of Undergraduate Studies, Department of Electronics and Vocational Studies, Islamia College of Science and Commerce, Srinagar*

Financial Assistance received

- ❖ *EMR/2016/007125:- "Development of Integrable, Electronically tunable Fractional-order Capacitance (Fractance) and its applications", sponsored by Department of Science and Technology (DST), New Delhi under Extra Mural Research (EMR) Scheme of SERB (Rs. 53, 94, 928).*
- ❖ *39-558/2010 (SR):- "Development of Low Voltage Companding filters and their implementation in IC form" sponsored by University Grants Commission, New Delhi Under Major Research Project Scheme (Rs. 9, 30, 800).*
- ❖ *41-1344/2012 (SR): "Realization of Low-Voltage Switched Current Circuits Amenable for IC Form" sponsored by University Grants Commission, New Delhi Under Minor Research Project Scheme (Rs. 2, 00, 000).*

Countries visited

- ❖ *Greece, 2013.*

References

- ❖ **Prof. C. Psychalinos**
Electronics Laboratory, Physics Department, University of Patras, 26504 Rio Patras, Greece
E-mail: cpsychal@upatras.gr
- ❖ **Prof. Josep L. Rossello**
Physics Department, Universitat de les Illes Balears, Campus UIB, Cru. Valldemossa km. 7.5, Ed. MO
Palma de Mallorca, Balears, 07122 Spain. E-mail: j.rossello@uib.es
- ❖ **Prof. T. Z. A. Zulkifli**

Electrical and Electronic Engineering Department, Universiti Teknologi PETRONAS, 32610 Seri Iskandar, Perak, Malaysia. E-mail: zainal.zulkifli@utp.edu.my

❖ **Prof. Karabi Biswas**

Department of Electrical Engineering, IIT Kharagpur, Kharagpur, India. E-mail: karabi@ee.iitkgp.ac.in

❖ **Prof. Subir Kumar Sarkar**

Department of Electronics and Telecommunication Engineering, Jadavpur University, Kolkata, India. E-mail: su_sircir@yahoo.co.in

❖ **Dr. Brajesh Kumar Kaushik**

Department of Electronics and Telecommunication Engineering, IIT Roorkee-247667, India. E-mail: bkkaushik23@gmail.com

Thesis/Dissertations Supervised

Completed:

M. Tech:

1. *Arshid Nisar Lavay (M. Tech.) "Design of Magnetic Tunnel Junction based Binary, Multi-level and Stochastic Logic Circuits"*. Date of Award: 04-02-2019.
2. *Romisa Akhtar (M. Tech.) "Reversible Stochastic Computing Design"*. Date of Award: 04-02-2019.
3. *Wajid Manzoor (M. Tech.) "45nm OTA based High-Frequency Tuneable Memristor Emulator and its Applications to Programmable Threshold Comparator and Resistor-less Balanced Ternary Logic Design"*. Date of Award: 04-02-2019.
4. *Samrah Mehraj (M. Tech.) "Applications of CNTFET to Phase Change Memory (PCM) and Fractional-order Double Scroll Chaotic System with Experimental Verification through Field Programmable Analog Array"*. Date of Award: 04-02-2019.
5. *Aiman Latif (M. Tech.) "Design of Capacitorless fractional order differentiator"*. Date of Award: 04-02-2019.
6. *Mr. Mohamad Sirajudin (M. Tech.) "FPAA implementation of QRS Detection System"*. Date of Award: 04-02-2019.
7. *Mr. Yawar Zaboora "Low Power Implementation of The QRS Detection System"*. Date of Award: 14-03-2020.
8. *Mr. Ishfaq Rashid "Efficient Design of Arithmetic Circuits Using FinFET"*. Date of Award: 14-03-2020.
9. *Mr. Showkat Nisar "Non-Volatile Hybrid CMOS/MTJ Logic Design as a Possible Solution to overcome the challenges to the Mainstream CMOS Technology"*. Date of Award: 14-03-2020.
10. *Mr. Abid Amin Fida "Memory, Neuromorphic and Stochastic Computing Applications of Resistive Switching Devices based on Nanoionic Redox Processes"*. Date of Award: 14-03-2020.
11. *Aabid Bin Farooq Ibni Ali "FMCW Radar and its Applications"*. Date of Award: 14-03-2020.
12. *Mr. Mohamad Usman "FPAA design of Morris Lecar Neuron Model"*. Date of Award: 14-03-2020.

M. Phil:

1. *Imran Nazir Beigh (M. Phil.) "Ultra Low-Voltage Programmable Circuit Design for Biomedical Applications"*. Registration No.: 37616-S-2002, Date of Award: 19-12-2016.

Ph.D.:

1. *Nasir Ali Kant (Ph. D.) "Reconfigurable Low-Voltage Analog Realization of Neural Networks"*. Registration No.: 39311-S-2004, dated: 01-08-2014, Date of Award: 08-09-2017
2. *Mohamad Rafiq Dar (Ph. D.) "Design of Low-Voltage Reconfigurable Fractional-Order Networks"*.

Registration No.: 37587-S-2002, dated: 25-11-2014, Date of Award: 07-10-2017

3. *Aadil Tabir Shora (Ph. D.) "Comprehensive Analytical Modelling And Characterization Of Multi-Gate Nano Scale Devices"*.

Registration No.: 41077-S-2006, dated: 26-12-2015, Date of Award: 07-08-2020

Ongoing Thesis

Ph.D.

1. *Mubashir Ahmad Kharadi, (Ph. D.) "Design of Silicene-based devices their applications"*.
Registration No.: 56258-ANG-2008, dated: 19-07-2017
2. *Gul Feroz Ahmad Malik, (Ph. D.) "Design of Spin-based devices their applications"*.
Registration No.: 24933-IC-2009, dated: 19-07-2017
3. *Zaid Mobammad Shab, (Ph. D.) "Design of Fractance Device"*.
Registration No.: 784-SME-2007, dated: 18-10-2017
4. *Ms. Shaziya Rabid, (Ph. D.) "Design of organic Devices and their applications"*.
Registration No.: 115-PHD-2018, dated: 26-12-2018
5. *Mr. Hilal Ahmad Bhat, (Ph. D.) "Design of quantum computing circuits and their applications"*.
Registration No.: 1490-SME-2010, dated: 24-12-2018
6. *Ms. Qazi Iqra, (M. Tech.) "Bio-impedance modeling and Measurement"*.
7. *Mr. Tamheed bhat, (M. Tech.) "Design of Low-power ternary arithmetic circuits"*.
8. *Ms. Rabana Ibrahim, (M. Tech.) "Design of low-voltage generalized memristor emulators and their applications"*.
9. *Ms. Huma Syed, (M. Tech.) "Design of crossbar based data classification systems"*.
10. *Mr. Mohammad Basit, (M. Tech.) "Optimized design fractional-order controllers"*.
11. *Mr. Raja Haseeb, (M. Tech.) "Design of MTJ based low-power circuits"*.

Authored Books

- [AB1]. Khurshed A. Shah and **Farooq A. Khanday**, “Nanoscale Electronic Devices and Their Applications”, CRC Press, Taylor and Francis Group, 6000 Broken Sound Parkway NW, Suite 300 Boca Raton, FL 33487-2742, ISBN: 9780367808624, 235 Pages, 3rd August 2020. DOI: <https://doi.org/10.1201/9780367808624>

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- [BC1]. **F. Khanday**, N. A. Kant and M. R. Dar, “Ultra-Low-Voltage Implementation of Neural Networks”, chapter in the book “Energy Efficient Computing & Electronics: Devices to Systems”, Edited by Santosh K. Kurinec and Sumeet Walia, CRC Press, Taylor and Francis Group, 6000 Broken Sound Parkway NW, Suite 300 Boca Raton, FL 33487-2742, ISBN: 9781138710368 - CAT# K32210, pp. 379-420, 2019.
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