

DEPARTMENT OF ELECTRONICS AND INSTRUMENTATION TECHNOLOGY UNIVERSITY OF KASHMIR

INFORMATION AND PLACEMENT BROCHURE



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Shri Manoj Sinha Chancellor

Shri Manoj Sinha assumed office as the second Lieutenant Governor of the Union Territory of Jammu and Kashmir in August 2020. A distinguished statesman with deep-rooted political and administrative expertise, Shri Sinha has been at the forefront of transformative governance, focusing on inclusivity, transparency, and empowerment of the common citizen.

Under his leadership, Jammu and Kashmir has witnessed a paradigm shift in administrative and developmental reforms, anchored in the principles of transparency, accountability, and equal opportunity for all stakeholders. His strategic vision has played a pivotal role in laying the foundation for sustainable growth and inclusive development in the Union Territory.

A veteran politician from Uttar Pradesh, Shri Sinha's illustrious career spans several key positions. He was elected to the 11th Lok Sabha in 1996, and re-elected to the 13th Lok Sabha in 1999, where he served on the Standing Committee on Energy and the Committee on Government Assurances. His third term in the Lok Sabha began in 2014, during which he was appointed as Minister of State for Railways in the first cabinet of the NDA government.

Known for his commitment to efficiency and time-bound execution, Shri Sinha played an instrumental role in the timely completion of numerous infrastructure projects. In July 2016, he was entrusted with the Ministry of Communications, where he spearheaded major digital initiatives. Notably, under his stewardship, the ambitious BharatNet project achieved its target of connecting 100,000 villages with broadband by December 2017—an initiative pending since 2014. Furthermore, his tenure saw the landmark launch of the India Post Payments Bank by Hon'ble Prime Minister Narendra Modi in August 2018, a major step towards financial inclusion in rural India.

An accomplished agriculturalist and a postgraduate in Civil Engineering from the prestigious Indian Institute of Technology (BHU), Varanasi—where he also served as President of the Student Union—Shri Sinha is affectionately referred to as "Vikas Purush" (Man of Development). His unwavering focus on uplifting underdeveloped regions reflects his firm belief in inclusive nationbuilding.

As the Lieutenant Governor of Jammu and Kashmir, Shri Sinha continues to exhibit strong leadership, policy insight, and administrative acumen. His governance model prioritizes people-centric approaches, social equity, and robust infrastructural development. A staunch advocate of gender equality and youth empowerment, he has taken significant strides towards creating an ecosystem of opportunity, inclusivity, and sustainable growth in the Union Territory.



Shri Omar Abdullah Pro-Chancellor

Shri Omar Abdullah currently serves as the Chief Minister of the Union Territory of Jammu and Kashmir, having assumed office for the second time in October 2024. His earlier tenure as Chief Minister spanned from 2009 to 2014, during which he led a coalition government in partnership with the Indian National Congress. Notably, he became the youngest and 11th Chief Minister of the erstwhile state of Jammu and Kashmir upon assuming office on January 5, 2009.

A scion of a distinguished political lineage, Shri Omar Abdullah is the son of former Chief Minister Dr. Farooq Abdullah and a prominent figure in Indian politics. He embarked on his political journey in 1998 and made history by becoming the youngest Member of Parliament in the Lok Sabha at the age of 28—a distinction he held for three consecutive terms. His tenure in the Union Government as Minister of State for External Affairs was marked by diplomatic engagement and youthful energy.

Educationally, Shri Omar Abdullah received his early schooling at Burn Hall School, Srinagar, followed by Lawrence School, Sanawar in Himachal Pradesh. He holds a Bachelor's degree in Commerce from Sydenham College of Commerce and Economics, Mumbai. Before entering public life, he gained professional experience with leading Indian corporations including ITC Limited and The Oberoi Group.

Renowned for his inclusive leadership style and modern outlook, Shri Omar Abdullah has emerged as a youth icon and a visionary political leader. As Vice President of the Jammu and Kashmir National Conference (NC), he has played a crucial role in shaping the region's political discourse and development trajectory. His political philosophy is rooted in democratic values, regional harmony, and equitable progress.

As the Pro-Chancellor of the University of Kashmir, Shri Abdullah has shown exceptional commitment to the advancement of higher education in the region. He has actively supported the growth and modernization of the institution, reinforcing his belief in education as a cornerstone of socioeconomic development.

Dedicated to navigating the complex political and social dynamics of Jammu and Kashmir, Shri Omar Abdullah continues to advocate for the welfare, empowerment, and holistic development of its people. His leadership remains influential not only within the Union Territory but also on the national political stage, where his voice resonates as a proponent of democratic resilience and regional stability.



Prof. Nilofer Khan Vice-Chancellor

Prof. Nilofer Khan, an accomplished academician and visionary leader, is the first woman to serve as Vice-Chancellor of the University of Kashmir, assuming office on 19th May 2022. Her appointment marked a significant milestone in the university's history and a progressive step toward gender equity in academic leadership.

With over 37 years of teaching experience, Prof. Khan has held several distinguished positions, including Dean of Student Welfare, Dean of the Faculty of Applied Science and Technology, Registrar, and Director of the Institute of Home Sciences. She has been a proactive member of key university bodies such as the University Council, Syndicate, Academic Council, and Finance Committee.

A respected scholar, Prof. Khan has authored

five books and published over 70 papers in national and international journals. Her research focuses on the development of children in Kashmir and the role of women in agriculture. She has supervised more than 25 Ph.D. and 9 M.Phil. scholars and introduced innovative programs like M.Sc. in Dietetics and Clinical Nutrition.

In her administrative journey, Prof. Khan has served on several critical governing bodies, including the University Council, University Syndicate, Academic Council, and Finance Committee. She has also chaired pivotal committees such as the Students' Grievance Committee and the Internal Complaints Committee. Her leadership is marked by integrity, inclusivity, and a deep commitment to student welfare and academic excellence. Her leadership extends beyond the classroom. She has represented the university internationally, including participation in the U.S. International Visitors' Programme, and academic visits to Australia, Malaysia, Sudan, and the UAE. A champion of women's empowerment, she led the UGC initiative on "Capacity Building of Women Academicians" and received an Award of Honor for her contributions to gender equity.

As Vice-Chancellor, Prof. Khan is committed to transforming the University of Kashmir into a center of academic excellence and innovation, fostering multidisciplinary research, student-centric governance, and inclusive development—especially for women and underrepresented communities.



Prof. Shariefuddin Pirzada Dean Academics Affairs

Prof. Shariefuddin Pirzada has been appointed the Dean of Academic Affairs at the University of Kashmir. With a distinguished career, he previously served as Dean of the School of Physical and Mathematical Sciences and Head of the Department of Mathematics at KU. Prof. Pirzada holds a PhD in Applied Mathematics from Aligarh Muslim University and has taught at both undergraduate and postgraduate levels. His research interests include Combinatorics and Graph Theory, and he has received prestigious awards such as the Young Scientist Award, Chebyshev Grant, and ICTP Italy Grant. He has published over 250 research papers, authored several books, and delivered invited talks globally. Prof. Pirzada has coordinated numerous workshops and secured several research projects. He serves on editorial boards, including the Indian Journal of Pure and Applied Mathematics, and is a member of the American Mathematical Society and SERB DST India. His leadership is expected to enhance academic programs at KU.



Prof. M. Sultan Bhat Dean Research

Prof. M. Sultan Bhat, currently the Dean of Research at the University of Kashmir, brings over 28 years of experience in academia and administration. His expertise spans Environmental Studies, Climate Change, Urban Systems, Watershed Development, and Disaster Management. Throughout his career, Prof. Bhat has authored more than 200 research papers and five books featuring his work in prestigious international journals. He has successfully led 17 research projects funded by organizations such as ICSSR, UGC, MoES, and DST and is currently working on a project under the CPEPA program of MHRD. Prof. Bhat's research has played a pivotal role in shaping policy decisions at both local and national levels. He has supervised over 40 MPhil and PhD scholars. In leadership roles, he served as Head of the Department and Dean of the School of Earth & Environmental Sciences at the University of Kashmir. Prof. Bhat is also a member of several academic bodies and government advisory boards.



Prof. Khursheed A. Butt Dean, College Development Council

Prof. Khursheed Ahmad Butt is a distinguished academician and administrator at the University of Kashmir, currently serving as Dean College Development Council. He previously held key roles, including Registrar, Director of Satellite Campus, Dean, School of Business Studies, and Head, Department of Business & Financial Studies. He has been an active member of major decision-making bodies at the university, such as the Finance Committee, Academic Council, and University Syndicate. With over 30 years of teaching experience, Prof. Butt specializes in Accounting, Financial Management, and Entrepreneurship Development. He holds a Ph.D. in Finance and has published extensively in corporate finance, stock markets, and entrepreneurship, authoring four books and 112 research papers. His book National Higher Education Policy 2020: How to Make It Happen? offers strategies for enhancing India's higher education system. Prof. Butt also has international teaching and administrative experience in Sharjah and Dubai, earning recognition for his commitment to education.



Prof. Naseer Iqbal Registrar

Prof. Naseer Iqbal, professor of Physics is currently the Registrar of Kashmir University, a position he has held from the past year. With 23 years of teaching and research experience, Prof. Iqbal specializes in Astronomy and Astrophysics. He has extensive administrative experience, having served in various roles such as Director of North Campus, Proctorial, and Registrar/Controller of Examination at IUST. He has guided 10 PhD and 8 MPhil students with research interests in the universe's large-scale structure, archaeoastronomy, high-energy astrophysics, and gravitational cosmology. Prof. Iqbal is a life member of several national organizations, including the Astronomical Society of India and the Indian Physics Association. Recently, he was nominated as President of the Indian Association of Physics Teachers (IAPT) Srinagar chapter. He has received numerous national and state-level awards, including the INSA Teacher Award in 2022.



Dr. Majid Zaman Baba Controller of Examinations

Dr. Majid Zaman is an academician and administrator with over 20 years of experience in academic and IT systems management. He currently serves as Scientist E and Controller of Examinations at the University of Kashmir, where he has led reforms in examinations, e-governance, and academic system automation. Dr. Zaman holds a Ph.D. in Computer Science from the University of Kashmir and an M.S. in Software Systems from BITS Pilani. He has previously held key roles, including Director of the National Academic Depository and Deputy Controller of Examinations. A leading researcher in Artificial Intelligence, Data Science, and Machine Learning, Dr. Zaman has over 120 publications. He has supervised 8 Ph.D. and 3 M.Phil scholars, contributing to AI-driven decision-making and educational data analytics. He is an FIETE, MIE, and MISTE member, a Sun Certified Java Programmer (SCJP), and has received multiple fellowships, including from INTI International University, Malaysia. He continues to advance research in AI, weather forecasting, healthcare, and education technology.



Prof. Zulfiqar Ali Bhat Dean, School of Applied Science and Technology

Prof. Zulfiqar Ali Bhat is the Dean, School of Applied Science and Technology at the University of Kashmir. With an academic background in Pharmaceutical Sciences, he has contributed significantly to pharmaceutical sciences with emphasis on natural product research. Prof. Bhat has authored numerous publications, mainly focusing on medicinal plants having anxiolytic immunomodulatory, antidiabetic and hepatoprotective activity together with their pharmacognostic standardization. He is also engaged in isolation and characterization of molecules from medicinal plants. His research is well-recognized internationally, with his work published in leading national and international journals. He has guided many postgraduate and doctoral students, nurturing the next generation of researchers. His extensive academic and administrative experience has been instrumental in developing the University's research infrastructure. Prof. Bhat is a member of Kashmir University Council and Jammu University Syndicate. He is also actively involved in various national and international collaborations, further enhancing the university's academic reputation.



Prof. S. Muzaffar Ali Andrabi Dean, School of Engineering Prof. Syed Muzaffar Ali Andrabi is the Dean of the School of Engineering and Head of the Applied Sciences Department at the Institute of Technology, Zakura Campus, University of Kashmir. With 28 years of experience at the university, he holds M.Sc., M.Phil., and Ph.D. degrees in Analytical Chemistry from Aligarh Muslim University. He specializes in Instrumental Methods of Chemical Analysis and has taught M.Sc. students in various disciplines and B.Tech students in Engineering Chemistry and Environmental Sciences. Prof. Andrabi's research spans nanotechnology, groundwater, air pollution, water pollution, bioremediation, and pharmaceutical analysis, with four successful projects funded by SERB, DST, UGC, and JKST&IC. He has held significant administrative roles, including Director of the University Science Instrumentation Centre, Director of Institute of Technology, Director of South Campus, and Dean of the School of Engineering. Prof. Andrabi was instrumental in establishing the Centre for Innovation, Incubation, and Entrepreneurship (CIIE) at Zakura Campus.







Welcome to the Department of Electronics and Instrumentation Technology at the University of Kashmir. Since the establishment of the department in 1985, we have been a leader in advancing education and research in electronics, continually adapting to meet the demands of the technology sector.

Our department has a strong legacy of academic excellence and pioneering research, shaped by the contributions of several distinguished faculty members over the years. Notably, we recognize the leadership of Prof. R.S. Sharma, Prof. K.K.S. Jamwal, Prof. B.A. Makhdoomi, Prof. N.A. Shah, Prof. M. Mustafa, Prof. G.M. Bhat, Prof. Shameem Ahmad and Prof. Rouf Khan whose dedication has significantly impacted the department.

We offer a range of programs, including: M.Tech in Embedded Systems and Solutions; M.Sc in Electronics; Integrated Master's in Electronics and Ph.D. research opportunities.

The launch of our B.Tech program in 2009 played a key role in establishing the Institute of Technology at our Zakura campus in 2014, cementing our role in shaping the region's technological landscape.

Our programs provide a strong foundation in both theoretical and applied electronics, with specializations in VLSI, Embedded Systems, Signal Processing, Communication, and AI. The introduction of the Five-Year Integrated Master's Programme (FYIMP) reflects our commitment to flexibility and multi-disciplinary learning, in line

Message

with the National Education Policy (NEP) 2020.

The success of our department is driven by our dedicated faculty, whose work includes over 1,500 publications and collaborations with leading institutions worldwide. Our research, funded by agencies such as UGC, DST, and MeitY, covers emerging fields like VLSI, IoT, AI, security, and signal processing.

We offer world-class infrastructure, including eleven specialized laboratories, smart classrooms, a library with over 11,000 resources, and advanced simulation software, servers, ensuring our students gain hands-on experience with the latest technologies.

Looking ahead, we remain committed to expanding research capabilities, strengthening industry collaborations, and fostering a culture of innovation and entrepreneurship. We continuously enhance our curriculum, infrastructure, and scholarship offerings to empower our students to lead and innovate in electronics and technology.

We invite you to join us on this exciting journey, where you will acquire the knowledge and skills needed to shape the future of electronics and technology.

Prof. Mohamad Tariq Banday

Professor & Head of the Department

HEADS OF THE DEPARTMENT (Roll of Honour)

- Prof. R. S. Sharma (1985-1986)
- Prof. K. K. S. Jamwal (1986-1987)
- Prof. B.A. Makhdoomi (1987-1988)

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- Prof. Shameem Ahmad (1988-1989)
- Prof. B.A. Makhdoomi (1989-1990)
- Prof. N.A. Shah (1990-1994)
- Prof. M. Mustafa (1994-1997)
- Prof. N.A. Shah (1997-2007)
- Prof. M. Mustafa (2007-2010)
- Prof. N.A. Shah (2010-2013)
- Prof. G. M. Bhat (2013-2016)
- Prof. M. Tariq Banday (2016-present)

DEPARTMENT AT A GLANCE

The Department of Electronics and Instrumentation Technology at the University of Kashmir, established in 1985, has evolved to meet the dynamic needs of the electronics and technology sectors. Initially named the Post Graduate Department of Electronics and Computer Sciences, it offered M.Sc. in Electronics and a Post-B.Sc. Diploma in Computer Applications. In 2003, it was renamed the Post Graduate Department of Electronics and Instrumentation Technology after creating a separate Computer Science department. Over time, it has become a leading center for advanced education and research, offering M.Sc., M.Phil/Ph.D., and a four-year B.Tech. program in Electronics and Communication Engineering (2009). The success of the B.Tech. program contributed to establishing the Institute of Technology at Zakura Campus in 2014, with the department playing a crucial role in its startup.

The department has since expanded its focus to postgraduate education, introducing the M.Tech. in Embedded Systems and Solutions program and the Five-Year Integrated Master's Programme (FYIMP) in Electronics, offering flexibility with multi-entry, multi-exit options. The M.Tech. program offers specializations in VLSI, Embedded Systems, Signal Processing, and Communication, meeting the growing demand for AI and digital technologies.

Faculty members are actively involved in research, contributing to over 354 journal publications, 243 conference proceedings, 88 book chapters, 16 edited books, and over 200 abstracts since 2013. The department boasts state-of-the-art infrastruc-ture, including specialized laboratories, ICT-enabled smart classrooms, and a 1,000 sq. ft. library with 11,000 books, project reports, and theses. The department's server room, with Intel Xeon servers, supports simulation and real-time research analysis.

Aligned with the National Education Policy (NEP) 2020, the department offers interdisciplinary, industry-relevant programs and introduces the Academic Bank of Credits (ABC) for enhanced academic mobility. The department's emphasis on industry collaboration, research-driven learning, and skill development ensures its students are well-prepared for the evolving technology sector.

VISION

The department strives to be a global leader in advanced electronic technologies, pioneering research in emerging areas, committed to foster interdisciplinary collaboration and creating transformative, real-world solutions that meet the dynamic needs of society and industry.

MISSION

The department is dedicated to equip the leaders of tomorrow with a strong foundation in scientific knowledge and critical skills, fostering a scientific mindset to address the challenges of an evolving knowledge society. Through a dynamic blend of interactive teaching, hands-on experimentation, and innovative exploration, we aim to inspire and empower students to become pioneers in the rapidly advancing field of electronics.

Undertake and promote groundbreaking research in emerging areas of electronics, with a focus on interdisciplinary applications, including AI, IoT, Communication, Signal processing, renewable energy, and advanced semiconductor technologies.

Actively seek financial support from national and international funding agencies to drive research, provide specialized training, and explore contemporary areas of electronics and technology.

OBJECTIVES

Facilitate highimpact research by investing in state-of-the-art hardware, software, and tools that enable students, faculty, and researchers to explore new frontiers in electronics. Cultivate a pipeline of competent, highly skilled professionals who are equipped to meet the dynamic needs of the R&D sector, service industries, and academia in diverse fields of electronics. Encourage and support the growth of start-ups, innovation, and entrepreneurship in electronics system design, manufacturing, and related areas, addressing the increasing demand for skilled human resources across multiple industries.



TEACHING FACULTY

The Department currently boasts a highly competent faculty consisting of a Professor, three Associate Professors, and a Scientist, all of whom are dedicated to deliver high-quality education and actively conducting applied research. Their expertise spans various contemporary fields of electronics, ensuring that students benefit from a dynamic and forwardthinking academic environment. To support the growing teaching load, particularly with the introduction of the M.Tech. and Integrated M.Sc. programs, the Department has also appointed seven additional Assistant Professors on an academic arrangement basis for each academic session to fill teaching vacancies and maintain a high standard of education. All appointed faculty members meet the minimum qualifications set by the relevant bodies, ensuring that the Department continues to provide a robust educational experience, supported by faculty committed to both teaching excellence and research innovation.

FACULTY DETAILS



Prof. Mohamad Tariq Banday Professor & Head (Since 2003, PhD, UGC-NET)

Areas: Computational Electronics, Internet of Things, Digital Logic, Processor Design & Programming, Embedded Systems, Networking & Internet, Cyber Security & Digital Forensics, Artificial Intelligence. Publications: Full Length: 211 Abstracts : 87; Edited Books: 7 Projects Completed: 4 Sponsored Schemes Completed: 1 Undergoing: 2 Citations: 1440, h-Index: 17, i-10 Index : 34



Dr. Farooq Ahmad Khanday Associate Professor (since 2010) PhD, UGC-NET

Areas: High-performance Integrated Circuits, Neuromorphic Computing, Nano-electronics, Fractional-order System Design, Quantum Computing. Publications: Full Length: 170; Abstracts: 54; Authored Books: 1; Edited Books: 4 Patents Granted : 01, Published: 02 Projects Completed: 3 Citations: 3022, h-Index: 24, i-10 Index: 65



Dr. Javaid Ahmad Sheikh Associate Professor (Since 2010) PhD, UGC-NET, SET

Areas: Wireless Communication and Networks, RF Engineering, Microwave Antennas and Filter Design, Wearable Electronics, Microwave and Millimeter Wave Imaging and Diagnostics, Block Chain. Publications: Full Length: 200; Abstracts: 70; Books: 02 Patents: Granted: 03, Published : 05 Projects Completed: 2 Projects Undergoing: 2 Citations: 4159, h-Index: 32, i-10 Index : 39



Dr. Shabir Ahmad Parah Associate Professor (since 2010) PhD, UGC-NET/JRF, SET, GATE

Areas: Multimedia Signal Processing, Quantum Image Processing, Biomedical Imaging, Cyber Security, Heritage Sciences, Intelligent disease detection, Bio Inspired Computing. Publications: Full Length: 205 Abstracts: 75; Edited Books: 03 Patents: Granted: 01, Published: 01 Projects Completed: 4 Projects Undergoing: 1 Citations: 4469, h-Index: 36, i-10 Index : 90



Mrs. Farhat Ruhee Scientist-B (Since 2003) M.Sc. M. Phil.

Areas: Artificial Intelligence, Fuzzy Systems, Neural Networks. Publications: Full Length: 7; Abstracts: 18 Patents: Granted: 1 Citations: 45, h-Index: 2, i-10 Index: 2

FACULTY DETAILS (ON CONTRACT)



Dr. Javeed Iqbal Reshi Assistant Professor on Contract PhD, UGC-NET

Publications: Full Length: 22; Abstracts: 9 Patents: Granted: 01, Published: 02 Teaching Experience at UG/PG: 21 Years



Dr. Baseerat Gul Assistant Professor on Contract PhD, GATE, NET

Publications: Full Length: 11 Teaching Experience at UG/PG: 4.5 Years



Dr. Gul Faroz Ahmad Malik Assistant Professor on Contract PhD, NET

Publications: Full Length: 30 Abstracts: 5 Teaching Experience at UG/PG: 4 Years



Dr. Nasir Nabi Hurrah Assistant Professor on Contract, PhD, PostDoc, JRF, NET, GATE

Publications: Full Length: 25 Abstracts: 5 Teaching Experience at UG/PG: 3 Years





Dr. Mehboob-Uj-Amin Assistant Professor on Contract PhD

Publications: Full Length: 40 Abstracts : 5 Teaching Experience at UG/PG: 6.5 Years



Dr. Hilal Ahmad Bhat Assistant Professor on Contract PhD, NET, SET, GATE

Publications: Full Length: 8 Conference papers: 2, Book Chapters: 2 Teaching Experience: 6 months



Dr. Nazir Ahmed Loan Assistant Professor on Contract PhD

Publications: Full Length: 19 ; Abstract: 13 Teaching Experience: 3.3 Years

TECHNICAL & SUPPORT STAFF

Along with the teaching staff, the department has sanctioned positions for a Senior Technical Assistant, Storekeeper, two Junior Lab Assistants, a Technical Assistant, a Junior Professional Assistant, an Electrician, and two Lab Attendants to manage and maintain the laboratories.

- Mrs. Muzamil H. Gurkhoo, Technical Officer, B.Sc., 3-Year Diploma in ECE
- Ms. Yasmeen Gul, Assistant Technical officer, B. Sc., M A
- Mr. Azad Ahmad Shah, Technical Assistant,
 B. Sc. M. Sc., Diploma in Computer Applications
- Ms. Benazir Safdar, Professional Assistant, M. Lib.
- Mr. Raj Pal Singh, Head Assistant, B.A.
- Mrs. Kulsuma Jan, Senior Assistant, B.A.
- Mr. Tariq Ahmad Akhoon, MTS, B.A
- Mrs. Rehana Bano, MTS, B.A
- Mr. Arshid Hussain Ganie, MTS
- Mr. Gh. Rasool Mir, MTS, 10+2
- Mr. Zahoor Ahamd Bhat, MTS, 10+2
- Mr. Mohammad Nadeem Mattoo, MTS, 10+2

The department engages guest faculty on a need-based basis to support and enhance teaching and learning activities.

To meet the increasing laboratory demands, three technical assistants are appointed on academic arrangements for each academic session.

The non-teaching staff, as per the established schedule, includes a Section Officer, Head Assistant, Junior Assistant, Class IV employee, Room Attendant, Sanitation Workers, as well as Watch and Ward personnel.

The university has made adequate provisions for additional helpers and contract staff to manage the increasing office and laboratory workload. This includes the introduction of a new five-Year Integrated Master's Programme in Electronics, inclusion of elective courses in both the M.Sc. and M.Tech programs and to address vacant technical and non-teaching positions.

FACULTY PROGRESSION & ACHIEVEMENTS

Faculty members have consistently demonstrated a commitment to professional development and academic excellence. The faculty has been instrumental in the development and introduction of new academic programs, such as the M.Tech in Embedded Systems and Solutions (ESS), B.Tech in Electronics and Communication Engineering (ECE), and the Integrated MSc in Electronics. Their active involvement in shaping these programs reflects their dedication to meeting the evolving demands of the electronics and technology fields. The faculty has played a pivotal role in driving the academic growth of the department and contributing to the overall progression of the University. Their continuous professional development ensures the department remains at the forefront of education and research in electronics and instrumentation technology. Since 2013:

- They have attended over 100 professional courses and programs across various states in the country, enhancing their knowledge and skills.
- Their expertise is further reflected in their participation in over 200 conferences, seminars, and workshops both within India and internationally, including countries like Morocco, Greece, Malaysia, Thailand, and Jordan.
- They have received about 70 best paper awards, showcasing their research contributions on a global platform.
- They are also active members of prominent professional societies such as IEEE, ACM, IAENG, and CSI. Many faculty members contribute as editors and reviewers for reputed journals, including IEEE Transactions, Springer, Elsevier, and Wiley, as well as serving on the editorial boards of leading conferences.
- They are actively involved in admissions, quality assurance, teacher evaluations, technical committees, policy making, administration, accreditations and rankings at the Institutional level.
- They are also actively involved in academic and research activities nationally and internationally.

Prof. M. Tariq Banday

Prof. Banday was listed among the top 0.25% researchers in the field of Internet of Things (IoT) for the year 2024, according to ScholarGPS, California, USA. Prof. Banday is a member of the working group on PPP in the Development of Standards for Cybersecurity under the Confederation of Indian Industry (CII) Task Force on Public-Private Partnership for the Security of Cyber Space, Jacaranda, India, New Delhi. He has also been a member of the Discussion Group on Security Issues and Challenges of IoT, CERT-In, MeitY, Gol. In 2015, Prof. Banday attended meetings with the Committee on Petitions of the Rajya Sabha regarding the petition filed by Jain Acharya Vijay Ratnasundersuri, calling for a ban on Cyber Pornography in India. Prof. M. Tarig Banday is a Senior Member of IEEE and ACM, and a life member of the Computer Society of India. He serves in various capacities on the editorial boards of reputed journals and conferences and has received several best paper awards at renowned conferences. Prof. Banday has participated as Vice-Chancellor's nominee in various forums, including selection committees, technical committees, and purchase committees. He is also a member of the Steering Committees of NAAC and NIRF. Prof. M. Tarig Banday is a member of the University Admission Advisory Committee. Vint Cerf, Vice President of Google Inc. and famously known as the "Father of the Internet" for co-inventing the TCP/IP protocol, wrote the foreword for the edited book by Prof. Banday titled Cryptographic Security Solutions for the Internet of Things, published by IGI Global, USA, in 2019. During the COVID-19 pandemic, Prof. Banday completed various WHO courses on COVID-19 and actively participated in social services. Prof. M. Tarig Banday has consistently received excellent grades in teaching at the University of Kashmir. He has played a key role in mobilizing funds, introducing new academic programs such as B.Tech, M.Tech, and IMSc, launching contemporary courses, establishing laboratories, purchasing equipment, and drafting statutes, placement brochures, and accreditation documents. Since April 2024, Prof. M. Tariq Banday is also serving as the Director of the Institute of Technology, Zakura Campus, University of Kashmir.

Dr. Farooq A. Khanday

Dr. Khanday was featured in Stanford University's list of the top 2% most cited scientists in the world for 2024. He was listed among the top 0.25% researchers in the field of Nanoscale Electronic Devices for the year 2024, according to ScholarGPS, California, USA. He is the Editor of the PLOS ONE journal and a Senior Member of IEEE. Dr. Khanday has been a Management Committee (MC) Observer for the COST Action CA15225 (Fractional-order Systems) and project evaluator of COST actions of the European Union. He was also awarded an Indian National Science Academy (INSA) Visiting Scientist Fellow for the year 2020-21. In 2018, Dr. Khanday was considered for the Outstanding Reviewing Award by the Microelectronics Journal (Netherlands). He was nominated for the Outstanding Contribution in Reviewing Award by AEUE - International Journal of Electronics and Communications (Netherlands) in 2017. Dr. Khanday received Best Paper Awards at IEEE IMPACT in 2022 and 2013, held at AMU, Aligarh, India, Dr. Khanday participated in a seven-week collaborative research program (January 14 to February 28, 2013) at the Electronics Laboratory, Physics Department, University of Patras, 26504 Rio Patras, Greece, He also participated in a two-month collaborative research program (December 26, 2020, to February 17, 2021) at the Electronics and Communication Engineering Department, IIT Roorkee, under the Visiting Scientist Fellowship Programme (2020-21) of the Indian National Science Academy (INSA), Government of India. Dr. Khanday was granted a patent for "Portable Microcontroller-Based Impedance Meter For Biological Tissue Analysis" in 2025. Dr. Khanday's publications have an H-index of 24, an i10 index of 65, and a citation count of 3022.

Dr. Shabir A. Parah

Dr. Shabir has featured in Stanford University's list of the top 2% most cited scientists in the world for the last five consecutive years (2020-2024). He was listed among the top 0.21% of researchers in the field of Multimedia Signal Processing for the year 2024, according to ScholarGPS, California, USA. Dr. Shabir A. Parah is a lifetime Fellow of IETE, and a member of many professional organizations like IEEE, EAI, ACSE, etc. He received the Best Researcher Award at ICICC 2025, held in New Delhi. Dr. Parah received the best paper award at IEEE INDICON- 2024, held at IIT Kharagpur, in the track of multimedia signal processing. Besides he has received the Best Paper Award and a cash prize at the 4th IEEE Bombay Section Signature Conference (IBSSC-2022) in 2022. Dr. Parah received the Outstanding Scientist Award from the University of Kashmir in 2022. He received the Conference Researcher Award at a two-day international conference on Electronic and Multidisciplinary Advances organized by Cluster University Srinagar, in 2022. Additionally, he has been the recipient of four Best Paper Awards at various IEEE International Conferences between 2016 and 2020. Dr. Shabir A. Parah is an Associate Editor for the IET Image Processing journal, published by Wiley. He is a certified Innovation Ambassador of the Ministry of Education, Government of India. He has been appointed as Mentor of Changeunder the Atal Innovation Mission, Government of India. His publications have an H-index of 36, an i10 index of 90, and a citation count of 4469.

Dr. Javaid Ahmad Sheikh

Dr. Javaid was awarded the title of Best Teacher and citation by the University of Kashmir in 2023. He was also list among 0.25% researchers in the field of wireless communications and multimedia. He has received thirteen (13) Best Paper Awards at IEEE and Springer Conferences. Dr. Javaid completed a Summer Research Faculty Fellowship at IIT Delhi. He achieved the distinction of being appointed as a Regional Mentor of Change by NITI Aayog, Government of India. Dr. Javaid Ahmad Sheikh has completed several sponsored research projects from various funding agencies such as DST, UGC and JKSTIC, Dr. Javaid Ahmad Sheikh is also serving as the Nodal Officer for AIM ATL Sarthi, NITI Aayog, Government of India. He is working as a Member of the Telecom Centers of Excellence of India. Dr. Javaid Ahmad Sheikh serves as the Chief Editor of Current Wireless Communications, Bentham Publications (Scopus In-dexed Journal). He has worked as an Editor for the American Journal of Computers and Electrical Engineering. Dr. Javaid Ahmad Sheikh has been appointed to the Executive Committee of the IEEE AP-S/CRFID Chapter of the Delhi Section. He was selected as a Project Evaluator for the School Innovation Marathon by the Ministry of Education, Government of India, AICTE, and NITI Aayog. Dr. Javaid Ahmad Sheikh was appointed as a panel member by the National Book Trust and the Commission for Scientific and Technical Terminology, Government of India. He is a panel member for School Innovation Programs under Atal Tinkering Labs, NITI Aayog, Government of India. Dr. Javaid Ahmad Sheikh received a Startup Grant from the University of Kashmir under the Skill Development Program, for which he initiated a startup and developed a prototype. He has served as a Warden in various hostels of the University and played a vital role in the development of the hostel sector. Dr. Javaid Ahmad Sheikh played a leading role in framing the Memorandum of Understanding between the University of Kashmir and Intel India. He has organized numerous workshops, faculty development programs, and seminars in the Department. Dr. Javaid Ahmad Sheikh is having the distinction of having Eight patents both granted and published. Dr. Javaid Ahmad Sheikh's publications have an H-index of 32, an i10 index of 93, and a citation count of 4159.

Ms. Farhat Roohi

Ms. Farhat Roohi is the Departmental Gold Medalist from the University of Kashmir (2000). A patent titled "Intelligent Assistive Device for Visually Impaired Persons" (Application No. 540865) was granted to Farhat Roohi in 2023. She has participated in various workshops, Faculty Development Programs (FDPs), and training programs. Farhat Roohi has also participated in and presented papers at various seminars and conferences.

INFRASTRUCTURE

The department has made significant advancements in research and teaching by establishing a state-of-the-art infrastructure, funded through initiatives like UGC SAP, DST FIST, MeitY VPhD and individual research projects of the faculty members. Eleven cutting-edge laboratories have been set up to encourage experimentation and innovation. Key facilities include four smart classrooms with interactive flat panels, computers, and wireless connectivity. Research labs cover areas such as IC design, nanoelectronics, signal processing, communication, network security, and digital forensics. General-purpose labs support computational tasks, embedded systems, IoT, microprocessors, analog/digital electronics, FPGA design, and power electronics. Additionally, a dedicated PCB design lab is available for advanced hardware design. The department's 24/7 server room is equipped with three high-performance Intel Xeon servers, providing ample computational power for simulation and virtualization tasks. It supports essential software tools like Cadence Virtuoso, Keil MDK uVision, Matlab, and MS SQL Server 2017. Located in both the Humanities and Science blocks, the department features well-equipped research and general-purpose labs, a 1,000-square-foot library with more than 11,000 books, and high-end test and measurement equipment. These facilities ensure comprehensive support for both academic and research activities.

- A. Four Smart Classrooms with IFPs, Computers and UPS. Can be connected wirelessly.
- B. Eleven state-of-the-art Laboratories most of which are equipped with projectors, computers, visualizers and UPS. Store to house the equipment, maintenance room to service equipment, library and a server room. Four classrooms, three research laboratories, two general purpose laboratories and a PCB design facility are in the Humanities block. The Science Block of the Department houses five-general purpose hardware laboratories, a rich library, a maintenance room for servicing the equipment, and a store to keep stock of components and additional T&M Equipment.
- C. Server Room: (24X7) -Three Intel Xenon E5-4600 based DELL Servers, 32 GB RAM, Gigabyte LAN, 8/16 GBFiber Channel, RAID Disk support 2/4 TB HDD, OS: Linux & Windows 2000 Server, 10 User Cadence Virtuoso,100 User MDK uVisionKeil, 100 User MDK DS, 10 User Matlab, Storage Service, MS SQL Server 2017, SIFT Workstation, etc.
- D. Library: The Departmental Library is a well-equipped and resourceful facility that supports both teaching and research activities. Spanning 1,000 square feet, the library is thoughtfully furnished with essential equipment, including computers, a Xerox machine, and various furniture pieces, ensuring a comfortable reading environment. It features forty book racks and two magazine racks to house a diverse collection of materials. The library's impressive collection includes approximately 11,000 books, MSc and B.Tech project reports, M.Tech theses, and M.Phil/Ph.D dissertations, making it a valuable resource for students and researchers alike. Additionally, the library subscribes to twelve magazines, keeping users informed of the latest developments in their fields. For convenience, a Xerox machine is available for photocopying, and climate control is maintained with an air conditioner, heat pillar, and gas heater, providing a comfortable study atmosphere year-round. The library's rich resources make it an essential hub for academic and research activities within the department.



ACKNOWLEDGMENT OF FINANCIAL SUPPORT

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Research Laboratories



IC Design and Nano-electronics Lab

(30 Hrs a week) - Impedance Analyzer (20MHz), Mixed Domain Oscilloscope (500 MHz), Xilinx VCU118 FPGA Board, Logic Analyzer, 15 Computers, Advanced VLSI Design HW/SW Tools, Cadence Virtuoso SW, ATLAS TCAD, HSPICE, DSO and other T&M Equipment, etc.





Signal Processing and Communication Lab

(30 Hrs a week) - 15 computers, Signal Processing & Communication HW/ SW Tools, Matlab, 102 channel Logic analyser, Software Defined Radio, Vertex-7 FPGA Kits, SystemVue-2022 and other HW and SW tools.



Network Security & Digital Forensics Lab

(30 Hrs a week) - 15 computers, Digital Forensic SW/HW Tools, FRED, FTK Workstation, over 100 IoT Kits and Boards from ARM, STM, NPX, etc., High End FPGA Kits, Sensor and Sensor Development Kits, Libelium Development Kits, ULink Pro, ULINK Plus, and other debug systems etc.





General Purpose Laboratories

Computational Lab: (28Hrs a Week) - 40 Computers, circuit simulation SW, Multisim 14, Proteus 8 professional, C/C++/ µC Compilers, Browsing facility, printers, scanners, etc.

Simulation and Networking Lab: (28 Hrs a Week) - 30 Computer systems, Thin Clients, Networking/Protocol and Advanced Simulation SW Tools, Packet Tracer, Keil, Atmel Studio, Microchip C Compiler, Xillinx, Vivado Proteus 8 professional, PIC Simulator, etc.

Microprocessor, Embedded System and IoT Lab: (25 Hrs a Week) - 10 Computers, T&M Equipment, Development Kits (8085, 8086, 8051, PIC) and platforms for performing various Microprocessor, Embedded System and IoT Experiments, various boards for real time programming and design (Raspberry Pi, Node MCU, Arduino), Sensors (temperature/ humidity, Ultrasonic, IR, GAS, etc,.), PICDEM, DSP starter kits (TMS320C6455, TMS320C6416T) components and ICs.

Device Characterization, Analog and Digital Electronics Lab: (15 Hrs a Week) - T&M Equipment, IC testers, Development Kits for performing various device characterization, analog and digital electronics experiments, components and ICs, visualizer for the real time demonstration of practicals, etc. **FPGA Design and DSP Lab:** (15 Hrs a Week) - 10 computers -T&M Equipment, Development Kits and platforms for performing various FPGA Design and Instrumentation experiments, Basys and Pink boards for real time programming and design, Real-time DSP Kits (Mbed DSP lab), components and ICs, etc.

Power Electronics, Circuit Analysis and Control Systems Lab: (20 Hrs a Week) - T&M Equipment, Development Kits {for performing various Power Electronics (Buck, Boost, Buck-Boost, DIAC, TRIAC, GTO, Commutation circuits)}, Circuit Analysis (Wheatstone Bridge, Hay Bridge, Schering's bridge, etc) and Control Engineering Experiments (PI, PD, PID controllers), Components and ICs, ICT enabled Visualizer for the real time- demonstration of practicals.

Microwave, Antenna and Communication Lab: (15 Hrs a Week) - Development Kits for performing various Microwave (Reflex Klystron, Gunn diode), Antenna (Yagi, Parabolic, Helix, Line of Sight, Microwave) and Communication Experiments, Development platform for performing various opto-electronic experiments (Solar-Panel set up, Optical fibre communication set-up), Various high-end communication and antenna platforms for advanced experimentation, components and ICs, etc.

PCB (Printed Circuit Board) Design Lab: (5 Hrs a Week) - The Department has a state of art PCB design machine (EP2006) with specialized workspace equipped with tools, software, and equipment for designing, fabricating, and testing PCBs used in electronic systems.



Computational Laboratory
 (Humanities Block)





Device Characterization, Analog and Digital Electronics Laboratory (Science Block)







FPGA Design and DSP Laboratory (Science Block)



Power Electronics, Circuit Analysis and Control Systems Laboratory (Science Block)

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Microwave Antenna and Communication Laboratory (Science Block)



Microprocessor, Embedded System and IoT Laboratory (Science Block)

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PROGRAMMES OFFERED

Since its establishment in 1985, the Department of Electronics at the University of Kashmir has consistently evolved to meet the needs of the electronics and technology sectors. It offers a range of postgraduate and research programs, including M.Tech. in Embedded Systems and Solutions, M.Sc. in Electronics, Ph.D. research opportunities, and the newly launched Five-Year Integrated Master's Programme (FYIMP) in Electronics, all aligned with the National Education Policy (NEP) 2020.

The Department offers Ph.D. programs in cutting-edge electronics topics, allowing students to engage in impactful research that bridges theory and application. The FYIMP in Electronics features a flexible, multi-entry, multi-exit structure, with specializations in VLSI, Embedded Systems, Signal Processing, and Wireless Communications, alongside a minor in Artificial Intelligence. It emphasizes hands-on learning through internships, projects, and research.

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The M.Tech. program is being revised to offer two specializations: 1) VLSI and Embedded Systems, and 2) Signal Processing and Communication. It provides a solid foundation in core electronic engineering, with advanced topics in AI, digital systems, microelectronics, and communication technologies. Students will focus on their specialization from the third semester, with practical experience gained through projects, internships, or apprenticeships, integrating AI-driven solutions.

The M.Sc. in Electronics is also being revised to offer a more flexible curriculum with specializations in VLSI, Embedded Systems, Signal Processing, Communication Technologies, and AI. Students can exit after one year with a PG Degree or continue for the full two-year M.Sc., incorporating research projects and internships for real-world experience.

These programs emphasize interdisciplinary research, industry collaboration, and skill development, preparing students to lead in technology, research, and entrepreneurship in an ever-changing global landscape. The introduction of the Academic Bank of Credits (ABC) further enhances flexibility, enabling students to transfer credits across institutions and pursue diverse learning paths.

Ph.D Programme

The PhD Program in Electronics and its allied subjects is offered by the Department, which is recognized by the University for conducting research at the doctoral level. The program aims to facilitate high-quality research and provides a structured framework for the award of the PhD degree in compliance with the University Grants Commission (UGC) standards and University statutes. The Departmental Research Committee (DRC) plays a central role in overseeing and guiding the PhD program. It consolidates available research vacancies, reviews research synopses, ensures adherence to research ethics, and prescribes the syllabus for coursework. The committee also handles grievances and ensures that all aspects of the research program, from eligibility and admission procedures to supervision, evaluation, and award of the degree, follow the prescribed norms and procedures. Prominent and eligible teachers from other university departments and institutions are allowed as co- supervisors subject to the condition of having required qualifications, experience and expertise. To date, approximately, 50 PhDs and over 32 MPhils students graduated from the department, with 25 full-time PhD scholars currently enrolled. Research conducted by PhD and MPhil scholars covers a broad range of contemporary areas in electronics, focusing on communication systems, security and cryptography, image processing, VLSI, quantum computing, AI, IoT, and emerging materials for nanoelectronics.

Summary

| Currently Offered Programmes | Since | Intake | Pass outs |
|---|-------|---|--------------------|
| PhD and Integrated MPhil & PhD Programme | 2000 | Varies | 50 PhD 32 MPhil |
| Five-Year Integrated B.Sc M.Sc. Programme (FYIMP) in Electronics (with Al Minor) | 2024 | 20 in 1st, 10 in 7th & 5 in 9th semesters | - |
| M. Sc. Electronics | 1985 | 39 | 834 |
| M. Tech. Embedded Systems and Solutions being revised as M. Tech Electronic Engineering with specilizations in VLSI & Embedded Systems and Signal Processing and Communication | 2016 | 30 | 130 |
| Programmes Shifted to other University Departments | From | То | Pass outs |
| Post B. Sc. Diploma in Computer Applications | - | 2003 | 225 |
| B.Tech. Electronics and Communication Engineering | 2009 | 2017 | 195 |





Five-Year Integrated B.Sc. - M.Sc. Programme (FYIMP) in Electronics (with Al Minor) (A multi-entry, multi-exit programme with comprehensive Electronics and Artificial Intelligence curriculum)

The Five-Year Integrated Master's Programme in Electronics, aligned with NEP 2020, offers a flexible Multiple Entry Multiple Exit (MEME) structure. Students can enter at semesters 1, 7, or 9 and exit with qualifications ranging from a certificate to a Five-Year Integrated Master>s degree. Re-entry is allowed within three years after exit. The curriculum provides a strong foundation in core electronics and offers specializations in areas like VLSI, Communication, Signal Processing, Embedded Systems, Nanoelectronics, IoT, AI, and more. Skill-oriented and multidisciplinary courses foster practical industry skills, while ability enhancement courses improve communication, critical thinking, and problem-solving. Graduates are well-prepared for careers in industry, academia, or entrepreneurship, with opportunities in MNCs or starting their own ventures. This program equips students to become leaders in the evolving electronics field.

Features:

Flexible Learning Paths

Multi-entry, multi-exit structure with re-entry within three years, allowing students to earn qualifications at their own pace.

Strong Foundation:

Foundational courses provide a solid understanding for future success.

Hands-On Learning:

Emphasis on practical experience through internships, projects, and problem-based learning.

Industry-Relevant Skills:

Curriculum aligned with current industry trends, equipping students with in-demand skills.

Research-Oriented:

Prepares students for advanced studies or research careers.

Cutting-Edge Curriculum:

Continuously updated to reflect the latest advancements in electronics.

AI Edge:

Includes contemporary courses in computation and Artificial Intelligence.

Eligibility:

1st Year (Semester I) - Candidates who have Passed the 10+2 examination (Science Subjects) with a minimum of 45% marks in case of general category and 40% marks in case of reserved category candidates from the Jammu and Kashmir Board of School Education or from any other recognized board/institution whose examinations have been recognized as equivalent to that by the Jammu and Kashmir Board of School Education. 4th Year (Semester VII) - Threeyear Bachelors' Degree in Electronics from any recognized University under NEP 2020 with a minimum of 45% marks in case of general category and 40% marks in case of reserved category candidates. 5th Year (Semester IX) - Four-Year Honors' Degree in Electronics under NEP 2020 or B.E./B.Tech. in Electronics or equivalent with a minimum of 45% marks in case of general category and 40% marks in case of reserved category candidates.

Duration: 5 Years, (10-semester) having foundation, minor discipline, Multi-disciplinary, Ability Enhancement, Value Added and Skill Enhancement courses. The courses include internship, seminar presentations, minor and major projects, and research work.

Intake: 20 in 1st semester, 10 in 7th semester & 5 in 9th semester.



Entry/Exit Points & Credits Earned:

| Entry | Exit After | MINIMUM Credits Studied | | | | | | | Contificante / Dimlorent / Domino Augurdad | |
|-------|---------------|-------------------------|-------|------|------|------|------|-------|---|--|
| Year | | Major | Minor | MDCs | AECs | VACs | SECs | Total | Certificate/Diploma/Degree Awardea | |
| - | lst | 12 | 8 | 6 | 6 | 8 | 8 | 48 | Certificate in Electronics* | |
| | 2nd | 34 | 16 | 9 | 9 | 8 | 12 | 88 | Diploma in Electronics | |
| let | 3rd | 66 | 24 | 9 | 9 | 8 | 12 | 128 | Bachelor's Degree in Electronics | |
| 130 | 4th | 98 | 32 | 9 | 9 | 8 | 12 | 168 | Bachelor's Degree(Honours) with/without Research in Electronics | |
| | 5th | 142 | 32 | 9 | 9 | 8 | 12 | 212 | Five-Year Integrated Master's Degree in Electronics | |
| | 4th | 32 | 8 | - | _ | - | - | 40 | PG Diploma in Electronics | |
| 4th | 5th | 76 | 8 | - | - | - | - | 84 | Two Years Master's Degree in Electronics | |
| 5th | 5th | 44 | 0 | - | - | - | - | 44 | One Year Master's Degree in Electronics | |

*In addition, 4 credits in work based vocational courses offered during summer/winter term internship/apprentices have to be earned. Please note that the Major, Minor, MDCs, AECs, VACs, and SECs indicate Courses in the discipline of Electronics, minor discipline, Multi-disciplinary, Ability Enhancement, Value Added and Skill Enhancement respectively.

M. SC. ELECTRONICS

The M.Sc. Electronics Programme, launched by the University of Kashmir in 1985, aims to foster research and teaching in diverse electronics domains. Unlike traditional engineering or engineering technology programs, it bridges the gap between Science, Engineering, and Technology, focusing on research and development. The programme is designed to meet the growing demand for electronics professionals in R&D, teaching, and both public and private sectors. It provides a comprehensive understanding of contemporary electronics, emphasizing the design, simulation, and construction of electronic devices and systems, with flexibility for students to tailor their studies to their interests.

Features:

The M.Sc. Electronics program has been revised in line with NEP 2020 as a flexible multi-entry multi-exit program, with studentcentered curriculum that meets academic and industry needs. The revision introduces the Academic Bank of Credits (ABC), allowing students to transfer credits across institutions and tailor their studies to individual interests. Students can focus on areas such as VLSI, embedded systems, communication technologies, signal processing, and AI. Emphasizing research and interdisciplinary learning, the program fosters collaboration and advances in both theory and application. It also includes opportunities for skill development and industry apprenticeships.

Entry/Exit Points & Credits Earned:

| Entry Year | Exit After | Credits | Total Credits | Diploma/ Degree Awarded |
|---------------|---------------|---------|------------------|---|
| 1st | 1st | 40 | 40 | PG Diploma in Electronics |
| | 2nd | 40 | 80 | Two Years Master's Degree in Electronics |
| 2nd | 2nd | 44 | 44 | One Year Master's Degree in Electronics |

Eligibility:

1st Year (Semester I): Any Graduate having minimum of 12 credits in the subject of Electronics / Electronic Equipments and Maintenance (EEM)/Physics/Math/ Computer Science/ Information Technology, under CBCS / NEP 2020 Scheme **or** B. Sc. with following combinations: a) General English, Math, Electronics, Physics; b) General English, Physics, Mathematics, Electronic Equipment and Maintenance; c) General English, Mathematics, Electronics, Information Technology; d) General English, Mathematics, Physics, Information Technology; e) General English, Mathematics, Physics, Chemistry General English, Mathematics, Computer Application, Statistics; f) General English, Mathematics, Electronics, Statistics **or** B.E/B.Tech. /B.Sc. Engineering in Electrical Sciences (Electronics, E&C, Instrumentation)/Allied subjects.

Duration: 1 or 2 Years, (2/4-semester) having Seminar, Industrial Training, Research Project and specilizations in diverse fields of Electronics.

Intake: First Year: 32 (including 6 self-financed seats). Second Year - 10 (including 2 self-financed seats)

M. TECH. Embedded Systems and Solutions

The M.Tech. in Embedded Systems and Solutions (ESS) program focuses on developing expertise in application-specific embedded systems for devices such as household appliances, home automation, consumer electronics, ATMs, automobiles, and IoT. It aims to meet the increasing demand for skilled professionals in embedded system design and promote growth in Electronics System Design and Manufacturing (ESDM), in line with India's National Policy on Electronics. The M.Tech. ESS is a four-semester program, with the first three semesters dedicated to coursework and the fourth focusing on an industry internship or academic research culminating in a thesis. A preparatory 4-week term at the start of the program helps students build foundational skills in programming and electronic system design. The first semester includes foundational courses like embedded systems, micro controllers, digital system design, and wireless communication. In the second semester, students engage in an 8-week Winter Term that focuses on research methodology and presentation skills, while also covering advanced topics like embedded programming, ARM Cortex microcontrollers, FPGA Architectures and Multimedia Signal Processing. In the third semester, students select electives based on their interests and begin preparing for internships or research. The internship, lasting at least 18 weeks, occurs in the fourth semester and earns his/her 24 credits. Alternatively, students select a project or thesis topic, guided by a supervisor, which also earns him/her 24 credits. The preparatory term includes mandatory non-credit courses in Programming and Electronic System Design, both graded Pass/Fail.

Programme Highlights:

Eligibility: B.E./B. Tech./B.Sc. Engineering in Electrical Sciences (Electronics, Electrical, Instrumentation, Communications, Computer Sciences), M. Sc. Electronics, M. Sc. Information Technology, M. Sc. Computer Sciences, MCA with 55% marks for general category and 50% marks for reserved categories in the qualifying examination from this University or from any other university as equivalent thereto by this University.

Duration: 2 Years, (4-semester) having Preparatory Term, Winter Term and Internship/Thesis with emphasis on applied research and industry internship.

Minimum Credits to Earn: 104 Credits as 64 Core Credits, 40 Elective Credits. (52 Lab Credits), (24 Courses) excluding 18 Preparatory Term (PPT) Credits.

Total Credits Offered: Total: 172, (w64 Core, 108 Elective Credits), (36 Courses).

Intake: 38 (including 8 from outside state) reduced to 25 for AY 2018-19.

Revision Note:

The M.Tech. program is being revised and will be offered as M.Tech. in Electronic Engineering with two specializations: 1) VLSI and Embedded Systems, and 2) Signal Processing and Communication. The program will provide a strong foundation in core electronic engineering principles, with flexibility for advanced specialization in Al, embedded systems, and communication technologies. Students will build on topics like digital systems, microelectronics, communication systems, and AI fundamentals, deepening their understanding of modern electronics and Al-driven systems. From the third semester onward, students will focus on their chosen specialization. The VLSI and Embedded Systems specialization will cover advanced VLSI design, FPGA systems, ARM architecture, embedded software, SoC design, and AI algorithms for embedded systems. The Signal Processing and Communication specialization will explore advanced signal processing, wireless systems, digital modulation, error correction, and Al integration in communication networks. In the fourth semester, students will undertake a project, internship, or apprenticeship, applying their specialized knowledge to real-world challenges and exploring AI applications in their field. This revised structure ensures a comprehensive understanding of electronic engineering with a focus on emerging fields, preparing students for leadership roles in industry or academia in the rapidly evolving tech landscape.

Teaching Outcome

The department has well qualified and dedicated teachers who provide best subject knowledge to the students. Following are the teaching outcomes/ highlights:

- Produced 1465 pass outs (82 PhD & MPhil, 834 MSc, 130 MTech, 225 BTech, and 195 PGDCA) till date.
- Pass out students are employed in reputed companies and government organizations throughout the country.
- Pursuing Higher Education: 214 passouts of the department (MSc & MTech) have/are perused/ing higher studies (PhD/MTech) in prominent institutions within and outside the country (17 outside country), (54 outside state).
- Student Participation in Events: 37 PhD, 15 M.Phil scholars and 89 MTech students have attended 169 research events outside the state in the last 10 years and presented papers. Each final semester students of MSc and MTech programmes present a research/ review article in the University seminars, workshops and conferences.
- Competitive Examinations: In the last five years, more than 80 students qualified various examinations such as: NET(JRF), SET, GATE, CMAT, GRE, and IELTS. By virtue of these examinations, students have been able to get admissions/ appointments in institutions of international and national repute.

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PH.D. & M. PHIL. DEGREES AWARDED

| S. No. | Year of Award | Awardee Name | Topic, Supervisor(s) | Degree |
|-----------|------------------|-----------------------|---|--------|
| 1 | 2024 | Ishfaq Sultan | Design of Low Power on-chip Encryption Techniques for IOT Application, Prof. M. Tariq Banday and Dr. Nusrat Parveen | PhD |
| 2 | 2024 | Umhara Rasool | Design of a Meta-Material Inspired Circularly Polarized Antenna for Biomedical Applications, Dr. Javaid A. Sheikh and Dr. Bilal A. Malik | PhD |
| 3 | 2024 | Shazia Rashid | Design and Modeling of Efficient Tunneling Devices for Biosensing Applications, Dr. Farooq Ahmad Khanday and Dr. M. Rafiq Begih | PhD |
| 4 | 2024 | Hilal Ahmad Bhat | Design and Implementation of Efficient Spin Quantum Computing Arithmetic Circuits, Dr. Farooq Ahmad Khanday and Dr. Khursheed Ahmad Shah | PhD |
| 5 | 2024 | Shahid Ahmad Malik | Design and Implementation of Efficient Data Driven Decomposition Method Based Filtering Techniques for EGG De-noising, Dr. Shabir A. Parah, Dr. Bilal Ahmad Malik | PhD |
| 6 | 2023 | Altaf Ahmad Balkhi | Realization of Intelligent Hand off Techniques for Improved QOS in Mobile Communication, Dr. Javaid Ahmad Sheikh and Dr. G. M. Mir | PhD |

| 7 | 2023 | Shazia Ashraf | Design and implementation of low Profile and enhanced gain Millimetre wave Antenna Array for 5G applications, Dr. Javaid Ahmad Sheikh | PhD |
|----|------|-------------------------|---|-----|
| 8 | 2023 | Tawheeda Jan | Design and Implementation of Novel Image Forgery Detection and Prevention Techniques, Prof. M. Tariq Banday | PhD |
| 9 | 2023 | Parsa Sarosh | Design and Implementation of New Secret Sharing and Chaos theory-based Techniques for personal Health Record (PHR) Security, Dr. Shabir A. Parah, Dr. Bilal Ahmad Malik | PhD |
| 10 | 2023 | Muzamil Hassan | Development of Efficient Fragile Watermarking Techniques for Tamper Detection and Localization of Digital Images, Dr. Shabir A. Parah, Dr. G. Jeelani Qureshi | PhD |
| 11 | 2023 | Zaffer Iqbal Mir | Design and Development of Efficient Multirate Based Digital Communication Receivers, Dr. Javaid Ahmad Sheikh | PhD |
| 12 | 2023 | Shafiya Afzal Sheikh | Design of Novel Techniques for Securing Email System from Threats using Cryptographic and Filtering Methods, Prof. M. Tariq Banday | PhD |
| 13 | 2022 | Sumina Sidiq | Design and Development of Energy Efficient Signal Processing Techniques for Future Broadband Wireless Networks, Dr. Javaid Ahmad Sheikh and Dr. Bilal Ahmad Malik | PhD |

| 14 | 2022 | Zahid Ahmad Bhat | Design and Development of Efficient and Low-loss 26 – 40 GHz band mmWave Filters for 5G Networks, Dr. Javaid Ahmad Sheikh and Dr. Sharief ul din Khan | PhD | 20 | 2021 | Muzafar Gani |
|----|------|-------------------------|---|-----|----|------|--------------------------|
| 15 | 2022 | Farhana Mustafa | Design and Development of Efficient Resource Allocation Techniques for Milli-meter wave Based Massive MIMO Networks, Dr. Javid Ahmad Sheikh and Gh. Jeelani Qureshi | PhD | 21 | 2021 | Gul Faroz Ahmad Malik |
| 16 | 2022 | Solihah Gull | Development and Implementation of Novel Techniques for Authentication of Electronic Patient Record (EPR) for e-Health Applications, Dr. Shabir A. Parah | PhD | 22 | 2021 | Mubashir Ahmad |
| 17 | 2022 | Zaid Mohmmad Shah | Solid-state single component fractional-order capacitor: Modeling, Synthesis and analysis for circuit applications, Dr. Farooq Ahmad Khanday and Dr. Zahoor Ahmad Jhat | PhD | 23 | 2020 | Nasir Nabi Hurrah |
| 18 | 2022 | Aiman Jan | Design and Development of Steganographic and Chaotic Encryption Based Multi- Level Security Algorithms for Covert Communication, Dr. Shabir A. Parah, Dr. Bilal Ahmad Malik | PhD | 24 | 2020 | Aadil Tahir Shora |
| 19 | 2022 | Saima Mehraj | Design of Efficient Identity and Access Management Techniques for Cloud Computing, Prof. M. Tariq Banday and Dr. Majid Zaman Baba | PhD | 25 | 2020 | Javaid Ahma Kaw |
| | | | | | | | |

| 20 | 2021 | Muzafar Gani | Modelling and Performance Analysis of Magnetic Tunnel Junction Spintronic Devices using Graphene and Silicene 2D Materials with Application to Digital Computing, Dr. Shabir A. Parah, Dr. Khurshhed A. Shah | PhD |
|----|------|--------------------------|---|-----|
| 21 | 2021 | Gul Faroz Ahmad Malik | Modelling of Group III-V Compound Semiconductor Channel Material Based Multi-Gate Spin-Field Effect transistor for Circuit Applications, Dr. Farooq Ahmad Khandaya and Dr. Nusrat Parveen | PhD |
| 22 | 2021 | Mubashir Ahmad | Design and Modelling of Silicene Nanostructures Based High Performance Field Effect Transistor, Dr. Farooq Ahmad Khanday and Dr. Khursheed Ahmad Shah | PhD |
| 23 | 2020 | Nasir Nabi Hurrah | Design and implementation of secure and robust watermarking techniques for simultaneous image processing and geomatrical attacks., Dr. Shabir A. Parah and Dr. Javaid A. Sheikh | PhD |
| 24 | 2020 | Aadil Tahir Shora | Comprehensive Analytical Modelling and Characterization of Multigate Nanoscale Devices. Dr. Farooq A. Khanday | PhD |
| 25 | 2020 | Javaid Ahmad Kaw | Design Development and Implementation of Noval Data Hiding Algorithms. Prof. G. M Bhat and Dr. Shabir A. Parah | PhD |

| 26 | 2020 | Syed Umira Riyaz | Efficient Quantum Dot Cellular Automata(QCA) Design with Amplification in Secure Message Communication. Dr. M. Tariq Banday and Dr. M. Rafiq A. Beigh | PhD |
|----|------|---------------------|---|-----|
| 27 | 2019 | Nazir Ahmad Loan | Design, Development and Implementation of Robust Image Watermarking Techniques for Copyright Protection. Dr. Shabir A. Parah and Dr. Javaid A. Sheikh | PhD |
| 28 | 2019 | Ms. Uzma Manzoor | Performance Evaluation and Channel Characterization of MIMO OFDM Communication. Prof. G. M. Bhat | PhD |
| 29 | 2019 | Sakeena Akhter | Design of New Techniques for Low BER Speech Coding in Wireless environment with Special reference to 5G Networks. Dr. Javaid A. Sheikh and Dr. Shabir A. Parah | PhD |
| 30 | 2018 | Mehboob ul Amin | Design Analysis and Implementation Techniques for Interference Mitigation and Pre -Coding in 4G LTE. Dr. Javaid A. Sheikh and Dr. Shabir A. Parah | PhD |
| 31 | 2018 | Ab. Mueed Hafiz | Noval Techniques for Recognition of Handwritten text with Special Reference to Arabic Language. Prof. G. M. Bhat | PhD |
| 32 | 2017 | Nasir Ali Kant | Reconfigurable low voltage Analog Realization of Neural Networks. Dr. Farooq A. Khanday | PhD |

| 33 | 2017 | Firdous Ahmad | Design and Implementation of Quantum Dot Cellular automata Based Noval Logic Circuits. Prof. G.M. Bhat | PhD |
|----|------|-------------------------|---|-------|
| 34 | 2017 | M. Rafiq Dar | Design of Low Voltage Reconfigurable Fractional Order Networks. Dr. Farooq A. Khanday | PhD |
| 35 | 2017 | Jahangir A. Akhoon | Study of Image Steganographic Techniques for Covert Communication. Dr. Shabir Parah and Dr. Javaid A. Sheikh | MPhil |
| 36 | 2017 | Asma Nazir Naqash | Non-Invasive Glucose Monitoring Technology for Di agnosis of Diabetes. Prof. G. M Bhat and Dr. Bilal A. Malik | MPhil |
| 37 | 2016 | A. H. Moon | Improving Authentication and Data Integrity Techniques and Protocols for Security of Data Acquisition in Wireless Sensor Networks. Prof. G. M. Bhat | PhD |
| 38 | 2016 | Javeed lqbal Reshi | Realisation of Efficient Quantum Dot Cellular Automata Based Digital Architectures. Prof. M. Tariq Banday | PhD |
| 39 | 2016 | Syed Umira Reyaz | Study and Performance Evaluation of MEMS based Structures. Prof. M. Tariq Banday and Dr. Sheikh Aijaz Bashir | MPhil |
| 40 | 2016 | Reyaz Ahmad Methangi | A Comparative Study of the Methods for Detection and Prevention of IP Address Spoofing. Prof. M. Tariq Banday and Sheikh Aijaz Bashir | MPhil |
| 41 | 2016 | Farooq Adil | Study of C-Mos Frequency Synthesizer in Wireless Communication. Prof. M. Tariq Banday and Dr. Sheikh Aijaz Bashir | MPhil |

| 42 | 2016 | Zubair Ahmad Bangi | Fault Tolerant Quantum Dot Cellular Automata (QCA) Design of Digital Structures. Prof. G. M. Bhat | MPhil |
|----|------|-----------------------|--|-------|
| 43 | 2016 | Sakeena Akhter | Study of Various Speech Compression Techniques for Cellular Communication. Dr. Javaid A Sheikh and Dr. Shabir A. Parah | MPhil |
| 44 | 2016 | Jaipreet K. Wazir | Study of Sample Rate Converter for Communication Application. Dr. Javaid A. Sheikh | MPhil |
| 45 | 2016 | Farhana Ahad | Study of Digital Watermarking Techniques for E -healthcare Systems. Dr . Shabir A. Parah | MPhil |
| 46 | 2016 | lmran Nazir Beigh | Beigh Ultra-Low Voltage Programmable Circuit Design for Bio -Medical Application. Dr. Farooq A. Khanday | MPhil |
| 47 | 2015 | M. Rafiq Beigh | Quantum Dot Cellular Automata Modelling Logic Design and Applications. Prof. M. Mustaffa | PhD |
| 48 | 2015 | Shafiya Afzal | Design and Implementation of Efficient Spam Control Techniques for E -mail Security. Prof. M.Tariq Banday | MPhil |
| 49 | 2015 | Tawheed Jan | Study of Various Image Compression Techniques. Prof. M. Tariq Banday and Dr. Sheikh Ajaiz Bashir | MPhil |
| 50 | 2014 | Firdous Ahmad | Digital Logic Design in Quantum Dot Cellular Automata (QCA) with Specific Application to Digital Communication Circuits. Prof. M. Mustafa | MPhil |
| 51 | 2014 | Imran Yaseen | Realization of analog and digital structures using FINFET. Prof. N. A. Shah | MPhil |

| 52 | 2014 | Nasir Ali Kant | Study of Low Power, Low Voltage Analog Realisation of Programmable Cellular Neutral Network. Prof. N. A. Shah | MPhil |
|----|------|-----------------------|--|-------|
| 53 | 2013 | Shabir A. Parah | Design, Development and Implementation of Reliable and Efficient Image Processing Techniques. Prof. G. M. Bhat | PhD |
| 54 | 2013 | Farooq A. Khanday | Realization of Integrable Low Vo Itage Companding Filters for Portable System Applications. Prof. N. A. Shah | PhD |
| 55 | 2012 | Javaid A. Sheikh | Design and Development of Code Division Multiple Access (CDMA) Technique for Various Communication and Signal Processing Applications. Prof. G. M. Bhat | PhD |
| 56 | 2012 | Sheikh A. Bashir | On the Realization of Continuous time filters and Oscillators using current differencing buffered amplifier. Prof. N . A. Shah | PhD |
| 57 | 2012 | M. Rafiq Beigh | Investigating Quantum devices for Advanced Nano electronic Technology using Quantum Dot Cellular Automata (QCA). Prof. M. Mustafa | MPhil |
| 58 | 2012 | Javeed Iqbal Reshi | Implementation of Quantum Dot cellular Automata (QCA) for efficient digital structures. Prof. N. A. Shah | MPhil |
| 59 | 2012 | Tawseef A. Bhat | Simulation of FINFET Structures. Prof . M. Mustafa | MPhil |
| 60 | 2011 | M. Tariq Banday | Design & Development of Efficient Techniques for Securing E -mail System from Threats. Prof N. A. Shah | PhD |

| 61 | 2011 | Faisal Bashir | Some Applications of Switched Current Circuits. Prof. N. A. Shah | MPhil |
|----|------|-----------------------|--|-------|
| 62 | 2010 | G. Mohammad Mir | Realization of QoS for Wireless Mobile Networks Using Fuzzy Logic. Prof. N . A. Shah | PhD |
| 63 | 2010 | Farooq A. Khanday | Study of Log-Domain Multi- Function Filters (2010). Prof. N. A. Shah | MPhil |
| 64 | 2010 | Nusrat Parveen | On the Realization of Log- Domain Filters. Prof. N. A. Shah | PhD |
| 65 | 2010 | Shabir A.Parah | Implementation of Some Signal Processing Algorithms Using Embedded Technology. Prof G. M. Bhat and Prof . M. Mustafa | MPhil |
| 66 | 2009 | Munazah Qadri | Current Differencing Trans- Conductance Amplifier & its Applications in the Realiz ation of Continuous Time Filters. Prof. N. A Shah | PhD |
| 67 | 2008 | Asifa Mehraj Baba | Design, Development & Computer Simulation of Artificial Neural Networks for Signal Processing Application. Prof . G. M. Bhat | PhD |
| 68 | 2008 | M. Tariq Banday | On the Design & Implementation of Efficient & Fast Network Protocols. Prof. N. A. Shah | MPhil |
| 69 | 2008 | Javid A. Sheikh | Reliable & Secure Data Transmission Using Microcontrollers & Advanced Digital Logic Techniques. Prof. G. M. Bhat | MPhil |
| 70 | 2007 | Feroz A. Mir | Design & Development of Novel Techniques for Low Cost, Efficient & Secure Message Communication. Prof . G. M. Bhat | PhD |
| 71 | 2007 | M. Farooq Rather | Realization of Some Continuous time Circuits Employing Different Active Circuit Building Blocks. Prof. N . A. Shah | PhD |

| | 72 | 2007 | Shubana Ali | Secure & Reliable Data Communication over Mobile Radio Fading Channels. Prof G. M. Bhat and Prof. M. Mustafa | MPhil |
|---|----|------|----------------------|--|-------|
| | 73 | 2005 | M. Amin Malik | Realization of Filter Characteristics using Four Terminal Floating Nullor. Prof. N A. Shah | PhD |
| | 74 | 2005 | Syed Zaffar Iqbal | Realization of Continuous Time Filters & Oscillators Based on Single or Multiple Sources, Prof. N. A. Shah | PhD |
| | 75 | 2005 | Nayeema Akhtar | Secure and Reliable Data Communication over a Computer Network . Prof. G. M. Bhat | MPhil |
| | 76 | 2005 | Nusrat Parveen | Computer Simulation of Secure Data Communication over Cellular Mobile Radio Fading Channels. Prof. G. M. Bhat | MPhil |
| • | 77 | 2005 | Farhat Roohi | Study of High Capacity Associative Memory Using Fuzzy Approach. Prof. N A. Shah | MPhil |
| | 78 | 2005 | Zaffar Hussain | Secure Message Communication Over Computer Networks Based on Software Techniques. Prof. G. M. Bhat | MPhil |
| | 79 | 2004 | Firdous A. Bhat | Computer Aided Design of Metal Oxide Semiconductor Devices. Pro.f M. Mustafa | MPhil |
| | 80 | 2004 | Feroz Ahmad Mir | Design & Development of Novel Spread Spectrum Modulation Tec hniques for Efficient & Secure Message Communication. Prof. G. M. Bhat | MPhil |
| | 81 | 2004 | Khurshid A. Shah | Punch Through Currents in PNP and NPN Structures. Prof. M Mustafa | MPhil |
| | 82 | 2002 | Syed Zaffar Iqbal | Realization of Filters Using OTAs. Prof. N A. Shah | MPhil |

Information and Placement Brochure 2025 4]

TOPICS OF CURRENTLY ENROLLED PHD SCHOLAR

Design and Realization of Light-Weight Cryptographic Techniques for Internet of things (IoT), Prof. M. Tariq Banday

Ashaq Hussain Dar (2016)



Design and Development of Intelligent Load Balancing Algorithms for Management of IOT Devices in Smart Cities, Prof. M. Tariq Banday and Dr. Bilal Ahmad Malik

Safia Gul (2017)

On the Design and Realization of Interference Mitigation Techniques in Cognitive Radio Based 5G Networks, Dr. Javaid A. Sheikh and Dr. Bilal A. Malik

Subba Amin (2017)

Design of Portable Multi-Site Bio-Impedance Measurement Device, Dr. Farooq A. Khanday and Dr. M. Rafiq Beigh

Insha Showkat (2020)







Design and Implementation of Predictive Big Data Model for Healthcare Application, Prof. M. Tariq Banday and Dr. Nusrat Parveen

Abdul Wahid (2017)



Design of Optimized Techniques for Reliable Acquisition Analysis of Persistent and Volatile Digital Forensic Evidence, Prof. M. Tariq Banday and Dr. M. Rafiq Beigh

Mariya Shafat Kirmani (2017)

Design of Efficient Lightweight Symmetric Encryption Algorithms for the Internet of Thingsand, Prof. M. Tariq Banday and Dr. M. Rafiq Beigh

Mir Nazis (2020)

Design and Optimization of Ferroelectric Device as a Spiking Neuron for Image Classification, Dr. Farooq A. Khanday and Dr. Bilal Ahmad Malik

Sameena Shah (2020)







Design of Efficient Image Restoration Algorithms Utilizing Bright and Dark Channel Priors, Dr. Shabir A. Parah and Dr. Khurshed A. Shah

Sheezan Fayaz (2020)



Development of Efficient Compressed Domain Data Embedding Algorithms for Ownership Verification of Images, Dr. Shabir A. Parah and Dr. M. Rafiq Beigh

Samrah Mehraj (2021)

Design of Energy-Efficient Neuron Devices and Circuits for Spiking Neural Networks, Dr. Farooq A. Khanday

Mudasir Ahmad Khanday (2021)

Design and Development of an Intelligent Model for Detection and Mitigation of Artificial Intelligence Enabled Cyberterrorism, Prof. M. Tariq Banday

Zahrah Ayub (2023)







Design of Deep Learning Algorithms for Speech Separation and its Implementation in Speech Recognition Devices, Dr. Javaid A. Sheikh and Dr. G. J. Qureshi

Jai Preet Kour Wazir (2020)

Design and Implementation of robust audio watermarking algorithms employing data driven techniques, Dr. Shabir A. Parah and Dr. G. J. Qureshi

Subreena Mushtaq (2021)

Design and Performance Analysis of Silicene Nanostructure Based Optoelectronic Devices, Dr. Javaid A. Sheikh and Khurshed A. Shah

Asma Nazir Naqash (2022)







Design and Development of Optimized Machine Learning Models for Alzheimer's Disease Detection, Dr. Shabir A. Parah

Ubaid Farooq Gada (2023)



Design and Development of Blockmarking Model using Deep Learning for Tamper Detection and Authentication, Dr. Javaid A. Sheikh

Iram Abrar (2023)

Area: Antennas for 5G Applications, Dr. Javaid A. Sheikh

Nareen Jan (2024)

Area: Genomics and Epigenomics Data Analysis, Dr. Javaid A. Sheikh

Sameer Mushtaq Tantray (2024)

Area: Internet of Things, Prof. M. Tariq Banday

Faqr un Nissa (2024)



Area: VLSI Design, Dr. Farooq A. Khanday

Farhana Mushtaq (2024)

Area: Antennas for 5G Applications, Dr. Javaid A. Sheikh

Gulzar Ahmad Ganie (2024)

Area: Image Processing, Dr. Shabir A. Parah

Munzah Lyle (2024)

Area: Artificial Intelligence, Prof. M. Tariq Banday

Umar Bashir (2024)

Area: In-sensor Computing, Dr. Farooq A. Khanday

Insha Syed (2024)













TRAINING ORGANIZED FOR STUDENTS OUTSIDE THE STATE (SINCE 2012)

| Year | Institution and Title of Training | In-charge | Participants |
|------|---|--|---------------|
| 2024 | NITTTR Chandigarh, IoT, 3D Printing and Antennas | Dr. Javaid A. Sheikh | 28 (M. Sc) |
| 2023 | NITTTR Chandigarh, loT and Networking | Dr. Shabir A. Parah | 12 (M.Sc) |
| 2022 | ALTTC, Ghaziabad, Artificial Intelligence, 5G, IoT and Cellular Communications | Dr. Farooq A. Khanday | 23 (M. Sc) |
| 2021 | ALTTC, Ghaziabad, Artificial Intelligence, IoT and Cellular Communications | Dr. Javaid A. Sheikh | 25 (M. Sc) |
| 2019 | NITTTR Chandigarh, loT and Networking | Dr. Shabir A. Parah & Dr. Javaid A. Sheikh | 28 (M.Sc) |
| 2018 | ALTTC, Ghaziabad, UP, Network and Cyber Security | Dr. Farooq A. Khanday | 28 (M. Sc.) |
| 2017 | DRBRAITT, Jabalpur, Network Security, GSM, 3G, 4G and RF. | Dr. Javaid A. Sheikh | 33 (B. Tech.) |
| 2017 | RTTC, Rajpora, Patiala Punjab, GSM, Broadband Technology and Optic Fibre Communication | Dr. Farooq A. Khanday | 37 (M. Sc.) |
| 2017 | DRBRAITT, Jabalpur, Network Security, GSM, 3G, 4G and RF. | Dr. Javaid A. Sheikh | 33 (B. Tech.) |

| Year | Institution and Title of Training | In-charge | Participants |
|-------------|--|-------------------------|---------------|
| 2016 | DRBRAITT, Jabalpur, Network Security, GSM, 3G, 4G and RF. | Dr. Javaid A. Sheikh | 36 (B. Tech.) |
| 2016 | DRBRAITT, Jabalpur, Network Security, GSM, 3G, 4G and RF. | Dr. Shabir A. Parah | 36 (M. Sc.) |
| 2015 | DRBRAITT, Jabalpur, Network Security, GSM, 3G, 4G and RF. | Dr. Shabir A. Parah | 30 (M. Sc.) |
| 2014 | DRBRAITT, Jabalpur, Network Security, GSM, 3G, 4G and RF. | Dr. Javaid A. Sheikh | 33 (B. Tech.) |
| 2014 | DRBRAITT, Jabalpur, Network Planning and Optimization. | Dr. Javaid A. Sheikh | 66 (B. Tech.) |
| 2014 | NITTR, Chandigarh, 3G Comm. and Digital Signal Processing. | Dr. Shabir A. Parah | 22 (M. Sc.) |
| 2013 | AMU, Aligarh, VLSI and Signal Processing. | Dr. Shabir A. Parah | 25 (M. Sc.) |
| 2012 | DRBRAITT, Jabalpur, Network Planning, Mobile Communication and RF. | Dr. Javaid A. Sheikh | 32 (B. Tech.) |
| 2012- 18 | BSNL& Others, Different Titles in Networking, Communication and Security. | Individually | 34 (M.Sc.) |

SCHOLARSHIPS

Students and Ph.D. scholars of the Department, have received scholarships and fellowships under various state and national schemes, including:

- Inspire Ph.D. Fellowship from the Department of Science and Technology (DST), Government of India
- Visvesvaraya Ph.D. Fellowship from the Ministry of Electronics and Information Technology (MeitY), Government of India
- GATE Scholarships from the University Grants Commission (UGC), Government of India
- Minority Scholarships from the Department of Social Welfare, J&K
- Merit Scholarships from the University of Kashmir
- **Ph.D. Scholarships** from the University of Kashmir
- MANUF Scholarships
- Women's WOS Fellowship
- UGC Junior Research Fellowship (JRF) and Senior Research Fellowship (SRF)

Additionally, many scholars are receiving JRF and SRF under various research projects sanctioned to the faculty members of the department by organizations such as DST, MeitY, and UGC.

EXTRA-CURRICULAR ACTIVITIES

The department besides the curriculum activities regularly organize co-curricular activities. These include:

- Fresher and Farewell parties to students
- Picnics and Excursions
- Outreach programmes
- Quizzes, Debates
- Award Distributions, etc.

The department also participates in the sports activities organized by the University within and outside the state. During the last five years, the department has won:

- In 2024, the department reached to the finals of Women's Volleyball tournament from Directorate of Physical Education, University of Kashmir.
- From 2019-2024, qualified the knock rounds of the cricket tournaments from Directorate of Physical Education, University of Kashmir.
- From 2019-2024, Students from the department were selected for several inter-university sports tournaments organized by the Directorate of Physical Education, University of Kashmir.
- From 2019-2024, Students participated in several winter sports events organized by the Directorate of Physical Education, University of Kashmir.
- From 2019-2024, Students participated in several personality development events organized by DSW, University of Kashmir.
- Cricket Award 2015: Won Winner up Award in Cricket from Directorate of Physical Education, University of Kashmir of the year 2015.
- Football Award 2013 and 2015: Winner up Award in Football From Directorate of Physical Education, University of Kashmir of the Years 2013 and 2015.
- Various alumni meets were organized.
- Awards distribution events were organized for student's achievements.

RESEARCH PUBLICATIONS

The faculty members of the Department are actively engaged in high-level research across several contemporary fields of Electronics. They have published a significant number of research papers in prestigious national and international journals and conference proceedings. Since 2013, their contributions include approximately 700 full-length publications in renowned journals, conference proceedings, and books, along with over 200 seminar presentations. These publications have had a significant impact, with SCI impact factors reaching as high as 20. Additionally, the faculty members have edited 16 books. Overall, the department's research publications since its inception exceeds 1,500.



TOP PUBLICATIONS (IN LAST 5 YEARS)

Prof. M. Tariq Banday

Nazish, M., Javid, M. & Banday, M.T. (2025), Enhanced logistic map with infinite chaos and its applicability in lightweight and highspeed pseudo-random bit generation. Cybersecurity, 8:24. doi: 10.1186/s42400-024-00319-4. IF (2023): 4.0

Nazish, M., Banday M.T. (2024). "A Novel Fibonacci-Sequence-based Chaotification Model for Enhancing Chaos in One-Dimensional Maps", IEEE Internet Things J., vol. 11, no. 24, pp. 40268–40277, Dec. 2024, doi: 10.1109/JIOT.2024.3450547. IF (2023): 10.6

Sultan, I., Lone, M.Y., Mir-Nazish., Banday, M. T. (2023), A Secure Key Expansion Algorithm for PRESENT, IEEE Sensors Journal, doi: 10.1109/JSEN.2023.3267386. IF (2023): 4.3

Mir-Nazish, Banday M. Tariq, Syed Insha, Banday Sheena. (2023), An Efficient Permutation Approach for SbPN-based Symmetric Block Ciphers, Cybersecurity, 6:42, doi: 10.1186/s42400-023-00174-9. IF (2023): 4.0

Mehraj, S., Banday, M.T. (2021). A Flexible Fine-Grained Dynamic Access Control Approach for Cloud Computing Environment. Cluster Computing, 24, 1413–1434, doi: 10.1007/s10586-020-03196-x. IF(2023): 3.6

Dr Farooq A. Khanday

Aabid Amiu Fida, F. A. Khanday, Sparsh Mittal, (2023), An Active Memtistot based Ratc-Coded Spiking Ncural Network, Neuroocomputing, vol. 533, pp. 61-71, May 2023. DOI: https://doi.org/10.1016/j.neucom.2023.02.038. IF (2023): 5.5

Shazia Rashid, Faisal Bashir, F. A. Khanday and M. Rafiq Beigh (2023), Dielectrically Modulated III-V Compound Semiconductor based Pocket doped Tunnel FET for Label Free Biosensing Applications, IEEE Transactions on NanoBioscience, Vol. 22(1), pp. 192–198, 2023. DOI: 10.1109/TNB.2022.3178763. IF(2023): 3.9

Mudasir Ahmad Khanday, Faisal Bashir and F. A. Khanday, (2022), Single Germanium MOSFET-Based Low Energy and Controllable Leaky Integrate-and-Fire Neuron for Spiking Neural Networks, IEEE Transactions on Electron Devices, Vol. 69 (08), pp. 4265–4270, Aug. 2022. DOI: 10.1109/TED.2022.3186274. IF(2023): 2.9

Z. M. Shah and F. A. Khanday, (2021), Analysis of Disordered Dynamics in Polymer Nanocomposite Dielectrics for the Realization of Fractional-Order Capacitor, IEEE Transactions on Dielectrics and Electrical Insulation, 28(1): 266-273, 2020. DOI: 10.1109/TDEI.2020.008943. IF(2023): 2.9

F. A. Khanday, N. A. Kant, M. R. Dar, T. Z. A. Zulkifli and C. Psychalinos, (2019), Low-Voltage Low-Power Integrable CMOS Circuit Implementation of Integer- and Fractional-Order FitzHugh-Nagumo Neuron Model, IEEE Transactions on Neural Networks and Learning Systems, Vol. 30(07), pp. 2108-2122, July 2019. DOI: 10.1109/TNNLS.2018.2877454. IF(2023): 10.2



Dr Shabir Ahmad Parah

S. Fayaz, S. A. Parah, G. J. Qureshi, J. Lloret, and K. Muhammad, (2024), Intelligent Underwater Object Detection and Image Restoration for Autonomous Underwater Vehicles, IEEE Transactions on Vehicular Technology, vol. 73(2):1726-1735, Feb. 2024, doi: 10.1109/ TVT.2023.3318629. IF(2023): 6.1

P. Sarosh, S. A. Parah, B. A. Malik, M. Hijji and K. Muhammad, (2023), Real-Time Medical Data Security Solution for Smart Healthcare, IEEE Transactions on Industrial Informatics, 19(7): 8137-8147, doi: 10.1109/TII.2022.3217039. IF(2023): 11.7

N. N. Hurrah, Shabir A. Parah, et al., (2021), INDFORG: Industrial Forgery Detection Using Automatic Rotation Angle Detection and Correction, IEEE Transactions on Industrial Informatics, 17(5):3630-3639, doi: 10.1109/TII.2020.3014158. IF(2023): 11.7

A. Kamili, N. N. Hurrah, S. A. Parah, G. M. Bhat and K. Muhammad, (2021), DWFCAT: Dual Watermarking Framework for Industrial Image Authentication and Tamper Localization, IEEE Transactions on Industrial Informatics, 17(7):5108-5117, doi: 10.1109/TII.2020.3028612. IF(2023): 11.7

Javaid A. Kaw, N. A. Loan, Ahabir A. Parah, K. Muhammad, Javaid A. Sheikh, G.M. Bhat, (2019), A reversible and secure patient information hiding system for IoT-driven, e-health", International Journal of Information Management, vol. 45, pp. 262-275, 2019, DOI: 10.1016/j.ijinfomgt.2018.09.008. IF (2023): 20.1

Dr Javaid Ahmad Skeikh

Umhara Rasool, Javaid A. Sheikh, Aqib Junaid, Shazia Ashraf, Altaf A. Balkhi, (2025), A Machine learning driven Computationally efficient Horse Shoe shaped antenna Design for Internet of Medical Things, PLOS One, vol. 20, no. 2, pp. 1-20, 2025, DOI: 10.1371/journal.pone.0305203. IF (2023): 2.9

Javaid A. Shiekh, Ishfaq Bashir Sofi, Zahid A. Bhat, Shabir A. Parah, (2023), ESEIABS: Energy and spectrum efficient hybrid technique for 5G and beyond networks using interference aware beam selection, ICT Express, ISSN 2405-9595. IF (2023): 4.1

Subba Amin, Javaid A. Sheikh, Mehboob-ul-Amin, Bilal A. Malik, (2023), A deep Reinforcement Learning for energy efficient resource allocation Intelligent Reflecting Surface (IRS) driven Non-Orthogonal Multiple Access Beamforming (NOMA-BF), Physical Communication, 102148, ISSN1874-4907, DOI: 10.1016/j.phycom.2023.102148. IF (2023): 2

Sumina Sidiq, Javaid Ahmad Sheikh, F. Mustafa, B. A. Malik, (2022), A new method of hybrid optimization of small cell range development and density for energy efficient ultra-dense networks, Transactions on Emerging Telecommunication Technologies. 2022; e4476. DOI: 10.1002/ ett.447. IF (2023): 2.5

Khan, U. R., Sheikh, J. A., Junaid, A., Amin, R., Ashraf, S., and Ahmed, S., (2022), Design of a Compact Hybrid Moore's Fractal Inspired Wearable Antenna for IoT Enabled Bio-Telemetry in Diagnostic Health Monitoring System, IEEE Access, 10: 116129–116140, DOI:10.1109/ACCESS.2022.3219442. IF (2023): 3.4





RESEARCH SCHEMES AND PROJECTS

The Department has successfully implemented several significant research schemes and projects aimed at enhancing its infrastructure and research capabilities.

Under the FIST Scheme of DST, the department secured funding to augment its laboratories with advanced test and measuring equipment, including digital storage oscilloscopes and function generators. This initiative, combined with additional grants from the Dean College Development Council, enabled the introduction of the first engineering program in the University of Kashmir in 2009 and the development of research facilities.

The Visvesvaraya PhD Scheme of MEITY provided financial support for research scholars and significantly improved the department's research infrastructure. With funding of over Rs. 1 crore, the scheme supported the PhD program and explored contemporary areas of electronics research.

Through the Special Assistance Program (SAP) of the UGC, the department was granted Rs. 75 lacs to enhance research and teaching capabilities. This funding facilitated the introduction of the M.Tech. program in Embedded Systems and Solutions

and led to the acquisition of high-end tools such as Cadence Virtuoso and Matlab.

The department also gained access to a range of EDA tools under the C2S Programme at the ChipIN Centre, providing state-ofthe-art resources for integrated circuit and embedded system design, enhancing both student and researcher development.

The faculty members have successfully completed a total of 12 research projects, funded by various agencies such as UGC, DST, and MeitY. These projects span diverse areas including cryptog-raphy, circuit design, IoT security, antennas, and communication systems. Currently, there are 2 ongoing research projects focus on cutting-edge areas like antenna design, signal processing, water-marking for intellectual property protection, machine learning for breast cancer detection, and energy-efficient designs for IoT and 5G networks. Additionally, the Department has submitted 12 new project proposals to various funding agencies, including MeitY and DST, covering emerging fields such as Fractional-order system design, Energy Efficient Neuromorphic hardware design, IoT security, artificial intelligence for healthcare, and wearable sensors.

RESEARCH AND INFRASTRUCTURE AUGMENTATION SCHEMES

- Visvesvaraya PhD Scheme of Ministry of Electronics and Information Technology
 - Amount: Rs. 72.616 Lacs (2024-2029), Rs. 100.826 Lacs (2015-2020), Rs. 76.724 Lacs (2022-2027), Rs. 145.232 Lacs (2023-2028)
 - Nodal Officer: Prof. M. Tariq Banday
- Special Assistance Program (SAP) of University Grants Commission
 - Amount: Rs 75.00 Lacs from 2013 2018
 - **Coordinator:** Prof. M. Tariq Banday

- FIST, Department of Science and Technology
 - Amount: Rs.20.00 Lacs
 - Coordinator: Prof N. A. Shah
 - Amount: 105 Lacs (2021-2025)
 - Coordinator: Prof. M. Tariq Banday
- EDA (Electronic Design Automation) Tools under the C2S Programme at the ChipIN Centre
 - Nodal Officer: Dr. Farooq Ahmad Khanday

INDIVIDUAL RESEARCH PROJECTS (Ongoing & Completed)

| Period | Title of project and period | Total outlay and Funding Agency | Principal Investigator(s) | Status |
|------------|---|---|--|-----------|
| 2023-2025 | Design and Development of Three-Dimensional Flexible Antenna Array for Wearable Electromagnetic Head Imaging System for Stroke Detection | 10,00,000/- JK Science Technology and Innovation Council, JK | Dr. Javaid A. Sheikh | Ongoing |
| 2020-2023 | Design and Implementation of Novel Hybrid Watermarking Algorithms for copyright protection of Cultural Artefacts, with Special Reference to IPR Protection of Kashmiri Folk Songs and Heritage Imagery | Rs. 57,00,000/- DST, Gol | Dr. Shabir A. Parah Dr. Kaiser J. Geeri (IUST) Dr Javaid A. Sheikh | Ongoing |
| 2022-2024 | Development of Lightweight security Algorithms for IoMT based smart health applications | Rs. 5,79,697/- JK Science Technology and innovation Council, JK | Dr. Shabir A. Parah Dr. Bilal A. Malik | Completed |
| 2022-2024 | Early detection and efficient prevention of breast cancer using machine learning techniques. | Rs. 3,39,000/-JK Science Technology and innovation Council, JK | Dr. Bilal A. Malik Dr. Shabir A. Parah | Completed |
| 2019-2024 | Design and Development of Energy Efficient Millimeter Wave Antennas for IoT and 5G Networks. | Rs. 62,84,000/- ICPS,DST,GoI | Dr. Javaid A. Sheikh, Dr. Shabir A. Parah, Prof. G. M. Bhat | Completed |
| 2018-2020 | Algorithm and Service Design For Indian Regional Language CAPTCHA Challenges | Rs. 28,395,00/- DST,Gol | Prof. M. Tariq Banday | Completed |
| 2017-2020 | Design of low power, low resource cryptographic procedures for IoT security control | Rs. 47,50,000/- MeitY, Gol | Prof. M. Tariq Banday | Completed |
| 2017-2020 | Development of Integrable Electronically Tunable Fractional Order Capacitance (Fractance) and its Applications | Rs. 54,00,000/- DST , Gol | Dr. Farooq A. Khanday | Completed |
| 2013-2015 | Design Development and Field Programmable Gate Array Implementation Of Novel Cryptographic Technique | Rs. 2,00,000/- UGC, Gol | Dr. Shabir A. Parah | Completed |
| 2013-2015 | Design, Realization and Implementation of CDMA based Multicarrier Multi-user Communication | Rs. 2,00,000/- UGC, Gol | Dr. Javaid A. Sheikh | Completed |
| 2013 -2015 | Realization of Low Voltage Switched Current Circuits Amenable for IC form | Rs. 2,00,000/ - UGC, Gol | Dr. Farooq A. Khanday | Completed |
| 2012 -2015 | Design and Development of New E-mail Security Protocols and Forensic Tools | Rs. 11,27,000/- UGC, Gol | Prof. M. Tariq Banday | Completed |
| 2012 -2015 | Development Of Lowe Voltage Companding Filters and Their Implementation in IC form | Rs. 9,30,800/- UGC, Gol | Dr. Farooq A. Khanday | Completed |
| 2002-2005 | Development of Continuous Time Circuits Using Active Sources | Rs. 4,18,000/- UGC, Gol | Prof. N. A Shah | Completed |
| 2002-2005 | Design and Development of Novel Electronic Circuits For Secure Message Communication | Rs. 4,18,000/- UGC, Gol | Prof. G. M Bhat | Completed |

Projects Submitted

| S. No. | Title of Project and Period | Funding Agency | Total Outlay | Principal Investigator(s) | Status |
|--------|---|--|-------------------|------------------------------|-----------|
| 1. | Design of Lightweight and Low-Latency Digital Signature Scheme for the Internet of Things Devices | MeitY, Government of India | Rs. 117.5208 Lacs | Prof. M. Tariq Banday | Submitted |
| 2. | Design of Hardware Oriented Low Power Lightweight Cryptographic Solutions for the Internet of Things | SERB-DST, Government of India | Rs. 139.8420 Lacs | Prof. M. Tariq Banday | Submitted |
| 3. | Design of Artificial Intelligence of Things Device for Predicting and Classifying Neurological Disorders | MeitY, Government of India | Rs.116.0208 Lacs | Prof. M. Tariq Banday | Submitted |
| 4. | Design of Fault Tolerant System with Nano Cluster Management and Redundancy in Internet of Nano Things for Nuclear Reactor Application | Bharat5glabs Telecommunications Consultants India Limited | Rs. 93.98760 Lacs | Prof. M. Tariq Banday | Submitted |
| 5. | Design and Development of a Forensic-Inspired AI Model for Robust Deepfake Detection | MeitY, Government of India | Rs.101.0208 Lac | Prof. M. Tariq Banday | Submitted |
| 6. | A Low-Cost Standalone Portable Impedance Analyzer for Rapid Detection of Cancer Tissues | BIRAC, Government of India | Rs.44.65 Lacs | Dr. Farooq A. Khanday | Submitted |
| 7. | Portable microcontroller-based impedance meter for biological tissue analysis | BIRAC, Government of India | Rs.44.44 Lacs | Dr. Farooq A. Khanday | Submitted |
| 8. | Nano-Biosensors with In-Sensor Computing for Internet of Nano-Things | Ministry of Communications, Government of India | Rs.87.00 Lacs | Dr. Farooq A. Khanday | Submitted |
| 9. | Development of Devices and Circuits for Neuromorphic Computing | Ministry of Higher Education, Malaysia | Rs.50.00 Lacs | Dr. Farooq A. Khanday | Submitted |
| 10. | Network on Chip based Energy Efficient Solutions for Computationally Intensive Artificial Intelligent Systems | DST Government of India | Rs.29.00 Lacs | Dr. Farooq A. Khanday | Submitted |
| 11. | Design, Development and Protyping of Artificial Intelligence and Metamaterial Wearable Sensors for Innovative Healthcare | DST Government of India | Rs.85.00 Lacs | Dr. Javaid A. Sheikh | Submitted |
| 12. | Blockchain safeguards for IoT: Reinforcing Security and Privacy | MeitY, Government of India | Rs.55.00 Lacs | Dr. Javaid A. Sheikh | Submitted |

Recently Organized Events

The Department organizes a range of research and training events, including the National Seminar focused on Electronic Devices, Systems, Signal Processing, and Information Security. It also hosted the COMMUNE International Conference, which received 239 paper submissions, all rigorously reviewed and published with ISBNs. Other key initiatives include faculty training programs on AI in collaboration with Intel India, workshops on Digital Tools for Research, IoT courses for visiting students from Malaysia, and workshops on broadcasting and electronics terminology with the CSTT, Ministry of Education. The Department continues to play a pivotal role in academic advancements, contributing to major events like the Jammu and Kashmir Science Congress, Convocations, and activities organized by other departments.

| Date(s) of Organization | Title of the Event | Sponsor | Organizer(s)/ Coordinator (s) | Participants |
|----------------------------|--|---|--|--------------|
| 2025, Jan 7-8 & 13-17 | Seven Day (07) Faculty Training programme on Al for future workforce in Collaboration with Intel India | Intel India | Dr. Javaid A. Sheikh | 35 |
| 2024, Dec 27-28 | Two- Day Hand on Workshop on Digital Tools for Quality Research: Hands on Workshop for Research Scholars | DIQA, University of Kashmir | DIQA and Dean Research/ Dr. Javaid A. Sheikh | 35 |
| 2024, Jun 24-29 | Five day Workshop on Fundamental glossary of Broadcasting (English-Hindi-Kashmiri) in collaboration with CSTT, Ministry of Education. | CSTT, Govt. of India | Dr. Javaid A. Sheikh | 20 |
| 2024, Jun 20-21 | Two-day seminar on "Kashmiri Technical Terminology and its role in Science and Technology in collaboration with CSTT, Ministry of Education. | CSTT, Govt. of India | Dr. Javaid A. Sheikh | 20 |
| 2024, Oct 7 | Competency Course on the Internet of Things for Visiting Students of University Malaysia Pahang Al-Sultan Abdullah (UMPSA), Malaysia | Fees | Prof. M. Tariq Banday | 22 |
| 2024, March 26-27 | Two-Day UpSkilling Workshop and Hands-on Training on Emerging Electronics and Biomedical Imaging 26-27 March, 2024 | Free | Dr. Javaid A. Sheikh | 30 |
| 2024, May 15-19 | Five day Workshop on Fundamental glossary of Broadcasting (English-Hindi-Kashmiri) in collaboration with CSTT, Ministry of Education. | CSTT, Govt. of India | Dr. Javaid A. Sheikh | 20 |
| 2023, Aug 21-25 | Five day Workshop on Fundamental glossary of Electronics (English-Hindi-Kashmiri) in collaboration with CSTT, Ministry of Education. | CSTT, Govt. of India | Dr. Javaid A. Sheikh | 20 |
| 2023, July 19-20 | Two days Hands on Training with Coniki, 6LoWPAN, Mesh Networking Implementation, ARM Keil MDK and Simplicity Studio. | Opilla Microsystems, Pvt. Ltd. Bangalore | Prof. M. Tariq Banday | 100 |
| 2023, June 26 | IPR Awareness Programme | Government of India | Dr. Javaid A. Sheikh | 70 |

| Date(s) of Organization | Title of the Event | Sponsor | Organizer(s)/ Coordinator (s) | Participants |
|----------------------------|---|-------------------------------------|----------------------------------|--------------|
| 2023, May 15-19 | Five day Workshop on Fundamental Glossary of Electronics (English-Hindi-Kashmiri) in in collaboration with CSTT, Ministry of Education. | CSTT, Govt. of India | Dr. Javaid A. Sheikh | 20 |
| 2023, May 1-10 | Two weeks FDP on Artificial Intelligence and its Role in Future Communications, Signal Processing and Computing Applications in collaboration with E&ICT Academy, NIT Warangal | MietY, Govt. of India | Dr. Javaid A. Sheikh | 105 |
| 2022, April 18-27 | Two weeks FDP on Applications of Applied Signal Processing, Communications and Devices for IoT Driven e-Health Care | MietY, Govt. of India | Dr. Javaid A. Sheikh | 85 |
| 2018, April 3-4 | National Seminar on Electronic Devices, Systems and Information Security (SEEDS -2018) | UGC, Govt. of India | Prof. M. Tariq Banday | 425 |
| 2017, March 24-25 | National Seminar on Electronic Devices, Systems and Information Security (SEEDS -2018) | UGC, Govt. of India | Prof. M. Tariq Banday | 525 |
| 2016, March 18-19 | National Seminar on Electronic Devices, Systems and Information Security (SEEDS -2018) | UGC, Govt. of India | Prof. M. Tariq Banday | 600 |
| 2015, March 16-18 | International Conference on Advances in Computers Communication and Electronic Engineering (COMMUNE -2015) | J&K BANK and Scientech Indore | Prof. M. Tariq Banday | 550 |
| 2015, March 16-17 | National Seminar on Electronic Devices, Systems and Information Security (SEEDS -2018) | UGC, Govt. of India | Prof. M. Tariq Banday | 700 |
| 2014, Feb 10-22 | Faculty Orientation Programme for DEEEP | NIELIT, Chandigarh | Dr. Farooq A. Khanday | 40 |
| 2006, Nov | Seminar on Information Technology and Investment Potential in J&K State | DST, Govt. of India | Prof. N. A. Shah | 250 |
| 2006, June | National Seminar on Recent Trends in Nanotechnology | DST, Govt. of India | Prof. N. A. Shah | 300 |
| 2005, Oct | One day Seminar on Advances in Soft Computing (ASC) | DST, Govt. of India | Prof. N. A. Shah | 240 |
| 2004, Oct | One day Seminar on Patent Awareness Programme (PAP) | JKSSTC | Prof. G. M. Bhat | 300 |
| 2003, June | Seminar on Embedded Systems and Solutions (ESS) | DST, Govt. of India | Prof. M. Tariq Banday | 330 |

MEMORANDUM OF UNDERSTANDINGS

Intel India future Al Workforce

The MoU between the University of Kashmir and Intel India aims to advance digital readiness and Artificial Intelligence (AI) skills under the "AI for Future Workforce" initiative. This collaboration focuses on training human resources and introducing specialized courses to prepare students and faculty for the evolving AI landscape. The partnership also emphasizes the importance of upskilling policy leaders and the workforce to enhance their resilience in using AI as a driver of innovation and sustainability. Additionally, strategies for scaling AI skilling programs are being developed to improve employability, foster innovation, and create a skilled workforce at a broader level. The agreement reflects a shared commitment to leveraging AI to shape the future workforce and meet the demands of the digital age.





ARM University Program

The MoU between the Department of Electronics at the University of Kashmir and ARM aims to strengthen Industry-Academia collaborations by providing advanced educational tools and resources for the M.Tech. in Embedded Systems and Solutions. The partnership will grant access to ARM technologies, including free licensing of Keil MDK and DS, enhancing the curriculum and research opportunities in the field of Embedded Systems. This collaboration will not only benefit the Department of Electronics but also extend to other University departments and affiliated colleges, enriching the educational experience across Electrical Sciences.

ALTTC, Ghaziabad

The Department has made significant strides in formalizing a Memorandum of Understanding (MoU) with ALTTC, Ghaziabad, to foster faculty exchanges and provide training opportunities for both students and faculty. This MoU, which is expected to be finalized by the summer of 2025, will further strengthen the Department's ties with industry and enhance its educational offerings, providing valuable resources and collaboration opportunities for all stakeholders involved.

HANDS-ON PRACTICAL TRAINING PROGRAMMES

The Department organizes workshops, short-term courses, and summer training programs on contemporary electronics topics. These programs provide hands-on training in diverse areas such as FPGA, IoT, embedded systems, computer networks, and biomedical electronics. The Department is equipped with advanced tools like FRED workstations, Cadence software, Atlas Silvaco, and IoT devices, which are rare and available in only a few institutions. These resources enable the Department to offer specialized practical training. Future courses will cover Digital Forensics, IoT, Communication Systems, Antenna Design, Digital and Analog IC Design, Digital Image Processing, and Basic Electronics for educators.

| Period | Programme Title | Coordinator(s) | Participants |
|-----------------------|---|-----------------------|--|
| 2025, Jan 7–20 | Two Week Winter Internship for Students of ICSC, Srinagar | Prof. M. Tariq Banday | 7 |
| 2024, March 23-24 | Two Day Upskilling Workshop on Emerging Fields in Biomedical Electronics | Dr. Javaid A. Sheikh | 25 |
| 2021, Sept 18-17 | Two Day Hands on Training on Xillnx Vivado and Vertex 7 FPGA | Dr. Shabir A. Parah | 8 |
| 2019, Nov 19-21 | Three Day Practical Training Programme for Installation of Cadence Tool | Dr. Farooq A. Khanday | 15 |
| 2019, March 6-9 | Practical Training in use of RIOS and Contiki for IoT (PT-IoT19) | Prof. M. Tariq Banday | 10 |
| 2018, July 27-28 | Practical Training on Xilinx FPGA(PT-Xiling18) | Dr. Farooq A. Khanday | 15 |
| 2018, July 16-17 | One Month Summer Trainings in Embedded Systems (ST-ESS18) | Prof. M. Tariq Banday | 5 |
| 2018, June 29- July 3 | One Month Practical Training on Embedded Systems (ST-ESD18) | Prof. M. Tariq Banday | 30 |
| 2017, June 16-July 15 | One Month Summer Trainings in Computer Networks (ST-CN17) | Prof. M. Tariq Banday | 5 |
| 2015, May 5- June 4 | One Month Summer Trainings on Computer Networks and Simulation (ST -CNS15) | Dr. Farooq A. Khanday | 12 |
| 2012, July 17-Aug 10 | One Month Summer Trainings on Microprocessors (ST-MP12) | Prof. M. Tariq Banday | 5 |
| 2011, July 4-Aug 3 | One Month Summer Trainings on Computer Networks (ST-CN11) | Prof. M. Tariq Banday | 15 |
| 2011, June 21-26 | Short Term Course on Mechatronics (STC-MECH) | Prof. M. Tariq Banday | 25 No of participants Benefited:137 |

COLLABORATIONS

The Department actively fosters global research collaborations, encouraging faculty and scholars to engage with leading researchers worldwide. Currently, faculty members are collaborating with renowned institutions such as the University of Kentucky (USA), Patras University (Greece), Brno University of Technology (Czech Republic), University of Bradford (UK), SKKU (South Korea), University of New South Wales (Australia), University of Cerea (Brazil), PNU (Saudi Arabia), University of Technology Sydney (Australia), and Universitat de les Illes Balears (Spain), among others. In addition, collaborations extend to national institutions like Jadavpur University, IIT Kharagpur, IIT Roorkee, and various prominent institutions within the state.

The Department encourages students and scholars to engage in internships and academic exchanges at esteemed institutions, fostering exposure and enhancing research skills. Recent student visits include NIT Silchar, Centre for Computational and Integrated Sciences (JNU), IIT Jammu, JMI, University of Delhi, and Forensic Center Srinagar, among others.

Dr. Ajaz Bashir Director Colleges, Higher Education Department

Dr. Majid Zaman Baba Scientist C, University of Kashmir

Dr. Syed Zaffer Iqbal Professor, Higher Education Department

Dr. Sharif Ud Din Khan Principal, Higher Education Department

Dr. Khursheed Ahmad Shah Assistant Professor, Higher Education Department

Dr. Mohamad Rafiq Beigh Assistant Professor, Higher Education Department

Dr. Nusrat Parveen Assistant Professor, Higher Education Department

Dr. Zahoor Ahmad Jhat Associate Professor, Higher Education Department

Dr. Bilal Ahmad Malik

Scientist B, loT Zakoora University of Kashmir

Dr. G.M. Mir Professor,

Professor, SKUAST-K, J&K

Dr. Ghulam Jeelani Qureshi Principal, Higher Education Department

Furthermore, the Department supports collaborative research by facilitating co-supervision opportunities for its Ph.D. scholars with faculty from other prestigious institutions. Registered co-supervisors include faculty from the Higher Education Department, University of Kashmir, and other key institutions such as SKUAST-K and IITs. These are:

In addition to these ongoing collaborations, the Department has hosted/collaborated with numerous distinguished faculty members, including:

- Prof. Ramesh Goankar (IIT Gandhinagar)
- Prof. A.K. Chaturvedi (IIT Kanpur)
- Prof. Subir Kumar Sarkar (Jadavpur University)
- Prof. Dinesh Kumar (Kurukshetra University)
- Prof. M. Salim Beigh (AMU Aligarh)
- Prof. Ekram Khan (AMU Aligarh)
- Prof. Omer Farooq (AMU Aligarh)
- Prof. Karabi Biswas (IIT Kharagpur)
- Prof. Hassan Syed (AMU Aligarh)
- Prof. A.K. Sarin (NIT Jalandhar)
- Prof. Naseem Ahmad (JMI, New Delhi)
- Prof. A.Q. Ansari (JMI, New Delhi)
- Prof. Dheeraj Sanghi (IIT Kanpur)
- Prof. Costas Psychalinos (Patras University, Greece)
- Prof. Fawnizu Azmadi Hussin (Universiti Teknologi PETRONAS, Malaysia)
- Prof. Ahmed G. Radwan (Nile University & Professor, Cairo University, Egypt)
- Shri Prashant Chug (Rep. of C-Dot)
- Prof. Kaushik Saha (IIT Delhi)
- Prof. Brajesh Kumar Kaushik (IIT Roorkee)
- Prof. Karabi Biswas (IIT Kharagpur)
- Prof. Rajendra S. Gad
- Prof. Shiban Kumar Koul (CARE IIT Delhi)
- Prof. Binood Kumar Kanujia (NIT Jalandhar)
- Prof. Girish Nath Jha (Chairman CSTT, MoE, Govt. of India)
- Prof. Fazal Ahmad (NIT Silchar)
- Prof. Kavi Araya (IIT Bombay)

These collaborations and interactions contribute significantly to the Department's ongoing efforts in advancing research and fostering academic growth within the University.

PLACEMENTS & **HIGHER EDUCATION**

The department's graduates are highly sought after, with a strong record of placements in both government and private sectors. Over the past five years, more than 40 students have secured roles in top companies such as GENPACT, Future Soft Solutions, TCS, Infosys, and Wipro. Additionally, many have found positions in prestigious public sector organizations like BEL, DRDO, ISRO, and BSNL. In 2024 alone, students were hired by renowned companies, including GENPACT Hyderabad, and Essi Integrated Technologies, while others pursued higher education at institutions like King Faisal University. The diversity of employers, ranging from multinational corporations to government agencies, and the strong trend toward higher education, demonstrates the broad skill set and versatility of the department's graduates in electronics and embedded systems.

ICI

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Placements in various

Organizations

(since 2012)

Others

70

GAD J&K JMI, J&K New Delhi Government 2 4 **Future Soft** GENPACT Solutions PVT Hyderabad India **Limited India** Elkosta **King Faisal SKUAST J&K** University, Saudi Security Arabia Systems India 2 **IoT Engineer Reliance Jio** at Minion Labs Higher School Education Synopsis Education Department 6 33 School Health and Medical Education **Department**, J&K 2 **J&K** Police KC R/L, Ida Department 1 3 **Essi Integrated** PDD **Sony Ericson** Technologies India 2 Mechanical Secondary Engineering 5B **School Education** Department 1 2 Rular TCI JE Telecom **Development** 2 Department Telecom **ACK Bank BSNL KW Bank** (Police) 9



Students opted for higher studies

Yearwise placement (since 2012)

A significant number of graduates have opted for higher studies in specialized fields like Microelectronics, VLSI Design, and IoT, enrolling in programs like M.Sc., M.Tech., and Ph.D. at top institutions both in India and abroad. Notable institutions include IITs, IISc Bengaluru, and international universities such as the University of Melbourne and Imperial College London. This growing trend highlights the graduates' desire to further specialize and contribute to advanced research in their fields.



Year wise Number of Students selected for higher studies in various Institutions



BEST PRACTICES & FUTURE PLANS

Best Practices:

The Department of Electronics at the University of Kashmir continually strives to foster leadership in students by equipping them with cutting-edge knowledge in electronics, diverse skills, and a problem-solving mindset to address the challenges of the modern world. Key practices include:

- Regularly updating the syllabus to ensure alignment with the latest academic and industry trends, bridging theoretical knowledge with practical applications.
- Offering Multi-Entry Multi-Exit NEP 2020 aligned Integrated Masters programme with Artificial Intelligence minor and a flexible Choice-Based Credit System (CBCS) for M.Tech. program, allowing students to tailor their education.
- Introducing new courses regularly to keep students up to date with ۲ the latest advances in electronics.
- Promoting student engagement through individual projects, seminars, and group work, fostering both academic and practical skills.
- Organizing industrial training, field visits, and internships, ensuring students are well-versed in industry demands.
- Inviting prominent scholars and experts from academia and industry to deliver extension lectures and foster a culture of continuous learning.
- Holding workshops, training programs, and seminars for students from other institutions, focusing on the latest hardware, software tools, and developments in electronics.
- Providing regular counseling, competitive exam preparation, and feedback sessions to ensure continuous improvement in course delivery.
- Organizing regular research seminars and workshops to facilitate interactions between global researchers and local scholars.
- Actively seeking funding opportunities from UGC, DST, and other ۲ agencies to enhance research and infrastructure.
- Encouraging faculty members to target high-impact journals (e.g., IEEE/ACM) and to file patents for innovative research.
- Strengthening industry-academic collaborations to enhance placement opportunities and student internships.
- Continuously improving laboratory infrastructure, including ICTenabled classrooms and acquiring more test equipment and software.
- Providing scholarships and financial support for meritorious students to further academic excellence.
- Planning to organize international conferences like COMMUNE with technical sponsorship from IEEE, ACM, and Springer.

Future Plans:

Looking ahead, the Department aims to further enhance its educational and research capabilities:

- The Department plans to seek additional funding from UGC under ۲ SAP and from the Department of Science and Technology under the FIST program to improve research infrastructure and facilities.
- Implement course revision for MSc and MTech programs to align them with NEP 2020 guidelines and contemporary demands of the electronics industry.
- The faculty will focus on increasing high-quality publications in toptier journals and filing patents for research innovations.
- Strengthening collaboration with renowned academic institutions and industry partners will be a priority to improve placement opportunities and facilitate internships for final-year students.
- The Department will continue upgrading its infrastructure, including transforming ICT-enabled classrooms into social-media and webenabled classrooms and converting traditional laboratories into virtual laboratories for enhanced learning experiences.
- Proposals will be submitted to offer scholarships and financial support to deserving research scholars.
- The Department will regularly organize conferences and workshops to bring together experts from across the globe and foster research collaboration.
- The publication of the department's journal will continue to provide a platform for academic exchange and dissemination of cuttingedge research.



MEET OUR ALUMNI

Mr. Vinod Bhat

M. Sc. Electronics (1987) Chief Digital Officer (CDO) Institution Name with Tata AutoComp Systems Ltd, Pune

Message: It is so heartening to see the growth of the Department of Electronics over the past 30-40 years. Ours was the third batch, and my final project was 'Digital Multimeter with Frequency Measuring Facility,' which I worked on with two of my fellow



students. Despite limited resources, we were able to make the project a success, and the thrill of that achievement is still fresh in my mind. A lot of credit goes to the faculty, whose guidance helped us through every phase of the project. Over the years, I have truly come to appreciate the hard work behind the department's tremendous growth, from expanding academic offerings to enhancing infrastructure and staying committed to research and development. The department's continued focus on technological advancements has been inspiring, ensuring that students receive a comprehensive and cutting-edge education. Looking back, I'm incredibly proud to have been a part of this growing legacy. The department has come a long way, and I have no doubt it will continue to thrive and make significant contributions to the field of Electronics. I wish all current and future students success in their academic journey. Let's, as alumni, stay connected and support the department's continued progress in any way we can.

Bio: An Award-Winning Technology and Business Leader with over 32 years of extensive industry experience, Mr. Vinod Bhat is ranked among the Top Global CXOs. His career has been marked by his ability to drive innovation and growth in the technology space, with a strong reputation as a frequent industry speaker, author, and motivational leader. Currently, Mr. Bhat is serving as the Chief Digital Officer (CDO) at Tata AutoComp (TACO), where he reports directly to the Group CEO and lead the digital transformation strategy across the enterprise. In this role, his is responsible for shaping and implementing cutting-edge digital solutions that improve efficiency and drive business growth. Previously, Mr. Bhat worked as CIO and Chief Ethics Counsellor at Vistara Airlines for nearly four years, overseeing the technology landscape and promoting ethical standards in business practices. With a career spanning over two decades, he has worked closely with CXOs to spearhead digital transformation efforts, managed P&L ownership, and led business strategy, sales, operations, and delivery. Mr. Bhat's experience also includes working abroad for over 15 years, where he gained valuable insights into global business dynamics and the complexities of managing international teams. He continues to leverage his diverse experience to create high-performing organizations and inspire teams to achieve excellence in technology and business.

Prof. Sheikh Ajaz Bashir M.Sc. Electronics (1987) & PhD (2003) Director Colleges Higher Education Department, JK Govt

Message: I am pleased to share my thoughts about my alma mater, the University of Kashmir. I was part of the third batch of the Post Graduate Department of Electronics, where I pursued my Ph.D. The department, founded in 1985 and initially housed in the Allama



Iqbal Library, has grown into a leading knowledge center with excellent infrastructure and a dedicated faculty. I deeply appreciate the contributions of my teacher, Prof. Nisar Ahmed Shah, and the guidance of Prof. Mohammad Mustafa and Prof. Mohiuddin Bhat. Under the dynamic leadership of Prof. M. Tariq Banday, the department has introduced new initiatives, including introduction of M.Tech. programme and Five-Year Integrated Master's Programme with Artifitial Intelligence minor program, and the development of engineering infrastructure comparable to leading engineering institutes of the country. The department has progressed in quality research output and secured fundings from national funding agencies. The dedicated faculty support of Dr. Farooq Ahmed Khanday, Dr. Shabir Ahmed Parrah, and Dr. Javaid Ahmed Sheikh have been instrumental in advancing the department's research and academic initiatives. Their expertise and guidance have significantly contributed to the growth and success of the department, fostering an environment that encourages innovation and excellence.

Bio: Prof. Sheikh Ajaz Bashir is the Director of Colleges in Jammu & Kashmir, heading the Department of Higher Education. After earning his Bachelor's in Electronics from S.P. College, he completed his Master's and Ph.D. in Analog Circuitry from the University of Kashmir. Prof. Bashir has served as Faculty and Head of Electronics at several colleges, including S.P. College and Government Degree College Baramulla. In 2016, he was appointed Principal and later became the 35th Principal of Islamia College of Science & Commerce (2019-2023), where he introduced new programs and led the adoption of the National Education Policy. In 2023, he became Principal of Amar Singh College and Nodal Principal for Kashmir Division Colleges. He led a major infrastructure overhaul of Amar Singh College, which had been damaged in the 2014 floods. Prof. Bashir is a member or chairman of several committees, including the State Higher Education Council, the Technical Committee for Faculty Career Advancement, and the Prime Minister Internship Scheme. He also oversees vocational courses, digital initiatives, and career counseling across colleges in Kashmir Division.

Abdul Wahid Makhdoomi

M. Sc. Electronics (1987) Registrar, Islamic University of Science and Technology, Awantipora, JK

Message: I joined the Department of Electronics at Kashmir University in 1987, during its early years. At that time, the University was one of the few in India offering a master's course in Electronics, blending theoretical material science, devices,



and engineering. The course was designed to meet the growing demand for professionals in Electronics manufacturing, Instrumentation, and Communication. With the establishment of the Electronics Industrial Complex at Rangreth, this program had great potential, ensuring high job placement rates. Unfortunately, due to the unrest in the Valley, this vision couldn't fully materialize, and admissions began to decline. Since then, the Department has evolved significantly, expanding its academic offerings to include B.Tech, M.Tech, and an integrated five-year M.Sc. in Electronics. Faculty and researchers are now engaged in high-impact research, gaining recognition nationally and internationally. It is rewarding to witness how far the Department has come and its continued contribution to the field of Electronics. As an alumnus, I feel that my connection to the Department is lifelong. Reflecting on my time here, I recognize how much the institution has shaped my academic, professional, and personal journey. The friendships, lessons, and experiences I gained remain invaluable and continue to inspire me daily. I wish the Department continued success and growth. Let us, as alumni, stay connected and contribute to its progress in whatever way we can.

Bio: Prof. Abdul Wahid Makhdoomi is a seasoned academic and administrative professional with vast experience in education and public service. He has held numerous key positions, including Principal at the Higher Education Department, Incharge Secretary of JKBOSE, Director of Academics at JKBOSE, and Joint Secretary of IT/Publications at JKBOSE. Additionally, he served as Deputy Registrar and Officer-in-Charge of Academics/Examinations at the Central University of Kashmir. Prof. Makhdoomi has played a vital role in promoting education and technology. He coordinated the ISRO Edusat Program in J&K and the IGNOU Convergence Scheme for the Kashmir Region. His academic contributions include serving as the Head of the Department of IT/Electronics at various colleges, including S.P. College Srinagar, GDC Bemina Srinagar, GDC Boys Baramulla, and GCW M.A. Road Srinagar. Throughout his career, he has demonstrated a strong commitment to advancing education and fostering the development of students and faculty alike.

Prof. Abdul Rouf Khan

M. Sc. Electronics (1985) Professor Department of Computer Sciences, King Faisal University, Saudi Arabia

Message: As a member of the first M.Sc. (Electronics) batch and the department's first Ph.D. recipient, I have had the privilege of witnessing its remarkable growth firsthand. My 13 years as a faculty member further



deepened my appreciation for its continuous advancements. The introduction of the Integrated Five-Year Master's Program in Electronics with an AI Minor marks a significant milestone, reflecting the department's forward-thinking approach to meeting evolving industry and student needs. Additionally, the surge in sponsored projects, infrastructure upgrades, and high-impact research publications has strengthened its reputation as a hub for innovation and academic excellence. The department's emphasis on interdisciplinary education, cutting-edge research facilities, and a globally aligned curriculum underscores its dedication to student development and societal impact. The success of our graduates in the global job market is a testament to this commitment. As an alumnus, I take immense pride in these achievements and encourage my fellow alumni to stay engaged. By contributing our expertise and support, we can help the department sustain its legacy as a center of excellence in Electronics and AI.

Bio: Dr. Abdul Rouf Khan is a Professor of Computer Science at King Faisal University, Saudi Arabia, where he has been teaching and conducting research since 2005. He holds an M.Sc. in Electronics and a Ph.D. in Electronics & Computer Science from the University of Kashmir, India. With over 25 years of academic and research experience, Dr. Khan previously served as a Senior Lecturer at the University of Kashmir and an Assistant Professor at Al-Zaytoonah University, Jordan. His expertise spans curriculum development, quality assurance, and academic accreditation, playing a key role in securing ABET accreditation for two programs at King Faisal University. His research focuses on Cellular Automata, Computer Architecture, Computer Security, and Image Processing. He has published over 40 papers in prestigious international journals and led several government-funded research projects in Saudi Arabia. He was also honored with a Best Paper Award at a conference in Korea. An active member of multiple professional societies, Dr. Khan is dedicated to faculty development, student success, and advancing research in computer science. His leadership in academic committees continues to shape the future of education and innovation in the field.

Dr. Faisal Bashir

M.Sc. Electronics (2006) & M.Phill. (2011) Assistant Professor Department of Computer Engineering, King Faisal University, Saudi Arabia.



Message : I am honored to be part of the alumni list of the Department of Electronics and Instrumentation Technology, University of Kashmir, an institution that

significantly influenced my academic and professional journey. My M.Sc. and M.Phil. studies here provided a solid foundation ian electronics, and my seven years as a faculty member allowed me to contribute to the department's growth. It's inspiring to see the department expand its programs to include cutting-edge fields like VLSI, Embedded Systems, Signal Processing, Wireless Communication, and Artificial Intelligence. The introduction of interdisciplinary programs, modern research facilities, and a curriculum aligned with industry trends reflects the department's commitment to excellence. The faculty's dedication to impactful research, with numerous journal publications, books, and international collaborations, has strengthened the department's reputation. The modern laboratories, ICT-enabled smart classrooms, and advanced computational facilities further demonstrate its forward-thinking approach to education and research. As an lumnus, I take great pride in being associated with this esteemed institution. The knowledge and values I gained here have been instrumental in my career. I remain grateful for the opportunities provided and look forward to staying connected and contributing to the department's continued success in shaping future generations of scholars and leaders.

Bio: Dr. Faisal Bashir is an Assistant Professor in the Department of Computer Engineering at King Faisal University, Saudi Arabia. He holds a Ph.D. in Electronic Science from Jamia Millia Islamia, India, and M.Sc. and M.Phil. degrees in Electronics from the University of Kashmir, India. His research focuses on neuromorphic computing, Nanoelectronics, Biosensing, and FPGA-based systems, with an emphasis on energy-efficient and intelligent hardware solutions. Dr. Bashir is also a Visiting Research Scientist at Tyndall National Institute, University College Cork, Ireland, where he specializes in neuromorphic computing and Nanoelectronic devices. As the Chairman of the Departmental Research and Graduate Studies, he shapes research direction, mentors postgraduate students, and fosters interdisciplinary collaborations. With extensive experience in teaching, Dr. Bashir has guided numerous postgraduate projects and contributed to curriculum development. He has published several papers in prestigious international journals and conferences, earning academic accolades for his contributions. Dr. Bashir has also delivered talks and workshops on Neuromorphic Computing and Advanced Semiconductor Technologies at renowned global universities.

Dr. Furgan Zahoor

B.Tech (ECE) (2010) Assistant Professor Department of Computer Engineering, King Faisal University, Saudi Arabia.

Message: I am happy to be featuring in the alumni list of Department of Electronics and Instrumentation Technology, University of Kashmir. I completed my B.Tech in Electronics and Communication Engineering from Department of Electronics and Instrumentation



Technology, University of Kashmir in 2014. The learning of fundamental aspects of the domain of Electronics during my course, laid a strong foundation of core concepts, which motivated me to take up the higher studies. As a B.Tech student of the very first batch of the Department, I got the opportunity to explore things first hand and the focus on improving the student learning experience was always stressed. The Department has grown in various aspects since my time, with more focus on Research Oriented learning and emphasis on on the Postgraduate Program. The department is well equipped with a modern library with good quality technical books, laboratories to perform hardware based experiments, advanced computational facilities with state of the art software tools which are key for fostering an innovation driven learning environment. I hope and pray the Department progresses leaps and bounds on various aspects in years to come and I will be happy to contribute to this growth in any capacity needed.

Bio: Dr. Furgan Zahoor is currently an Assistant Professor in the Department of Computer Engineering at King Faisal University, Saudi Arabia. He holds a B.Tech in Electronics and Communication Engineering from the University of Kashmir, India, and an M.Tech in the same field from Shri Mata Vaishno Devi University, India. Dr. Furgan earned his PhD in Electrical and Electronics Engineering from Universiti Teknologi Petronas, Malaysia, a globally accredited institution. He has held postdoctoral research positions at Nanyang Technological University, Singapore (ranked 15th globally), and King Fahd University of Petroleum and Minerals, Saudi Arabia (ranked 101st globally). Dr. Furgan is an active researcher with numerous publications in leading journals such as IEEE Transactions on Electron Devices and IEEE Transactions on Circuits and Systems. His research interests include emerging memory technologies, multiple-valued logic circuits, neuromorphic computing, hardware security, and biosensing devices. A review article by Dr. Furgan on Resistive Random Access Memory is among the most cited papers in its field on the Web of Science. He has presented his work at international conferences in Malaysia, Singapore, Japan, and Saudi Arabia. Dr. Furgan collaborates with top research institutions worldwide, including Forschungszentrum Jülich (Germany), University of California (USA), University of Groningen (Netherlands), Newcastle University (UK), Tyndall National Institute (Ireland), Nanyang Technological University (Singapore), Queen's University (Canada), Spintec (France), Sejong University (South Korea), Sunway University (Malaysia), and IIT Roorkee (India).

Prof. Rakesh Vaid M. Sc. Electronics (Batch-1986) Professor Department of Electronics, University of Jammu

Message: As an alumnus of the Department of Electronics at the University of Kashmir, where I completed my M.Sc. in Electronics with a gold medal, I am delighted to reflect on the remarkable growth and transformation the department has undergone.



Established in 1985, the department has continually evolved to meet the dynamic demands of the electronics and technology sectors. My continued involvement in academic activities, such as Ph.D. evaluations and serving as an external examiner, has allowed me to stay closely connected with the department's progress. Over the years, I have witnessed its expansion in academic offerings, including the introduction of the M. Tech. in Embedded Systems and the Five-Year Integrated Master's Programme (FYIMP) in Electronics, which now offers specializations in emerging fields like VLSI, Embedded Systems, Signal Processing, Wireless Communications, and AI. The department's infrastructure has been continuously upgraded, with state-of-the-art laboratories, ICT-enabled classrooms, and a well-equipped library that supports its growing research initiatives. Faculty members remain dedicated to high-impact research, contributing extensively to the academic community through publications and international collaborations. I take great pride in the department's achievements and look forward to seeing it continue to excel in shaping the future of electronics education and research.

Dr. Zamir Ahmad Wani

M. Sc. Electronics (Batch-2012) Assistant Professor IoT and Automation Lab, CAIML SKUAST, Kashmir



Message: The Department of Electronics at the University of Kashmir significantly shaped my career trajectory. It was there that I completed my M.Sc. in Electronics. The rigorous curriculum and dedicated

faculty gave me a strong theoretical and practical foundation in electronics and were instrumental in helping me qualify for national-level examinations such as GATE and NET. This achievement, combined with the inspiring academic environment within the department, ignited my passion for pursuing advanced studies and research in wireless communication technologies.

Bio: Dr. Zamir Wani is an Assistant Professor at the Centre for Artificial Intelligence & Machine Learning (CAIML) at SKUAST Kashmir. He completed

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Bio: Dr. Rakesh Vaid is presently Professor at the Department of Electronics and Director of the Poonch Campus, University of Jammu, J&K, India. He is a Fulbright Fellow (FNIEAS-2022) at the George Washington University USA; Senior member of IEEE and EDS (USA) and Fellow of IETE (India). Prof. Vaid has served as: Head, Dept. of Electronics, Univ of Jammu (2017-2020); Vice Chairman of IEEE EDS Delhi chapter (2022-present); Chairman IETE Jammu Centre (2014-2018). He was awarded University Gold Medal by University of Kashmir-1989 and Young scientist fellowship by J&K Council of Sc. & Tech in 1999. Dr. Vaid has more than 100 publications to his credit in national/ international journals and conference proceedings. His area of research includes Triboelectric Nanogenerator (TENG); Nano electronics; high k dielectrics; MOS capacitor & solar cell etc. He has successfully guided 08 Ph.D. and 06 M. Phil students. He has successfully completed major research projects sponsored by UGC & SERB, besides completed five medium term projects under INUP program sponsored by CEN, IIT Bombay. Dr Vaid has presented his research in various international conferences with in India and abroad such as MIEL-2006 (Belgrade-Serbia), ICMNT-2006 (Algeria), Nano today 2013 (Singapore), MNE 2014 (Lausanne- Switzerland), 227th ECS meeting 2015 (Chicago-USA), 231st ECS meeting 2017 (New-Orleans, USA), University of Manchester, UK (June 2017), 233rd ECS meeting 2018 (Seattle-USA), IMEC (Leuven-Belgium- September 2019), IEEE MIEL 2019 (Nis-Serbia), 241st ECS meeting 2022 (Vancouver-Canada), University of Tokyo (Japan 2023), IEEE LAEDC 2023 (Puebla-Mexico); NJIT (New Jersey, USA (2024) & IEEE LAEDC 2024 (Guatemala City), besides visited many universities such as Stanford, Oxford, Cambridge in USA, UK and Europe.

his M.Sc. in Electronics from the University of Kashmir in 2012 with a gold medal. He further pursued an M.Tech in RF and Microwave Engineering from the Indian Institute of Information Technology Design and Manufacturing Jabalpur in 2015. He later received his Ph.D. degree from the Indian Institute of Technology Delhi in 2020. After his Ph.D. he worked as a researcher at IIT Delhi and IIT Jammu. In the year 2022, Dr. Wani received SERB National Postdoctoral Fellowship and worked in the Department of Electrical Engineering, IIT Jammu, from Apr 2022 to Feb 2024. Dr. Wani's research focuses on advancing wireless communication technologies, specifically emphasizing millimetre-wave antennas, and radio frequency circuits and systems. He received significant funding under the Prime Minister's Early Career Research Grant from the Anusandhan National Research Foundation (ANRF) for developing frequency-diverse microwave imaging systems. He has authored and co-authored several research articles in top-tier journals such as IEEE Transactions on Antennas and Propagation. He has also co-authored a book on the Novel Millimetre Wave Antennas for MIMO and 5G Applications and holds two patents to his credit. He actively serves as a reviewer for several IEEE/Wiley journals and conferences.

PROFILE OF STUDENTS

M. TECH. EMBEDDED SYSTEMS AND SOLUTIONS (BATCH 2023, 3RD SEMESTER)



Irfan Ahmad Khan B. Tech. NIT, Srinagar khanerfaaan@gmail.com Interest: FPGA Fabrication, Cyberphysical Systems and Robotics



Syed Shaoor Ali Gelani B. Tech. EE Jammu University syedshaoor987@gmail.com Interest: IoT Based Intelligent Home Automation System



Insha Hussain B. Tech. EE IUST hakeem.insha00@gmail.com Interest: Artificial Intelligence



Haseeb Manzoor B. Tech. ECE IUST haseeb125@gmail.com Interest: Processors and Pipelining



Quoser Shafi B. Tech. ECE IUST Qausershafi5@gmal.com Interest: Image Processing, IoT, & VLSI



Shariq Mushtaq B. Tech. ECE Jammu University wanishariq.16@gmail.com Interest: Automatic Water Trash Collector using Arduino



Huzaifa Masood B. Tech. EE IUST huziikhan767@gmail.com Interest: Artificial Intelligence



Hibba Syed B. Tech. EE IUST hibbasyed07@gmail.com Interest: Embedded Systems



Nisha Nisar B. Tech. ECE IUST nishanisar6750@gmail.com Interest: Embedded Systems



Naveed Nazir Ahanger B. Tech. ECE IoT, UoK naveednazir901@gmail.com Interest: Optical Frequency Multiplication Using Mach-Zehnder Modulators



Farah Lateef Baba B. Tech. ECE SSM, UoK farahlateefbaba786@gmail.com Interest: Cyber Bullying Detection using AI



Majid Rashid B. Tech. ECE IoT, UoK majidmenu@gmail.com Interest: Smart Electric Blanket



Ashiq Hassan B. Tech. EE MIET, Jammu aashiqhassan121@gmail.com Interest: Image Processing



Taseem Ahmad Sheikh B. Tech. ECE Kurukshetra University tehseenmukhtar1320@gmail.com Interest: Processor Design



Shabana Ayman B. Tech. EE Jammu University Shabanayman2024@gmail.com Interest: Artificial Intelligence



Ifra Shabir B. Tech. ECE IUST Ifrafarooqi6877@gmail.com Interest: Developing Secure and Privacy Preserving Data Analytics on IoT Sata Streams using Al.



Sana Qadeer

B. Tech. ECE IoT, UoK sanaqedeer1902@gmail.com Interest: Satelite Communication and Space Technology



Ufra Altaf B. Tech. EE IUST ufrashah37@gmail.com Interest: Electric Vehicle



Aamer Khurshid Parah B.Tech,. ECE UoK aameribnkhurshid@gmail.com Interest: Optical Frequency Multiplication



Sumaira Shafi B. Tech. EE MIET, Jammu sumairazargar0901@gmail.com Interest: Earthquake Monitoring and Alerting System



Humaira Aslam B. Tech. EE GCET, Ganderbal phamboohumaira99@gmail.com Interest: Artificial Intelligence, Embedded System, IoT, Robotics & Automation

M. TECH. EMBEDDED SYSTEMS AND SOLUTIONS (BATCH 2022, 4TH SEMESTER)



Abdul Manan B. Tech. ECE IUST abmanan6170@gmail.com Interest: Artificial Intelligence and Machine Learning



Syed Furqan Ali B. Tech. EE RIMT, Punjab furqansyed31@gmail.com Interest: IoT, Wireless Communication, Microwave Imaging, Al in Healthcare



Sakeena Rafiq B. Tech. EE GCET, Ganderbal sakeenarafiq123@gmail.com Interest: AI in Electronics



Faiza Gulzar B. Tech. EE GCET, Ganderbal faizagulzar121@gmail.com Interest: Robust Watermarking using ML



Omaiya Qayoom B. Tech. CSE Swami Vivekanand Institute of Engineering Chandigarh umaiyaqayoom@gmail.com Interest: Artificial Intelligence



Sumiya Majnoon B. Tech. ECE SSM, UoK suhailbaxim0001@gmail.com Interest: Robust Image Watermarking using ML



Hafsa Nazir B. Tech. ECE GCET, Ganderbal hafsanazir130@gmail.com Interest: Neuromorphic Computing



Saqlain Mushtaq B. Tech. EE GCET, Ganderbal saqi8803@gmail.com Interest: Wireless Communication and Microwave Imaging



Sumiya Nazir B.Tech. ECE BCET, Jammu University. sumiyanazir123@gmail.com Interest: Embedded System and IoT.



Tabish JavidB. Tech. ECE GCET, Ganderbaltabishjavid1777@gmail.comInterest: Al Enabled Drone Technology



Kafayat Farooq B. Tech. EE MIET, Jammu kifayatfarooq01@gmail.com Interest: Binary classification of EMCI and LMCI of Alzheimer's disease using Machine Learning



Anjuman Farooq B. Tech. ECE MIET, Jammu anjumanfarooq12@gmail.com Interest: Artificial Intelligence and Machine Learning



Rukhsan un Nisa B. Tech. EE MIET, Jammu darlizaa786@gmail.com Interest: Approximate Computing in Multipliers



Anila Ansaar B. Tech. ECE GCET, Ganderbal anillaansaar@gmail.com Interest: Chaotic-Map-Based Cost-efficient Audio Cryptosystem for Secure Communication

M.SC. ELECTRONICS STUDENTS (BATCH 2024, 2ND SEMESTER)



Waseem Fairooz Lone B. Tech Electrical Engineering, IoT Zakura, Srinagar maxxwaseem786@gmail.com Interest: Integrated Circuits



Irshad Ahmad Mir B. Sc. mir863599@gmail.com Interest: Embedded Systems & Internet of Things, Signal Processing



Mehar Ashraf B. Sc. zargarsehar0@gmail.com Interest: Internet of Things, Signal Processing & Communication



Lone Quratul Eain B. Tech. ECE SSM, UoK quratlone5@gmail.com Interest: Artificial Intelligence



Aiman Ansaar B. Tech. EE GCET, Ganderbal aimanansar201@gmail.com Interest: Wireless Capsule Endoscopy



Nousheen Manzoor B. Tech. ECE SSM, UoK nosheenmanzor91@gmail.com Interest: Brain Tumour detection using Yolo8



Basila Rashid B. Tech. ECE GCET, Ganderbal basila0708@gmail.com Interest: Microstrip Patch Antennas for Future Communication

MSC ELECTRONICS (BATCH 2022, RECENTLY PASSED)



Burhan Shafi Kar M. Sc. (Electronics) karburhan08@gmail.com Interest: Smart Home Automation System



Mohd Irfan Ganie M. Sc. (Electronics) ganieirfan920@gmail.com Interest: Gesture-Controlled Arduino using Arduino



Waheed Ul Rehman M. Sc. (Electronics) bhatw276@gmail.com Interest: Smart Automation in Vehicle



Arshida Ayoub Bhat M. Sc. (Electronics) bhatarzoo649@gmail.com Interest: Creating a Weather Station using Sensors



Aabid Ashraf M. Sc. (Electronics) aabidashraf0076@gmail.com Interest: Gesture-Controlled Arduino using Arduino



Ayan Khan M. Sc. (Electronics) ayaan0523.com@gmail.com Interest: Smart Home Automation System



Shakir Ahmad M. Sc. (Electronics) ahshakir765@gmail.com Interest: Smart Automation in Vehicle



Maryam Hassan M. Sc. (Electronics) sheikhmaryam705@gmail.com Interest: Environmental Monitoring System



Umar Ahad M. Sc. (Electronics) umarahad64@gmail.com Interest: Environmental Monitoring System

FYIMP IN ELECTRONICS (BATCH 2024, 1ST SEMESTER)



Fazian Nabi Pukhta 10+2 fnabi9198@gmail.com Interest: Shaping Future with Technology



Faisal Jalal 10+2 faixufaisal861@gmail.com Interest: Artificial Intelligence



Irfan Shafi 10+2 irjanshaji9186@gmail.com Interest: Create Own Business



Eisha lqbal Lone 10+2 eishalone19@gmail.com Interest: Artificial Intelligence



Sahil Tariq 000 dars96688@gmail.com Interest: Photography and Visual Story Telling



Aman Muzaffar Khan 10+2 amaan3438@gmail.com Interest: Computing



Nighat Reyaz 10+2 nighatreyaz@gmail.com Interest: Exploring the Wonders of Artificial Intelligence



Mohd Toheed 10+2 Mohdtoheed325@gmail.com Interest: Electronics and Artificial Intelligence



Tabish Manzoor Wani 10+2 wtabish2641@gmail.com Interest: Artificial Intelligence



Munaza 10+2 listenmunaza@gmail.com Interest: Empowering Young Minds



Junaid Ahmad Bhat 10+2 bhatjunaid952378@gmail.com Interest: Electronics



Shah Adeeb 10+2 shahadeeb00@gmal.com Interest: Artificial Intelligence


DEPARTMENT LAYOUT





GLIMPSES

Two-Day Seminar on Kashmiri Technical Terminology and its Role in Science and Technology, 20-21 June, 2024.







Two-Day UpSkilling Workshop and Hands-on Training on Emerging Electronics and Biomedical Imaging 26-27 March, 2024







Faculty with M. Tech-2021 Batch



Five-Day Workshop on Fundamental Glossary of Electronics (English-Hindi-Kashmiri) in collaboration with CSTT, Ministry of Education 21-25 Aug, 2023





Competency Course on the Internet of Things for Visiting Students of University Malaysia Pahang Al-Sultan Abdullah (UMPSA), Malaysia 7 OCT, 2024









Celebrating Victory: Awarding Medals to the Winning Team



Departmental Picnic to Daksum (2022)

TEAM SPIRIT: CAPTURING THE MOMENT



STUDENTS' INSIGHTFUL JOURNEY TO THE DEPARTMENT









Prof. G. M. Bhat in the inaugural Function of COMMUNE 2015



Prof. Talat Ahmad felicitating Prof. N. A. Shah



Prof. Talat Ahmad felicitating Prof. M. Mustafa



Departmental Teaching Faculty Group Picture (2011)



Group Picture of PRGS members of MeitY sponsored project "Design of low power, low resource cryptographic"



Valedictory Function of SEEDS







Farewell cum Welcome Functions



Felicitating Prof. Brajesh Kumar Kaushik



Prof. M. Salim Beg in a Seminar at the Department



Prof. G. M. Bhat & other Faculty Members at a Student Function



Prof. F. A. Masoodi & other University Faculty visiting the Department



Qazi Ghulam Jeelani and Mr. Nisar Paray at a Student Picnic in Pahalgam 2012



Prof G. M. Bhat receiving Prof. Mehraj ud din Mir for a meeting at the Department.



A Departmental Event at EMMRC (2013)











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DEPARTMENT OF ELECTRONICS AND INSTRUMENTATION TECHNOLOGY UNIVERSITY OF KASHMIR

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