

Indian Institute of Technology Indore

Advertisement for Admission to Ph.D. Program in Electrical Engineering (EE) for Autumn Semester of Academic Year (AY) 2023-24

FA (Fellowship Awardee) Category only – Online Mode

IIT/Acad/PhD Admissions/23-24

February 23, 2023

IIT Indore invites applications from highly motivated and research-oriented students for admission to its PhD program in the Department of Electrical Engineering for the Autumn Semester of Academic Year (AY) 2023-24 as per the below-mentioned categories of admission and time schedule. Candidates can visit the profiles of the faculty members listed below at the link: <http://ee.iiti.ac.in/faculty.html> before applying.

Categories of admission (for Indian and International applicants): Refer to the main PhD advertisement available at <https://academic.iiti.ac.in/phdadvtd.php>

Time Schedule of PhD admission:

Last date of online application through https://academic.iiti.ac.in:8443/nregistration.jsp (for Indian applicants)	21 March, 2023 (Tuesday) Latest by 24.00 hrs. IST
Last date of online application through https://academic.iiti.ac.in:8443/nregistration.jsp (for International applicants)	21 March, 2023 (Tuesday) Latest by 24.00 hrs. IST
Dates of PhD selection process (online interviews)	24 and 25 March, 2023 (Friday and Saturday)

Minimum Educational Qualifications (MEQs) and Qualifying Examination

For Indian Applicants: Master's degree in Electrical/ Electronics/ Electronics & Communication / Physics / Instrumentation and Control Engineering / Material Science & Engineering or any other equivalent degree with specialization in the areas of communication and signal processing or micro/nanoelectronics & VLSI area (with first division as defined by the awarding Institute/University) having GATE qualification in EE/EC/IN/PH subjects or UGC/CSIR/DBT - JRF qualification or DST INSPIRE fellowship or Equivalent fellowship.

OR

Four-year Bachelor's degree OR five-year integrated degree in Electrical Engineering/ Electronics and Communication Engineering OR Electrical & Electronics Engineering/ Instrumentation & Control Engineering / Engineering Physics (with first division as defined by the awarding Institute/University) AND valid GATE qualification in EE/EC/IN/PH or UGC/CSIR/DBT - JRF qualification or Equivalent fellowship.

For International Applicants:

MEQ: Master's degree in Electrical Engineering with specialization in either Communications & signal processing/ VLSI/ Nanoelectronics/ Image processing/ Speech processing/ RF-Microwave or any other related areas (with first division as defined by the awarding Institute/University)

QE: Valid TOEFL/IELTS or equivalent qualification OR valid GATE qualification

Instructions:

- All interested candidates, fulfilling the minimum eligibility criteria, must apply online through the website (<http://academic.iiti.ac.in:8080/nregistration.jsp>). **TA/DF/IS/CT/SW Category candidates should not apply in this round of selection process.**
- After applying online, the applicants should take a print out of the application form and sign the same. The scanned copy of duly signed application form along with the following documents should be sent by email to admission-ee@iiti.ac.in
 - Self-attested photocopies/scanned originals of all relevant supporting documents such as degree certificates, mark sheets from 10th class onwards, date of birth certificate, **GATE score card, fellowship award letter**, etc., that they wish to present before the selection committee.
 - Two recent passport size photographs.
 - Receipt of fee (Rs.100/-) paid through SBI i-collect.
 - Letters of recommendation duly signed by a minimum of **two referees**, who have known the applicant in a professional capacity, are mandatory for PhD selection process and must be sent directly to admission-ee@iiti.ac.in
The format of the recommendation letter can be found along with this advertisement.
- Important: DO NOT** send any form or documents by post.
- Online PhD interviews** shall be conducted on **March 24 & 25, 2023 (Friday & Saturday)**. **Only shortlisted candidates will be called for online interviews, and the same will be shared by email to respective candidates. No emails or communication, in any form, regarding shortlisting process, change of interview date, syllabus of interview, etc. will be entertained.**
- Candidates who wish to appear for the PhD selection process and fulfill the eligibility criteria may also send their Resume/CV to the faculty member whose area is of interest to them. The areas of interest and detailed profile of faculty members are given below. Candidates are encouraged to visit webpage of faculty member listed below to know more about ongoing research work and areas of interest.
- Mere fulfillment of the minimum eligibility criteria does not entitle anyone for admission into the PhD program in Department of Electrical Engineering.



Prof. Santosh Kumar Vishvakarma

Dr. Santosh Kumar Vishvakarma is leading “Nanoscale Devices, VLSI Circuit and System Design” research group at IIT Indore. His research interests are VLSI Circuit and System design including ASIC/SoC Design of Processor Design for Biomedical Application; Energy-Efficient and Reliable SRAM Memory Design; Enhancing Performance and Configurable Architecture for DNN Accelerators; SRAM based In-Memory Computing Architecture for Edge AI; Reliable, Secure Design for IoT Application and Design for Reliability; Silicon Photonics Circuits; and Quantum Logic and Circuits. He has a very strong collaboration in Industry and Academia across India and globe. As of now, 18 PhD scholar has been graduated and 06 Indian patents has been granted from his research group. For details, please visit: <https://www.skvishvakarma.com/>. He may be contacted at his email id skvishvakarma@iiti.ac.in



Prof. Shaibal Mukherjee

Hybrid Nanodevice Research Group (HNRG) led by Prof. Shaibal Mukherjee needs sincere and motivated PhD students to work in **RRAMs in Image Processing, AI and Machine Learning; 2D Materials for Sensors; HEMTs for Electric Vehicles** (<http://hnrq.iiti.ac.in/>). HNRG has strong collaboration with industries and institutions in India and in the USA, KAUST, Russia, France, Portugal, Israel, Italy, Japan, Australia, Taiwan, and Germany. **Candidates, having expertise in MATLAB / CAD / Verilog / PSpice or cleanroom experimentations are desirable. Till date, 17 PhD students have graduated by completing their research at HNRG.**

Former PhD graduates from HNRG are successfully placed in IIT, IMEC, NITs, IIITs, and Japan (http://hnrq.iiti.ac.in/phd_graduated.php). For details, contact at shaibal@iiti.ac.in



Prof. Vipul Singh

Dr. Vipul Singh’s research group MNRG focuses on wide range of topics primarily related to **Organic electronics, Oxide based semiconductors, LSPR effect, Optoelectronic devices, Bio/chemical/gas sensors, synthesis of nanostructured materials**. MNRG strives for academically brilliant and motivated candidates having past background in Electrical/Electronics/ Instrumentation engineering/ Material Science & Engineering and Applied Physics and having passion to pursue research at the forefront of nanoelectronics and allied areas. Fellowship awardees are encouraged to apply to our group under FA category. For more details please visit our homepage: <http://www.iiti.ac.in/people/~vipul/>, for more details contact me at vipul@iiti.ac.in



Prof. Abhinav Kranti
(akranti@iiti.ac.in)

Low Power Nanoelectronics Research Group is engaged in pioneering research on capacitorless DRAM, steep switching transistors, material-device-circuit co-design and vertically stacked transistors, all of which are essential for the development of next generation logic and memory technology. The group has very strong collaborations with leading international researchers, and after completing PhD, students often receive offers for post-doctoral positions abroad. Exceptionally talented and motivated candidates, with strong interest in Semiconductor Devices, CMOS, Nanoelectronics, Biosensors, VLSI and Circuit Design intending to work on emerging research problems are strongly encouraged to apply. For more information, please visit: <http://iiti.ac.in/people/~akranti/>



Dr. Sumit Gautam

Dr. Sumit Gautam joined the Department of Electrical Engineering at IIT Indore in Dec’21. He has prior working experience in both industry and academia. His research interests pertain to (but not limited to): Simultaneous Wireless Information and Power Transmission (SWIPT), Wireless Energy Harvesting Methods, Wireless Edge-Caching based cooperative networks, Fronthaul load management: 5G-and-beyond/6G Wireless Communications, and Intelligent Reflecting Surface (IRS)-assisted SWIPT. Interested candidate(s) with good background in Communications/Signal Processing/Mathematics (Optimization Theory)/Computer Science (good coding skills in MATLAB/Python/C++) or equivalent is/are highly encouraged to apply. For more information about his works, please visit: <https://sites.google.com/site/sumitgautamjbp/home>, or kindly write to him at: sumit.gautam@iiti.ac.in



Prof. Vimal Bhatia

Prof. Bhatia (<http://iiti.ac.in/people/~vbhatia/> / vbhatia@iiti.ac.in) is leading collaborations with researchers from the **UK, Ireland, Norway, Finland, France, Canada, Czech Republic**, and the **US**, with more than 300 peer-reviewed publications, 5 patent granted and 18 PhD thesis has been submitted. Research on a) Performance analysis of beyond 5G/6G communications, b) OFDM, MIMO, NOMA, Cognitive Radio, Visible Light Communications, Quantum Communications c) Bio-inspired image processing, biometry, radar using machine and deep learning algorithms. Bright and highly motivated candidates, having background in **Communications/Signal Processing/Mathematics/Statistics/Electronics/Electrical Engineering/Computer Science or equivalent** are encouraged to apply. Former PG students placed in IIT, NIT, IIIT, NMIMS, Australia, Canada, Saudi Arabia, UK, EU, and Qualcomm



Prof. Mukesh Kumar

Dr. Mukesh Kumar is leading **Optoelectronic Nanodevice Research Laboratory** (Opto Nano Group). His research interests include **Optoelectronic Devices, VLSI Technology, Microwave Photonics, Nanoelectronics, Integrated Photonics and Device Fabrication**. He has supervised 10 PhD-scholars so far. He is also serving as an adjunct-faculty at Purdue School of Engineering & Technology, IUPUI, USA. His research-group has ongoing-research-collaborations with leading-scientists in India, France, UK, Russia, South Korea, Germany, and USA. He is looking for motivated and hard-working PhD-candidates who are with a background in **Electronics and related** areas and are interested to work in the above-mentioned research-areas. For further details, please visit <http://iiti.ac.in/people/~mukesh.kr>. Contact: mukesh.kr@iiti.ac.in



Prof. Ram Bilas Pachori

Prof. Ram Bilas Pachori works in the areas of Signal and Image Processing, Biomedical Signal Processing, Non-stationary Signal Processing, Speech Signal Processing, Brain-Computer Interfacing, Machine Learning, and AI and IoT in Healthcare. He has 284 publications which include journal papers (173), conference papers (78), books (10), and book chapters (23). His publications have approximately 13,000 citations with an h-index of 62 as per Google Scholar. He has supervised 15 Ph.D. students for their theses. He is looking for the Ph.D. students to work in the above mentioned research areas. Please visit his homepage for more details: <http://iiti.ac.in/people/~pachori/>



Dr. Swaminathan R

Dr. Swaminathan's (swamiramabadran@iiti.ac.in) **Future Generation Communication Systems research group** at IIT Indore works on 6G Wireless Systems, Efficient Design of Space-Air-Ground Integrated Networks (SAGIN) with FSO/RF Communications, Blind Receiver Design using Machine/Deep Learning Techniques, Intelligent Reflecting Surfaces (IRS) Aided FSO/RF/Terahertz Communications, Vehicular Communications, etc. Dr. Swaminathan is the author or co-author of more than 50 IEEE Journal and Conference publications. **He is actively looking for a PhD candidate (under FA - Project), who is having background in Wireless Communications, Signal Processing for Communications, etc., to work in 6G Communications project funded by SERB.** For more details, refer to <https://swamiramabadran.wixsite.com/website>



Dr. Saptarshi Ghosh

Dr. Saptarshi Ghosh is leading the research group in **Applied Electromagnetics Laboratory** at the Department of Electrical Engineering, IIT Indore, India. His areas of research interest include electromagnetics, frequency selective surfaces, metamaterials, absorbers, antennas, and other microwave devices. He is also working on various cutting-edge technologies, such as 3-D printing, Inkjet printing, and 5G wireless communication. Motivated candidates, having a strong background in Electromagnetics and related areas, are highly encouraged to apply. For more information and recent publications, please visit the weblink: <http://iiti.ac.in/people/~sghosh/>



Dr. Vivek Kanhangad

Dr. Vivek Kanhangad's research group at IIT Indore conducts theoretically sound and application-oriented research in the overlapping areas of **image analysis, computer vision and machine learning** with focus on **biometrics and biomedical applications**. Specifically, the areas of our current research include video analysis using deep learning for safety of autonomous vehicles, high-resolution fingerprint matching, biometric solutions for smartphones, and attack detection in biometric systems. The applicants should be highly motivated with an excellent academic record and programming skills. For more details, please visit <http://iiti.ac.in/people/~kvivek/>

For any queries, please contact:

DPGC Convener,
Department of Electrical Engineering,
Indian Institute of Technology Indore, Indore - 453552, India
E-mail: admission-ee@iiti.ac.in