Name of Proposer:	Surendra Ranganath
Email	surendra@iitgn.ac.in
Proposed Areas of research for PhD candidates:	Video analysis and interpretation, possibly coupled with multi-modal sensors such as infra-red, acoustic, physiological sensors attached to the body, etc. The effort can be targeted towards (though not limited to) recognizing people, analyzing and interpreting their activity/behavior, and deriving models to respond to people's needs/interests in a given environment in a seamless way. This will be useful towards developing natural human-computer interaction and video surveillance systems. Besides security, surveillance systems will also be useful in applications such as the care of the elderly and children.
Required qualification of applicants	Applicants are expected to have an M Tech degree in Electrical Engineering or Computer Science, with courses or project work in image processing/computer vision/pattern recognition.

Name of Proposer:	Arup Lal Chakraborty
Email	arup@iitgn.ac.in
Proposed Areas of research for PhD candidates:	The broad area of my research is the dynamic and versatile area of near-infrared and mid-infrared tunable diode laser spectroscopy (TDLS) for the detection of toxic and non-toxic gases. The focus of research will be on using recently-developed quantitative techniques to extract gas parameters (concentration, pressure, temperature etc) to characterize and optimize various industrial processes. Medical applications of TDLS will also be explored. Expect to work with different kinds of lasers and optical fibre to meet the challenge of developing portable field instruments. The research is expected to lead to papers in reputed journals and conferences.
Required qualification of applicants	Potential candidate would be expected to have ONE of the following qualification - 1. M.Tech. in Electronics Engineering or Laser technology or Optoelectronics/Photonics from a nationally recognized university with first class. 2. M.Sc. in Physics or Optoelectronics from a nationally recognized university with a first class. Candidates with a valid GATE/GRE score and/or with work experience of at least 2 years in the related field will be preferred.

Name of Proposer:	Naran M. Pindoriya
Email	naran@iitgn.ac.in
Proposed Areas of research for PhD candidates:	Optimal operation of RES generation integrated power system: The natural intermittency of power from renewable energy source (RES) (mainly wind and solar PV) power can significantly impact the operation of the grid, particularly if the penetration levels of this generation technology are high. For optimal scheduling and utilization of thermal generators, the RES electric generation being fed to the grid should be estimated with a certain level of accuracy. Moreover, because of the unpredictable nature of the RES power generation, the RES integrated power system requires the scheduling of additional power reserves for maintaining the reliability and stability margin. It is, therefore, a more complex problem to coordinate the RES and thermal generation to produce more economic schedules. The objective of this project is to

	develop a stochastic model for optimal operation of RES generation integrated power system considering load demand and RES generation forecast uncertainty. In addition, it expected to investigate the interaction between solar and wind power data on hourly, daily, and monthly basis. The results of correlation would be useful to indentify the possible applications of hybrid systems that could be considered for efficient utilization of RES. Prospective candidate is expected to have a strong background in power systems and stochastic optimization methods. Computational knowledge or programming experience in C/C++/Matlab and any power system simulation tool is desirable."
Required qualification of applicants	M.E. / M. Tech in Electrical Engineering (Specialization : Power Systems)