Office of the Dean (Research and Consultancy) S V National Institute of Technology, Surat

Database of SVNIT Faculty Members: Research Specializations and Expertise

Department of Physics			
Sr no	Name of the faculty member	Research Specialization to be displayed on the R&C website.	Any specific interesting research problems that the faculty member is working or intends to work upon
1.	Dr. Kamlesh N. Pathak	Upper Atmospheric Science Earthquake Prediction GPS Technology	 Gravitational Wave astronomy General Relativity of Exotic Structures Atmospheric Aerosols Atmospheric water vapor Remote Sensing of Earth resources
2.	Dr. Lalit Kumar Saini	Theoretical Condensed Matter Physics Strongly Correlated Electronic Materials Topological quantum nano Materials	 Electronic-structure calculation and quantum Monte Carlo(QMC) simulation Nano-, 2D and Bulk Materials Coulomb drag in Bilayer systems
3.	Dr. Dimple V. Shah	Semiconductor Crystal growth Thin Films Photovoltaic Materials	 Micro Hardness Measurement of Bulk Samples Gas sensing properties of Thin Films Fabrication of nanomaterials using Autoclave (Hydrothermal method) Thin films by spin coating method
4.	Dr. Vipul Kheraj	Thin Films and Materials Science Semiconductor Optoelectronic Devices	 Laser based materials processing for optoelectronic devices Investigations on degradation pathways for thin film solar PV in off-shore conditions Optimisation of experimental processes for fabrication of perovskites based thin film solar cells Biomedical instrumentations and automation Optoelectronic and opto electrical spectroscopy for materials diagnosis and testings
5.	Dr. Y. A. Sonvane	Computational Nanoscience Density functional Theory 2D Materials Nanomaterials &Nanofluids Biological Materials	 Perovskite-based materials for solar cell applications 2D Materials for Thermoelectric, Toxic Gas sensor and Battery and Super capacitor applications Hydrogen Storage, photo catalysis and water splitting applications Synthesis of oxide based Nanoparticles & amp; Nanofluids for heat transfer applications Graphene like Materials for Energy & amp; Charge Storage Applications Modeling of nano-scale materials using density functional theory
6.	Dr. Debesh R. Roy	Density Functional Theory Atomic Clusters & Nanostructures Physics of the Materials Nano-Biophysics	 DNA and inorganic electronics 2D materials for toxic gas sensing, thermos electrics and energy storage applications Cluster assembled materials for semiconductor applications Toxicity prediction through QSAR methods under DFT for medicinal applications Metal oxides and chalcogenides, and their antimicrobial activity
7.	Dr. Shail Pandey	Pulsed microwave generated plasma Plasma diagnostics: Electrical method and Optical Emission Spectroscopy Cold atmospheric pressure plasma physics and interaction with various surfaces	 Atmospheric pressure plasma physics and applications Physics of Plasma interaction with different surfaces Optical Emission Spectroscopy of plasmas Physics of Microwave generated plasmas and applications