

# Indian Institute of Technology Indore

## Advertisement for Admission to Ph.D. Program in Electrical Engineering

IIT/Acad/PhD Admissions/2019-20

August 20, 2019

IIT Indore is a premier institute for higher education and research in India and is currently ranked in the bracket of 351-400 in the Times Higher Education World University Rankings 2019, 2<sup>nd</sup> amongst Indian Institutes. IIT Indore invites applications from highly motivated and research-oriented students for admission to its PhD Program in the Discipline of Electrical Engineering for the Autumn Semester of Academic Year (AY) 2019-20 as per the prescribed categories of admission and time schedule. Candidates MUST visit the profiles of the faculty members available at <http://ee.iiti.ac.in/faculty.html> before applying for the PhD Program.

Kindly refer to the main PhD Advertisement of the Institute available at <http://academic.iiti.ac.in/phdadvt.php> for details on Admission Category, Minimum Educational Qualifications (MEQ), Qualifying Exam, Application Fee and Application Procedure.

Categories of Admission:

(Please refer to the main page of IIT Indore academic portal)

Minimum Eligibility (Qualifying Degree and Examination)

(Please refer to the main page of IIT Indore academic portal)

Last date of Online Application through <http://academic.iiti.ac.in:8080/nregistration.jsp>

September 27, 2019 (Friday)

Date of Written Test and/or Interview

September 28-29, 2019 (Saturday-Sunday)

### IMPORTANT INSTRUCTIONS (for Indian Nationals):

- Prospective applicants must apply online through our website (<http://academic.iiti.ac.in:8080/nregistration.jsp>). Candidates need NOT to send the hard copy of the submitted online application by post or courier.
- PhD written test and/or interviews shall be conducted on **September 28-29, 2019 (Saturday and Sunday)** at Room No. 204, Manganese Building (Pod 1E), IIT Indore, Simrol 453552, Indore. Eligible candidates, who have submitted online application (before the last date) and fulfil the minimum eligibility criteria, must report by **9 am** on **September 28, 2019**. Candidates must take a note that no separate email/communication will be sent to applicants regarding PhD selection process. **No communication, in any form, regarding short listed candidates, accommodation, change of date, syllabus of written test and/or interview etc. will be entertained.** Mere fulfilment of the minimum eligibility does not entitle a selection into the PhD program.
- Prospective candidates must bring the following documents on September 28, 2019, to present before the selection committee:**
  - Printout of the submitted online application form, two recent passport size photographs, self-attested photocopies and originals of all relevant supporting documents such as degree certificates, mark sheets, date of birth certificate, etc., from X<sup>th</sup> class onwards. Candidates may also bring original and attested photocopies of any other testimonials, documents or certificates that they wish to present to the selection panel.
  - A printout of the SBI i-Collect receipt confirming the payment of the application fee of Rs. 100.
  - Letters of recommendation duly **signed and sealed in a confidential envelope** from a minimum of **two referees** who have known the candidate in professional capacity. The letters are mandatory for PhD selection process and should be addressed to **The Chairperson, PhD Selection Committee, Electrical Engineering, IIT Indore.**
- No TA/DA will be paid for attending the PhD selection process.
- Candidates who wish to appear for the PhD selection process and fulfil the minimum eligibility criteria may also send their resume/CVs to the faculty members (from the list below) of their interest in addition to applying online through the website as stated above. Candidates are advised to visit webpage of below faculty members to know about their ongoing research activities and areas of interest. **Applicants with UGC/CSIR Junior Research Fellowship (JRF) award in Electronic Sciences/Physical Sciences or any other external fellowship/scholarship are strongly encouraged to apply under the Fellowship Awardee (FA) category.**

### IMPORTANT INSTRUCTIONS (for International Applicants):

Prospective applicants must apply online through our website (<http://academic.iiti.ac.in:8080/nregistration.jsp>). After submitting the application online, the eligible candidates should send the signed hard copy of the application along with a recent photograph, printout of SBI i-Collect payment receipt, and photocopies of self-attested relevant certificates by post to **DPGC Convener, Electrical Engineering, Indian Institute of Technology Indore, Simrol 453552, Indore, Madhya Pradesh, India**, latest by **September 28, 2019**. Only shortlisted international candidates shall be contacted for the selection process. For international applicants, application fee is USD 30. Further details are available on <https://academic.iiti.ac.in/phdadvt.php>.

### Faculty members and their research interests:

Dr. Abhinoy Kumar Singh  
([abhinoy.singh@iiti.ac.in](mailto:abhinoy.singh@iiti.ac.in))

Dr. Abhinoy Kumar Singh has joined IIT Indore as an INSPIRE Faculty after completing postdoc from McGill University, Canada. His major research interest is in estimation and filtering algorithms with application to target tracking problems. In recent years, he has also been working on tackling biomedical problems, especially, efficient glucose monitoring in diabetes treatment, with application of estimation algorithms. Being a tool for target tracking problem, the estimation/filtering algorithm is key to several defense and space technologies. It is also well applicable in financial and biomedical modelling, artificial intelligence in robotics, diagnosis and prognosis of heavy industrial equipment etc. These domains contribute large in world GDP and open scope for huge carrier opportunities. Potential candidates with strong background in control systems and/or mathematics, especially probability and stochastic theory, are encouraged to apply. For further detail, please visit IIT Indore website: <http://people.iiti.ac.in/~abhinoy.singh/>

Prof. Vimal Bhatia  
([vbhatia@iiti.ac.in](mailto:vbhatia@iiti.ac.in))

Prof. Bhatia completed his Ph.D. from The University of Edinburgh (UK), and is currently leading Signals and Software Group (SaSg) @ IIT Indore with active collaborations with researchers from the **UK, Ireland, Norway, Finland, France, South Africa**, and the **US**, with external funding of over 15 Crores from DST, MeitY, UKIERI, AKA Finland, and MHRD. The SaSg research group is actively involved in R&D on a) Performance analysis of beyond 5G communication links, b) Adaptive algorithms, c) OFDM, MIMO, NOMA, Cognitive Radio, Visible Light Communications for 5/6G and beyond networks, d) RADAR signal processing, e) Bio-inspired signal processing, machine and deep learning algorithms and f) Solutions for industry and defence. The group has attracted students from abroad, IISc/IITs/NITs/IIITs and other institutes. Bright and highly motivated candidates, having background in **Communications/Signal Processing/Physics/Mathematics/Statistics/Electronics/Electrical Sciences/Electrical Engineering/Computer Science & Engineering or equivalent** are encouraged to apply. Former post-graduate students from SaSg placed in NIT, IIIT, NMIMS, Australia and in Qualcomm. For more information, please visit: <http://iiti.ac.in/people/~vbhatia>.

Prof. Ram Bilas Pachori  
([pachori@iiti.ac.in](mailto:pachori@iiti.ac.in))

Prof. Ram Bilas Pachori works on the development of new methodologies based on the non-stationary signal models for analysis and classification of biomedical signals. He also works on time-frequency analysis-based methods for speech signal processing and non-stationary signal processing. He is looking for the Ph.D. students to work in the areas of Speech Signal Processing, Biomedical Signal and Image Processing, Signal Processing, Machine Learning, Brain-Computer Interfacing. Please visit his homepage for more details: <http://www.iiti.ac.in/people/~pachori/>

Dr. Shaibal Mukherjee  
([shaibal@iiti.ac.in](mailto:shaibal@iiti.ac.in))

Hybrid Nanodevice Research Group (HNRG) led by Dr. Shaibal Mukherjee works in advanced devices in **Renewable energy, HEMT / HFET/ RF/ RRAMs/ Neuromorphic Computing** (<http://people.iiti.ac.in/~shaibal/index.php>). HNRG has been involved in strong collaborative research activities with industries and institutions in India (Intel, EnviroWisers, IISc Bangalore, IIT Bombay, CEERI Pilani, RRCAT etc.) and in USA, Russia, France, Japan, Australia, Sweden, and Germany. Bright and inspired candidates, having a background in **Physics/ Materials Science/ Electronics/ Computer Science & Engineering** are strongly encouraged to apply. Former PhD graduates from HNRG are successfully placed in IIT Patna, IIIT Pune, IITRAM, DIAT, SNU, and IIIT Una (<http://people.iiti.ac.in/~shaibal/history.php>). Information regarding awards and achievements obtained by HNRG members may be obtained at <http://people.iiti.ac.in/~shaibal/awards.php> and / or <http://people.iiti.ac.in/~shaibal/news.php>.

Dr. Santosh Kumar  
Vishvakarma  
([skvishvakarma@iiti.ac.in](mailto:skvishvakarma@iiti.ac.in))

Dr. Santosh Kumar Vishvakarma is leading the research group “Nanoscale Devices, VLSI Circuit and System Design” at Discipline of Electrical Engineering, IIT Indore, MP, India. His research interests are: Custom SoC Design for IoT WSN; Ultra Low Power SRAM Memory Design; High Speed SerDes Design; Bluetooth Low Energy (BLE) Design for IoT; Microcontroller Design for IoT Node; PLL Design for IoT Node; Secure IC Design for IoT Node; Internet of Things (IoT) Enabled System Design; Reliable SRAM Memory Design: Device Circuit Co-Design Approach; SRAM Design using 3D TFET Devices; Performance analysis of 2D/3D Flash Memory Devices; Graphene-based MOS Transistor for analog/RF Circuit Applications; On-chip Memory Architecture and Efficient Data Flow for DCNN Accelerators; Design of Low power SRAM and In-Memory Computation and Patent of Electronics and IoT Circuits and Systems. Please visit his homepage for more detail: <https://sites.google.com/site/svishvakarma/>

Dr. Mukesh Kumar  
([mukesh.kr@iiti.ac.in](mailto:mukesh.kr@iiti.ac.in))

The research group of Dr. Mukesh Kumar, in **Optoelectronic Nanodevice Research Laboratory** (OptoNano Group), has been working in **Optoelectronic Devices, Nanoelectronics, Integrated Photonics, and Device fabrication** for applications in optical interconnects, high speed communications and bio-sensing. OptoNano Group is actively involved in Device Innovations through novel designs and cost-effective fabrication of smart on-chip devices based on Silicon and other hybrid materials (Graphene, ITO, Zinc Oxide, Silicon Nitride etc.) for future communication, computing and sensing. The group has ongoing research collaborations with leading scientists in India, France, UK, Russia, South Korea, Germany and USA. Motivated and bright candidates, having a background in **Electronics and related** areas are ideally suitable and thus strongly encouraged to apply. For further details, please visit <http://iiti.ac.in/people/~mukesh.kr>