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ADMINISTRATIVE EXPERIENCE : (11 Years)

I took the charge of Dean, Faculty of Basics Science Second time on 01.10.2024 after completed my first tenure as Dean, Faculty of Basics Science on 16th July, 2024 and two consecutive tenures (6 Years) as Head of newly established Physics Department at Rajiv Gandhi University, Itanagar (**from July 2015 to July 2021**). I have attended the 5-Day Residential Nurturing Future Leadership Program (NFLP) of Ministry of Education at IIT Jammu under the aegis of Malaviya Mission Teacher Training Program (MMTTP).

DEVELOPMENTS AND MILESTONES :

At RGU(2014-2022): Implementation of National education policy 2020 in the Faculty of Basic Sciences and introduce undergraduate program are major accomplishment in my tenure of Dean of Faculty however, As Head of Department, a phase wise plan has been implemented to develop the new department *i.e.* Design the syllabus, design and materialization a separate building, establishment of all PG laboratories. PhD program has been started in second phase and developing the research laboratories under a Centre of Advanced Research in the Department. A mega project under DST PURSE scheme has been granted to develop the research facility in the department in my chairmanship. At Kaziranga University(2012-2014): Being a new university, my role was to design the syllabus, and establishment of all UG&PG laboratories. At DDU Nadiad(2009-12): I was the key member to develop a state of art facility for R&D at Shah Schulman Center for Surface Science and Nanotechnology, Dharmsinh Desai University, Nadiad, Gujarat with Prof. Dinesh O Shah, University of Florida, USA

SERVICES AS EXPERT:

- Member of Selection Committees of Universities and various public service commissions
- Member of NAAC peer team
- Nodal officer, Recruitment of Teachers at Rajiv Gandhi University, Itanagar
- Chairman of Purchase Committee, Scientific Instrument
- Chairman, Construction Verification Committee
- Chairman, Promotion under Career Advancement Scheme for Teachers
- Reviewer of many Repute International Journals
- Member, Academic council, NERIST (*An institute of Govt. of India*)

RESEARCH INTERESTS AND EXPERIENCES:

- Design, fabrication and simulation of Nanomaterials/2D Materials for the applications *i.e.* solar cell, supercapacitor and Sensor.
- Surface and Interface analysis of Self Assembled Monolayers and Langmuir-Blodgett films.

Post-Doctoral Research: The research carried out in the group of Prof. Umberto Del Pennino at University of Modena, Italy involved to investigation charge transfer properties of thiol functionalized self-assembled monolayer on gold and silver surface by using XPS, LEED and UHV STM. Synchrotron radiation facility at Elettra (Trieste) was used for investigation of magnetic properties by XMCD. The research carried out at Inha University South Korea, to develop the plasmonic based devices in Prof

Ham's Group. At IIT Roorkee, the research focused was onto investigate the influence of ternary element on the crystalline quality, Opto- electronic properties , electrical properties and magnetic properties of the II-VI semiconductors. **Doctoral Research:** The doctoral research work done under the supervision of Prof. Ramesh Chandra, presently at Institute Instrumentation centre, Indian Institute of Technology entails the synthesis and characterization of nanoscale semiconductor materials and study of their size dependent properties for various applications. The more important ones were UV-visible, TEM, SEM, AFM magnetic susceptibility measurements, and X-ray diffraction to study the materials.

Scientific and technical skills:

- Design and implementation of multistep syntheses.
- General expertise on synthesis of 2D nanostructures.
- Skilled in analytical, spectroscopic, electroanalytical and X-ray diffraction methods.
- Fabrication and Characterization thin films by pulsed Laser Deposition.
- Computational and simulation studies by using AFOSR-HET software. It is used to study the independent effects of anisotropic behavior of two dimensional layer on the performance of solar cell.
- Good understanding of important techniques such as X-ray diffraction, electroanalytical methods, SEM, TEM, UV Vis Spectroscopy XPS, LEED, STM/AFM and DLS.

PROJECTS:

SN	Project Title	Duration	Funding Agency	Cost (in Lacs)
1.	Designing flexible non-enzymatic biosensors for the direct detection of clinically relevant biochemical using nanoengineered 2D materials hybrids.	2023-26	CRG SERB	52.00
2.	<i>“Design and Development of Materials for Applications in Energy Harvesting, Sensing and Organic Synthesis “</i>	2022-26	DST, New Delhi	923.00
3.	Design of low-cost magnetic bamboo activated carbon impregnated cellulose filtration cartilage for the treatment of metal ions contaminated water	2022-24	Govt of Arunachal Pradesh	13.00
4.	Co-implantation studies of ZnO Thin Films : Better understanding of room temperature ferromagnetism using ion beams (Beam time from IUAC (2020)	2021	IUAC Delhi	Beam Line