S.No	Title	Funding Agency	PI Name	Co-PI Name	Other PI& CoPI	School	Date of sanction	Duration Month	Project Status	Brief description	Key highlights	Societal impact of the project
1	Study of Radiation Stability of Tungsten Carbide nanostructures towards neutron irradiation	UGC - DAE	Ratnesh Kumar Pandey			School of Advanced Engineering	5/15/2023	48	Project Ongoing	to analyze and characterize changes in the structural and mechanical properties of the WC nanostructures resulting from this irradiation. This investigation is crucial for identifying the material's resilience to	nanostructured tungsten carbide, controlled neutron irradiation, structural and mechanical analyses, and the potential implications for the development of radiation-resistant materials in the context of nuclear applications.	power plants. Clean Energy Advancements: As nuclear energy is considered a low-carbon energy source, the project's
2	Origin and modulation of interfacial magnetic anisotropy in HM/CeFeB/MgO heterostructure for magnetic memory application	UGC - DAE	Sachin Pathak	Ajay Gupta		School of Advanced Engineering	5/15/2023	48	Project Ongoing	systems to achieve higher memory density and low power consumption. Since PMA in this system is primarily interfacial in origin, the same can be manipulated by manipulating the structure of	Furthermore, such interface alterations produce strain modulation, and electronic bond orientation modulation results in PMA modulation in the heterostructure, all of	heavily rely on data storage technology, such as enterprises, research organizations, and individual consumers.
3	Development of Ferrite nanomaterials for photocatalytic production of Hydrogen and conversion of Carbon dioxide into hydrocarbon	UGC - DAE	Sanjeev Kumar			School of Advanced Engineering	5/15/2023	48	Project Ongoing	occupancy, inversion parameter . Nanoscale particle size leads to improved photocatalytic activity. With an increased surface area and shorter diffusion length for photogenerated charge carriers, targeted	be used to optimize the synthesis process like concentration, temperature , water-surfactant ratio etc to get desired structure of Ferrite 3. Synthesize Ferrite coupled semiconductor systems	result from the energy sector being revolutionised by the discovery of an efficient, new method for producing hydrogen.
4	for setting up Inclusive Technology Business Incubator (i-TBI) at University of Petroleum and Energy Studies- Dehradun	Department of Science & Technology-DST	Rahul Nainwal	Mohit Nagpal		School of Business	6/10/2022	36	Project Ongoing			
5	Investigation of interaction of hydrogen with Pd-Ag and Pd-GO alloy thin films for hydrogen sensing and storage applications	UGC - DAE	Shikha wadhwa	Amit Kumar Chawla		School of Advanced Engineering	6/24/2022	48	Project Ongoing	The project investigates the effect of GO and Ag on the properties of Palladium for hydrogen sensing and storage applications.	is a change in mechanism from p-type to n-type semiconductor upon swift heavy ion treatment * For Pd-Ag films, the lower concentrations of Ag in Pd are better in terms of	to its colourless and odourless nature. The study is important for developing hydrogen sensors for industrial applications where hydrogen gas is used.
6	Designing piezoelectric mechanical energy harvesters based on polymer-biowaste hybrids for self-powered biomedical & next-generation electronics applications	UGC - DAE	Parswajit Kalita			School of Advanced Engineering	6/24/2022	48	Project Ongoing			
7	FIST Program	Department of Science & Technology-DST	Piyush Kuchhal;Sushabhan Choudhury;Abhinav Sharma;Surajit Mondal			School of Advanced Engineering	9/2/2022	60	Project Ongoing	Infrastructure project	Building infrastructure for battery management and communication system.	Project still not started, under procurement process.
8	Tailoring of Raw Polymeric waste into Advanced Multidimensional Carbon Nano Materials (PAVITRAM) for Large Scale Energy Storage applications including Supercapacitors and	National Mission on Himalayan Studies-NMHS		Sravendra Rana	1-Prof. Nanda Gopal Sahoo@PI@Kumaon University, Nainital, Sleepy Hollow	School of Advanced Engineering	3/14/2023	42	Project Ongoing			
9	Engineering of 2d-Transition Metal oxides for Integrated Carbon Capture and Utilization	Science and Engineering Research Board-SERB	Abhishekkumar Mishra	Sravendra Rana		School of Advanced Engineering	10/3/2023	36	Project Ongoing	potential high-performance dual functional materials (DFMs), where the aim is to engineer these materials by heteroatom doping, defect engineering, interfacial structure engineering, etc. through a combined computational and experimental approach.	(DFM) for an efficient ICCU process, as so far DFMs available still have serious shortcomings including inferior CO_2 selectivity, poor electrical conductivity, bad chemical stability, high cost, etc.	our dependence on fossil fuels for energy. There are great efforts in this direction to reduce CO_2 in the atmosphere and fix the climate-change problem in an
10	Self-entangled CNT/ZnO tetrapod based fillers to solve the delamination and weak polymer-fibre interface issue in carbon fibre reinforced polymer (CFRP)	Science and Engineering Research Board-SERB	Manjeet Goyat			School of Advanced Engineering	12/5/2023	36	Project Ongoing	trying different strategies like using wavy CNTs, chemically modified CNTs and graphene to minimize the existing problems of CFRPs. However, the chemical modification of CNTs is an expensive and slow procedure which also deteriorates the structure of CNTs. A recently	assisted resin transfer molding (VARTM). • To characterize the polymer matrix-fibre interface and delamination of CFRP epoxy nanocomposites laminates.	production methodology of next-generation CFRP epoxy nanocomposites must attract a broad range of interest around the globe because CFRPs are commercial
11	Promoting a conducive academic environment by addressing campus interpersonal violence at an Indian higher education institution(GCVP)	University of California, Los Angeles(UCLA)	Melissa Reneaux	Yamini Negi		School of Liberal Studies & Humanities	10/11/2023	38	Project Ongoing	emotional well-being of individuals involved but also undermines the principles of safety, respect, and inclusivity that are fundamental to fostering a productive and supportive educational atmosphere. Addressing and preventing IpV is crucial to ensure that students can	channels, publications, and national conferences, potentially offering a replicable model for other institutions across India. (d) Student-driven community	environment. (c) The effort will be sustainable and scalable through the creation of an online module, together with an intervention package and manual. (d)
12	Chemical recycling of cotton-based waste fabrics to cellulose	Uttrakhand State Council for Science and Technology-UCOST	Shailey Singhal	Ajay Mittal		School of Advanced Engineering	9/22/2023	36	Project Ongoing	This projects aims to convert the waste and discarded fabrics into cellulose, which is an industrially significant material, owing to its various applications.	management. 2. Means for converting waste to wealth. 3. Offers a process for extracting cellulose from waste. 4. Support to environmental protection.	thereby making a positive impact on the health of the people. Futher, this may also create an opportunity for employment generation in future.
13	ESTABLISHING A TECHNICAL SUPPORT UNIT FOR THE RICE FORTIFICATION PROGRAMME IMPLEMENTED BY THE GOVERNMENT OF UTTARAKHAND	United Nation- World Food Programme	Ravinder Kaushik	Ramesh Kumar Saini;Abhishek Chandra;Amritansh Bhanot		School of Health Sciences & Technology	3/29/2023	57	Project Ongoing	partner for creating advocacy and sensitzation for fortified rice. This is a 2-years project, to carry out research and outreach activities under this project UN-world food programme had provided 7.5 lakhs to UPES	2) To carry out training for the rice millers, state officials, govt. school staff and consumers to create awareness pertaining to fortified rice. 3) To carry out research work and assess the impact of	undernutrition from the community Government has initiated distributing fortified rice in Public Distribution System (PDS). Under this project me and my team visit villages, govt schools, Anganwadi and rice millers of
14	Ultra-Sensitive SERB Probing for food and health safety using hybrid plasmonic metasurfaces and dual-beam pump-probe Raman	Science and Engineering Research Board-SERB	Prasanta Mandal			School of Advanced Engineering	8/29/2024	36	Project Ongoing	pump-probe near-field Raman, and ultra-sensitive SERS detection using hybrid plasmonic metasurfaces for food and health safety. Understanding the physical origin of high SERS enhancement due to plasmonic near fields caused by surface plasmon resonance excitation	Ultrasensitive SERS, Food & health safety, Dual-beam pump-probe Raman, soft lithography, interference lithography, cost effectiveness	sensing may be overcome by using separate pump beam for SPR excitation. This will lead to further development on low cost SERS probing. Successful developments of dual-beam pump-probe near-field
15	Development of Impact Resistive and Thermally Resilient Hybrid Laminated Composite Panel for Personal and Vehicle Armours	Science and Engineering Research Board-SERB	Ashish Mishra	Subhankar Das		School of Advanced Engineering	5/3/2024	36	Project Ongoing	UHMWPE fibre through the patented ultrasonically assisted electrophoretic deposition (EPD) technique. The treated UHMWPE fibre will be systematically stacked with reinforced polyurethane resin to develop a hybrid laminated composite panel. The flat composite	•Development of lightweight composite panels with improved energy absorption capabilities, suitable for protecting against various ballistic threats. •Potential applications in military, law enforcement, and	level protection systems, benefiting military, law enforcement, and civilian security applications. Additionally, the research contributes to technological advancement in materials science and engineering.
16	Development of Soft Armoured Lighteight Nanocomposite Material with enhanced Ballisitic Protection.	Science and Engineering Research Board-SERB	Piyush Gaur			School of Advanced Engineering	2/6/2024	36	Project Ongoing	This project is about developing a soft armour graphene reinforced Armour with enhanced ballistic protection.	Light weight, graphene reinforced material with enhanced ballistic protection.	Useful for the Defense and Aerospace sector.
17	Water Quality assessment of Nainital Springs and remediation using green nanoparticles	G. B. Pant National Institute of Himalayan Environment, Kosi Katarmal, Almora - 263643,Uttarakhand, India	Madhuben Sharma	Sapna Jain		School of Advanced Engineering	2/23/2024	36	Project Ongoing	affecting the quantity, quality, and accessibility of spring water. In the present research proposal, a comprehensive monitoring and assessment of the spring water quality, present in the vicinity of	area. 3)A water quality map of the springs near Lake Nainital will be developed. It will serve as reference data for researchers and scientists working in the water sector	people. Development of green nanoparticle-based water
18	Biomass nanocomposite with reduced volatile matter as the substitution of conventional coal for co-firing operation in thermal power plants	Department of Science & Technology-DST	Nirlipta Priyadarshini Nayak		1-Prof.Zishan Husain Khan@PI@Jamia Milia Islamic 2-Dr. Harshal Kumar@PI@Gla University	School of Advanced Engineering	3/28/2024	36	Project Ongoing	are highly hydrophobic, brittle, more easily fluidizable and agglomerate less. Along with these, Energy consumption, in transportation, storage, milling, densification and feeding. Chars once produced from biomass	safety hazards. •Substitution of 5-7 % of coal with biomass in coal-based power plants can save 38 million tons of carbon dioxide emissions.	reduces energy consumption and costs. Using locally sourced biomass can reduce dependence on imported fossil fuels, which can improve energy
19	Morphotectonic assessment of structurally induced geohazard potential areas within the MBT Zone: NW of Dehradun, Uttarakhand	Science and Engineering Research Board-SERB	Girish Chandra Kothyari	Atul Kumar Patidar		School of Advanced Engineering	5/8/2024	36	Project Ongoing	InSAR/GLA/ML/SPIM modeling, and field-based technique will be implemented to map the zone of active deformation. The idea is to generate a potential hazard map and delineate structurally controlled active landform morphology in the study area, which will ultimately	projection to understand probable causes of stress build-up and vulnerable zones having landslide potential. 3.Analysis of active ground deformation pattern/ground subsidence, using InSAR/PSINSAR & SPIM modeling	of the current terrain. The main aim is to provide a precise geohazard potential and active fault map of the densely populated regions located between Dehradun
20	Grant Support to Innovations	All India Council for Technical Education-AICTE	Tridib Kumar Sinha		1-Gaurav Dwivedi@PI@Ugreen Technology	School of Advanced Engineering	5/6/2024	24	Project Ongoing			
21	Human induced pluripotent stem cell-based functional characterizations of novel identified disease causal gene(s)/variant(s) in families with juvenile Parkinson's disease	Science and Engineering Research Board-SERB	Laxmi Kirola			School of Health Sciences & Technology	5/17/2024	36	Project Ongoing	to genetic predisposition (inherited either in autosomal dominant, recessive, or X-linked mode), heterogeneity, and other phenomena. Recently, whole genome sequencing has helped to discover both	of paramount importance for several reasons: i) Advancing precision medicine ii) Early diagnosis and prognosis	applications for patient care. Further, this includes i) Global collaboration ii) Understanding and unraveling disease complexity iii) Access to advanced technologies
22	Investigation of steroidal Glycosides in Dioscorea Bulbifera as Anticancer Agents via Targeting Metabolic Homeostasis of Cancer Cells	Uttrakhand State Council for Science and Technology-UCOST		Dhruv Kumar	Dr. Rohit Mahar@PI@Hemwati Nandan Bahuguna Garhwal University (HNBGU)	School of Health Sciences & Technology	9/10/2024	24	Project Ongoing			
23	Development of flexible MXene/Oxides based layered electrodes for energy storage devices	Uttrakhand State Council for Science and Technology-UCOST	Shalendra Kumar	Aditya Sharma;Ramendra Pati Pandey		School of Advanced Engineering	12/10/2024	24	Project Ongoing			research laboratories are developing materials for better functionality of existing devices. However, the self-financing universities/laboratories have to work towards
24	River health estimate using diatoms as pollution indicators and remediators of microplastic and heavy metal pollution	Uttrakhand State Council for Science and Technology-UCOST	Smriti Arora	Ramendra Pati Pandey		School of Health Sciences & Technology	12/3/2024	24	Project Ongoing	made up of silica and their unique morphologies allows us to differentiate between different species without having to apply molecular methods. Diatoms are preferred for biomonitoring in literature due to their non-polluting, non-infectious nature and in fact	River reclamation, Biodiversity, Pollution	Detection and degradation of microplastic using biomonitring and degradative capapcity of diatoms
25	Development of plant probiotics consortia to promote disease -resilient hydroponics cultivation in rural and urban area of uttrakhand	Uttrakhand State Council for Science and Technology-UCOST	Subhajit Basu	Ramendra Pati Pandey		School of Health Sciences & Technology	9/10/2024	24	Project Ongoing			
26	Roots Renewed: Empowering Uttarkashi Towards Advancing Sustainable Frameworks	National Mission on Himalayan Studies-NMHS	Manisha Solanki	Sravendra Rana	Dr. Nanda Gopal Sahoo@Co-PI@Kumaun University	School of Business	3/20/2025	36	Project Ongoing			
27	Autonomous underwater Navigation and Mapping	IIT Tirupati Navavishkar i-Hub Foundation (IITTNiF)	Jitendra Kumar Pandey	Surajit Mondal,Vikas Thapa		School of Advanced Engineering	3/21/2025	18	Project Ongoing	autonomously for lengthy periods of time, allowing them to explore extreme depths and dangerous regions that traditional means cannot reach. They are equipped with modern	Unmanned and Risk-Free Exploration: Operates without human divers, enabling safe access to extreme or hazardous underwater environments.	improving community safety. Support for Coastal Livelihoods: Assists in sustainable
28	Design and development of a point-of-care nano-biosensing device for the early detection of diabetes and cardiac disorder	Anusandhan National Research Foundation (ANRF)	Souradeep Roy			School of Health Sciences & Technology	6/5/2025	36	Project Ongoing			
29	Development of Dual Inhibitors of PDE1B and PDE10A as Therapeutic Agents for Schizophrenia	Anusandhan National Research Foundation (ANRF)	Anand Gaurav			School of Health Sciences & Technology	6/2/2025	36	Project Ongoing			
30	Identifying Enablers for Green Transition of MSMEs in India	Indian Council for Social Science Research-ICSSR	Sushil Kumar Rai			School of Business	4/16/2025	24	Project Ongoing			
31	Kangra Valley Fault, NW Himalaya using 3D Trenching: implications for better seismic hazard assessment of Epicentral area of 1905 Kangra	Anusandhan National Research Foundation (ANRF)	Sambit Prasanajit Naik			School of Advanced Engineering	7/1/2025	36	Project Ongoing			
32	3D Printing of Bio-chemical Derived Vitrimers for Healable Soft Actuators	Department of Science & Technology-(DST)	Sravendra Rana	Abhishekkumar Mishra		School of Advanced Engineering	7/2/2025	24	Project Ongoing			
33	Protein editing: Molecular logic and Reprogramming	Department of Biotechnology (DBT)	Santosh Kumar Chaudhary			School of Health Sciences & Technology	7/25/2025	36	Project Ongoing	rather than being multigenerational. Here, I propose to exploit this property of PTMs for dynamic reprogramming of cellular functions. The proposed research aims to develop and apply innovative protein-editing platforms, to enrich our understanding of the molecular logic	methods, the project addresses urgent challenges in drug resistance and expands the toolkit for cellular engineering in both infectious disease and oncology.	validated by clinical trials of azurin-derived peptides, could expand treatment options and improve cancer outcomes for diverse patient populations.
34	Impact Assessment of Climate Change Literacy Programme of Indian Business Schools using Randomized Control Trial Method.	Institute of Eminence (IoE), University of Delhi		Narendra N. Dalei	1-Dr. Yamini Gupt@PI@University of Delhi South Campus, New Delhi	School of Business	1/4/2021	12	Project Completed			
35	Glancing angle deposition of magnetic thin films and multi layers on nanopatterned templates: An idea towards tilted magnetic media	Department of Science & Technology-DST	Sarathlal KV			School of Advanced Engineering	3/11/2021	60	Project Completed			
36	study of Malanjkhand and Dongargarh Supergroup volcanics and plutons along Dongargarh Kotri mobile belt with insights from	Science and Engineering Research Board-SERB	Sunil Kumar Khare	Somenath Ganguly	1-Prof. Venkatesh Satya Akella@Co-PI@Indian Institute Of Technology (Indian School Of Mines,Dhanbad)	School of Advanced Engineering	3/17/2023	36	Project Completed	Archean Proterozoic transition. It aims to understand the metallogenic and petrogenetic aspects of Central Indian craton during early evolution of earth.	Elsevier journals "Ore and Energy Resource Geology" and "Journal of Earth system science". Field work done and rock samples collected, petrography done, CL study done, rock sample analysis done, Advanced	This research study intends to explore critical minerals needed by Govt. of India for its Energy transition requirements.
37	Novel Artificial Intelligence-Based Smart Snake Trapping Device for Improving the Socio-Economic Status of Scheduled Tribes STs in India"	Department of Science & Technology-DST	Neelu Jyothi Ahuja	Huma Naz(PhD Student)		School of Computer Science	3/21/2023	30	Project Completed	and fabricating a transparent square box equipped with a microcontroller, a camera with a GSM module, and an image processing algorithm. This project focused on developing a sustainable and effective solution by repurposing single-use plastics into durable	harm to the snake or requiring human intervention. By reducing the death toll and medical illnesses caused by snakebites, the proposed research can potentially	medical center and labs for antivenom development and for other testing purposes. The commercialization of the product can also generate revenue, as the trap is very
38	Defect Assisted Current Transport Mechanism In III-V Semiconductors for Thermoelectric/Energy Applications	Department of Science & Technology-DST	Ashish Kumar			School of Advanced Engineering	6/18/2021	12	Project Completed			
39	Assessment of disease burden in the arsenic and pesticide exposed population in the Gangetic plains of Bihar	Indian Council of Medical Research		Dhruv Kumar	1-Dr. Arun Kumar@PI@Mahavir Cancer Sansthan and Research Centre, Patna, Bihar	School of Health Sciences & Technology	3/1/2023	36	Project Completed	4. Luteinizing hormone (LH) 5. Prolactin 6. Oxytocin	arsenic, an area that has not been previously explored in this region. Novel Analysis of Breast Milk: This project will be the first to investigate the presence of heavy metals like arsenic	data. The data generated from this study will be eye-opening and will pave the way for strategic control measures to
40	Formation of nanostructured W-Cu thin films for nuclear and energy applications	Department of Science & Technology-DST	Asokan Kandasami	Abhishekkumar Mishra		School of Advanced Engineering	8/14/2023	24	Project Completed	effects, and radiation tolerance. Especially, the multilayers having alternate structure mismatched films, such as facecentered cubic (fcc) of Cu and body-centered cubic (bcc) of W, forming incoherent interfaces can hold the highest strengthening at room temperature	team) (c). To evaluate radiation hardness and mechanical properties of thermally/ion irradiation modified W and W/Cu thin film structure for their structural modifications	effectively used in industry, especially in the nuclear and space fields, due to their high stability under extreme conditions, as well as in the energy industry to create new materials promising for hydrogen storage.
41	Exploit the molecular mechanisms of nuclear lipid homeostasis as novel drug targets against Leishmania donovani	Science and Engineering Research Board-SERB	Koushik Das			School of Health Sciences & Technology	11/11/2021	24	Project Completed			
42	Self-repairable carbon fiber reinforced vitrimeric composites for aerospace applications	Science and Engineering Research Board-SERB	Sravendra Rana			School of Advanced Engineering	12/22/2021	45	Project Completed			
43	In-situ immobilization of Dissolved Metals(Arsenic and Chromium) by manipulating redox condition of the impacted aquifers by injecting suitable amendments	Department of Science & Technology-DST		Manish Kumar	University, New 2-Dr. R. Arthur James@Co-PI@Bharathidasan University,	School of Advanced Engineering	1/29/2022	36	Project Completed			
44	ICSSR Post doctoral fellowship for the year 2022-23	Indian Council for Social Science Research-ICSSR	Totakura Bangar Raju;Soumya Jain			School of Business	12/9/2022	12	Project Completed			
45	Development of a piezoelectric based point-of-care biosensor for COVID-19 detection	Science and Engineering Research Board-SERB	Ashish Mathur		of Technology,Thailand 2-Julie Juliewatty Mohamed@PI@Universiti Malaysia Kelantan Faculty Of Bioengineering	School of Advanced Engineering	8/18/2022	30	Project Completed	The project aims at developing point-of-care piezoelectric DNA nano-biosensors based on quartz crystal microbalance for the detection of COVID-19.	Neanic Solutions Pvt. Ltd. and Suratech Inc. aiming at joint commercialization of the product in the future. Furthermore, in order to bolster the UPES-SUT collaboration (Indo-ASEAN) there have been exchange	prototype can also be integrated with an array of sensors which can detect various complications arising from COVID-19. As such, predicting such scenarios
46	Structure formation of nanofillers inside the polymer matrix using ultra small angle x-ray scattering techniques	Defence Research and Development Organisation - DRDO	Sarathlal KV	Ajay Gupta		School of Advanced Engineering	8/5/2022	36	Project Completed	mechanical deformation and heating. The PNC samples will undergo real-time structural analysis using versatile, non-destructive small and ultra-small angle X-ray scattering (SAXS & USAXS) techniques, alongside conductivity and stress-strain curve measurements. By	• Versatile, non-destructive, synchrotron based SAXS & USAXS techniques will be employed to do real-time structural and transport studies in PNCs.	• The optimization of preparation parameters to produce low percolation threshold, facilitates extensive commercialization of low cost- conductive PNCs.
47	Photo assisted oxidation of organic substrates using Ru–Fe based bimolecular chromophore/catalyst system	Uttarakhand Science Education & Research Centre-USERC	AMIT KUMAR	Sushil Kumar		School of Advanced Engineering	6/18/2022	12	Project Completed			
48	Vaccum Photodiode detectors for broadband vaccum ultraviolet detection in ADITIYA-U tokamak	DAE- BRNS	Prashant Shambhudayal Rawat	Kailash Pandey		School of Advanced Engineering	6/15/2022	36	Project Completed	VUV region of the EM spectrum on the Tokamak, ADITYA-U. This would give a much-needed fill-up to diagnostic needs in the respective region. The detector has been designed, fabricated and installed on	tokamak, ADITYA -U. 2. Diagnostics in the VUV and soft X-ray region. 3. All of above done. 4. Preliminary data obtained and being compared with	Though the project works on the fundamentals of science, it concerns building one of the several other diagnostics for plasma produced in Tokamaks, which eventually is going to help to achieve fusion energy.
49	Water Quality assessment of river Yamuna , Uttarakhand and its exposure assessment with respect to water borne diseases among the nearby community of rivers	Uttrakhand State Council for Science and Technology-UCOST	Madhuben Sharma	Amit Awasthi		School of Advanced Engineering	6/1/2022	24	Project Completed	progressively unfit for human consumption and agricultural usage. This project focuses on comprehensively monitoring and evaluating the water quality of the River Yamuna in Uttarakhand using scientific & sophisticated techniques including Multivariate Statistical Techniques	Yamuna River in Uttarakhand. • Identified key contributors—agricultural runoff, domestic sewage, and industrial effluents for River Yamuna . • Developed a Water Quality Index to assess the state and health of	between water quality issues and major illnesses, the project enables preventative steps to reduce waterborne disease occurrence among inhabitants living near by the
50	innovatively expanding conventional WBE dataset for the monitoring of variability of COVID-19, variants of SARS-CoV-2, and antidrug resistance	Science and Engineering Research Board-SERB	Manish Kumar		1-Dr.Madhvi Nandlal Joshi@Co-PI@Gujarat Biotechnology Research Centre	School of Advanced Engineering	5/25/2022	12	Project Completed			
51	Upgrading bio-oil produced from waste biomass using Nanocatalyst	UGC - DAE	Leena Kapoor			School of Advanced Engineering	6/24/2022	45	Project Completed	UPES coffee vending machines that uses roasted coffee beans and leave wastage. Around 14 coffee vending machines are available in UPES bidholi campus and produces on an average produces 10 to 15 kg waste per day. The tea waste was collected from local tea shops	synthesis route. •To determine physiochemical properties of as-prepared catalyst. •To upgrade the bio-oil using the nano catalysts	char. This biochar when mixed with soil will enhance the soil properties, consequently increased crop yield. Bio char can also be used for household cooking purposes
52	Engineering and fundamental aspects of interfacial Dzyaloshinski-Moriya interaction in Heavy Metal/ Ferromagent multilayers	UGC - DAE	Sarathlal KV			School of Advanced Engineering	3/30/2022	39	Project Completed	above-mentioned magnetic phenomenon. Hence, studying the interfaces with atomic scale precession are very crucial. In this project we aim to study the domain wall dynamics and interfaces in magnetic multilayer structures with depth resolution and element selectivity by	magnetic studies in magnetic multilayer systems. • Various state-of-Art, non-destructive, synchrotron-based techniques like HAXPES, XRMR, PNR etc… will be employed for the sample characterization	interfaces to modify the magnetic properties of multilayers. • Development of heavy metal/ferromagnetic multilayers with tailored properties for spintronic based magnetic
53	Study of phase transformation processes in thin films	UGC - DAE	Santosh Dubey			School of Advanced Engineering	3/30/2022	48	Project Completed	Investigation of various phases in Ni/Si thin films	NA	Important for microelectronics industry
54	Early Science Technology Engineering Education and Mathematics, ESTEEM of India Research Center	AICTE and Ministry of Education	Ashish Karn	Pankaj Badoni		School of Advanced Engineering	3/26/2022	27	Project Completed			
55	Establishment of Community COVID Resilience Resource Centre (CCRRC) in Doiwala Block, Vikasnagar Block and Sahaspur Block, Dehradun District of Uttarakhand State	Department of Science & Technology-DST	Neelu Jyothi Ahuja	Jyoti Upadhyay		School of Computer Science	3/29/2022	42	Project Completed	sharing during the pandemic. The method ensured widespread participation, even in remote rural communities. Health assessments formed a core component of the project, focusing on parameters such as blood glucose, blood pressure, and BMI. Through health camps	economic challenges, and pandemic-related information sharing. Enabled efficient outreach and data collection from remote, rural communities Organized health camps	marginalized groups like women and the economically disadvantaged. Addressing challenges worsened by the pandemic, we bridge resource gaps, foster resilience,
56	Nyay Bandhu (pro bono legal services) program of ministry of law and justice- implementation of pro Bono club scheme in school of law UPES	Department of Justice Ministry of Law & Justice	Ashutosh Tripathi	Rohit Ranjan		School of Law	4/6/2022	26	Project Completed			
57	Investigation of radiation tolerance of ceramic composites	DAE- BRNS	Parswajit Kalita	Devesh Kumar Avasthi		School of Advanced Engineering	9/23/2022	37	Project Completed			
58	Experimental and numerical studies of accidental multiple pool fires occuring in chemical process industries	Science and Engineering Research Board-SERB	Raja S(Post-Doctoral);Syed Mohammad Tauseef			School of Advanced Engineering	9/23/2022	3	Project Completed			
59	Nanomaterials integrated wireless sensors for biological barriers	Science and Engineering Research Board-SERB	Nidhi Chauhan			School of Health Sciences & Technology	11/28/2022	6	Project Completed			
60	Exploration of Himalayan Hot-Springs for microbes with Biohydrogen production capabilities in the area of Haridwar, Rishikesh and Dehradun	Oil India Limited-OIL	Suvendu Manna	Gunjan Vasant Bonde;Raj Kumar Tiwari;Kaushik Das		School of Health Sciences & Technology	3/5/2022	24	Project Completed	bacteria have been isolated from 4 different hot-springs and out of them 2showed biohydrogen producing capacities. Among all the other bacteria 4 showed pigment production, one showed antimicrobial agent production, and almost 18 showed thermophilic enzyme	isolation of biohydrogen producing microbes. isolation of antimicrobial agents and pigment producing bacteria. Isolation of thermo-enzyme producing microbes."	and geochemical properties. It will give more boost to the local visit and site seeing. the industrially important microbes can be used for production of new enzymes and other products beneficial for the local people.
61	Molecular toolkit for N-acetylgalactosaminyltransferases (GalNAc-Ts) inactivation	Science and Engineering Research Board-SERB	Parteek Prasher		1-Prof. Prasad V. Bharatam@Co-PI@National Institute of Pharmaceutical Education and Research S.A.S. Nagar	School of Advanced Engineering	1/7/2022	36	Project Completed	Development of molecular inhibitors of adenocarcinoma, based on 5-heteroatom dicarbamate moiety	The project is aimed at the development of molecular inhibitors of anomalous galactosylation.	Clinical translation of the developed molecules holds promise in the management of mucin cancer
62	evaluation of novel substituted benzo[d]imidazo[2,1-b]thiazole derivatives as antimycobacterial agents targeting the	Science and Engineering Research Board-SERB	Kuldeep Kumar Roy			School of Health Sciences & Technology	11/10/2021	24	Project Completed			
63	Investigation of radiation damage in WC nanostructures using ion beams for fusion reactor applications	DAE- BRNS	Ratnesh Kumar Pandey	Devesh Kumar Avasthi		School of Advanced Engineering	11/9/2021	40	Project Completed	nanostructures often exhibit unique properties that can enhance their resilience. The investigation involves subjecting WC nanostructures to controlled	neutron irradiation conditions experienced by materials in a fusion reactor. This approach allows for controlled and systematic investigation of radiation damage.	nanostructures pushes the boundaries of material science and engineering. The technological innovations and breakthroughs resulting from this research can have ripple effects across various industries, fostering a
64	A novel device for detecting the proximal extent of pathology (levelling) in Hirschsprung Disease	Biotechnology Industry Research Assistance Council-BIRAC		Ashish Mathur	2-Dr. Santosh Kumar Mahalik@Co-PI@AIIMS Bhubaneswar 3-Dr. Kanishka Das@Co-PI@AIIMS Bhubaneswar	School of Advanced Engineering	11/11/2021	22	Project Completed	The project involved the development of a novel miniaturized nanotechnology-enabled device for the efficient intra-operative leveling in patients suffering from Hirschsprung Disease.	nanodevice has performed successfully in the clinical trials at AIIMS, and is now currently at TRL 6-7. A series of multicentric clinical validation is now being planned	This situation has been examined during 12 live surgeries at AIIMS Bhubaneswar while performing clinical trials. As such, the burden on pediatric surgeon
65	Study, design and synthesis of the nanomaterials for solid state battery applications	Ornate Agencies Pvt Ltd, New Delhi, India	Manan Mehta	Sushabhan Choudhury;Devesh Kumar Avasthi		School of Health Sciences & Technology	3/24/2021	36	Project Completed			
66	Microalgae-mediated wastewater reclamation with bio-oil and biogas production: a sustainable approach	Department of Science & Technology-DST	Bhawna Lamba	Sapna Jain	1-Archana Mishra@Co-PI@Viklap(NaiDishayen) 2-Avanish Kumar Tiwari@Co-PI@Viklap(NaiDishayen)	School of Advanced Engineering	2/17/2021	40	Project Completed	from sludge and bio-char. This creates an integrated demonstrative unit of TRL 6-7 for bio-oil, biogas and bio-manure production with the sewage water treatment. The project supports zero waste technology and aligned with Swachh	reactor to produce bio-oil which after physio-chemical treatment can be used in neat or blended form with conventional fuels.	environment. As the project is about to complete, so using the optimized parameters the integrated process can be implemented at Residential campus, Public Societies
67	Non-invasive diagnostic tool for Diabetic Retinopathy using lightweight Intelligent Applications and Fundus photography (BT/AGC.IC0011/01/22)	Biotechnology Industry Research Assistance Council-BIRAC	Shamik Tiwari	Anurag Jain;Neelu Jyothi Ahuja		School of Computer Science	10/13/2023	6	Project Completed	graded by certified retina specialists. With the exponential rise in the number of persons with diabetes and a lack of qualified graders/retinal experts especially in rural and remote areas, healthcare providers have started to pay attention to an automated	deploy in diagnostic devices. â€¢ Design DR diagnostic system with ability to diagnose up to seven classes namely No DR, Mild or	retinopathy patients precisely and promptly during a diabetic patients regular exam. Such a DR diagnostic system is much required in
68	Sustainable Management of municipal and medical plastic waste for production of hydrocarbon fuels	Uttarakhand Science Education & Research Centre-USERC	Bhawna Lamba	Amit Kumar Sharma		School of Advanced Engineering	11/28/2023	18	Project Completed	waste in an oxygen-free environment or with low oxygen content. To maintain a consistent pyrolysis environment, plastic waste is largely thermally converted in an inert atmosphere (N_2 as carrier gas). Though this pyrolysis method has several advantages, the use of N_2	Physicochemical analysis of MSW and medical plastic wastes of Dehradun district. • Production of hydrocarbon fuels from plastic wastes. • Awareness on plastic waste segregation and applications in nearby rural area.	•Production of hydrocarbon fuels from plastic wastes. •Awareness on plastic waste segregation and applications in nearby rural area. •Support the Smart City flagship project - By sustainable
69	The Impact of Skill Development Initiatives on Employment Landscape and Wages in Jammu and Kashmir	Indian Council for Social Science Research-ICSSR	Mohammad Younus Bhat			School of Business	9/29/2023	6	Project Completed	decision to enrol in UDAAN. We will also evaluate how skill training acquired through UDAAN affects employment generation in Jammu and Kashmir as well as wages at the sectoral and general levels.	Explores the factors influencing engagement in special Industry Initiative (SII) like UDAAN for the UT of Jammu and Kashmir	impact of a Special Industry Initiative in an industrial backward area of the country i.e., UT of J&K. This study is important because it highlights the significance of
70	Tribo-Tech:Development Polymer-Based Tribo-/Piezo-Electric Devices for Sustainable Sensing and Energy Harvesting Application	Science and Engineering Research Board-SERB	Tridib Kumar Sinha			School of Advanced Engineering	10/26/2023	27	Project Completed	Herein, the composite is assumed to exhibit tribo-less property (because of the possible electrostatic interaction among the filler and matrix molecule and unavailability of the functional groups to cause the	performance (i.e., trash-to-treasure) • Characterize and standardize the performance of the sensors and energy harvesters under different environmental condition and mechanical stimuli to	fabrication techniques, the project contributes to advancements in science and engineering. This can inspire future generations of researchers and innovators
71	Pilot Study of Aglad Valley - Cultural Mapping of Uttarakhand	INDIRA GANDHI NATIONAL CENTRE(IGNCA)	Kaynat Qazi			School of Liberal Studies & Humanities	5/12/2023	12	Project Completed	cultural experts, we have created an equipment to carry out the research there. Our state is conducting a very special kind of study where we are micro-documenting the cultural legacy. The state has	visiting different villages in the valley Focused on the accuracy of the findings Three level data verification	This kind of research is being done for the first time in Uttarakhand. Audio-visual documentation is what it is. This will be a reliable source of knowledge regarding the specific valley's cultural heritage.
72	Experimental research investigation to use algae as a combined source for biodiesel production and wastewater treatment	Science and Engineering Research Board-SERB	Siddharth Jain			School of Advanced Engineering	11/22/2023	24	Project Completed	wastewater (sewage) produced by urban sector in India is 72,368 megaliters (MLD), while the expected sewage treatment capacity is only 37% [15]. Algae cultivation in wastewater is a potential solution to this issue. Advancements and an efficient combined process is the	production. • The study will also suggest the synthesis of a heterogeneous nano-catalyst for the in-situ transesterification process of the algae produced	The project will help in waste management under swatch bharat abhiyan scheme and will also help in fulfilling the biofuel demand of India
73	Development of gold nanoparticles based colorimetric nanosensor array for multiplex detection of xenobiotics in resource limited settings.	Science and Engineering Research Board-SERB	Piyush Kumar			School of Health Sciences & Technology	12/28/2023	24	Project Completed	In this project, we have to develop array of differentially charged gold nanoparticles and look into interactions with different kind of xenobiotic molecules.	First of its kind of project in which we have to develop a method by which we will be to screen multiple xenobiotics in a panel.	We will be able to develop a low cost and fast screening method which can be utilize in resource limited settings.
74	Defect Assisted Current Transport Mechanism in III-V Semiconductors for Thermoelectric/Energy Applications'	UGC - DAE	Ashish Kumar			School of Advanced Engineering	6/24/2022	12	Project Completed			
75	Micro Combustors Flame Stabilization Studies for Unmanned Aerial Vehicle Applications	Science and Engineering Research Board-SERB	Velidi V S S Gurunadh			School of Advanced Engineering	8/23/2022	6	Project Completed			
76	Design and development of a portable KVIC type biogas plant for colder region	Khadi and Village Industries Commission(KVIC)	Shailey Singhal	Amit Kumar Sharma	N/A	School of Advanced Engineering	3/20/2024	24	Project Completed	The project is about the technological upgradation of KVIC type biogas digester.	1. heat trapping within the digester using greenhouse during daylight hours 2. utilizing solar heater with a heat exchanger to elevate	specifically for colder regions 3. Minimization of LPG requirement for rural areas by its replacement with biogas 4. Upliftment in the socio-economic status of the
77	Development of flavored yogurt with indigenous Himalayan yellow berries and lactic acid bacterial strains isolated from ethnic fermented food of Uttarakhand	Uttarakhand Council For Biotechnology (UCB)	Piyush Kumar			School of Health Sciences & Technology	3/27/2024	24	Project Completed	finished products of the Eastern Himalaya, and there is little data on the microbial diversity, their probiotic properties and production of fermented foods from the Western Himalaya, particularly from Uttarakhand. This proposal develops a value-added product	into the yogurt formulation adds unique phytochemicals and antioxidants, further enhancing its therapeutic potential as an emerging functional food. Probiotic	market, which can perform well in the Indian population. This information is crucial for understanding the potential health benefiting enzymes associated with these indigenous strains. In addition, understanding the
78	Assessment of potential of pine needle ash as a partial replacement for cement	Uttarakhand Science Education & Research Centre-USERC	Saumyaranjan Sahoo	Sanjay Bhutani;Saswati Datta		School of Advanced Engineering	7/10/2024	12	Project Completed			
79	Realising Sustainability: The Socio-economic and Environmental Impact Of Solar Rooftops in the Border Regions of Jammu & Kashmir and Ladakh	Indian Council for Social Science Research-ICSSR	Sonal Gupta	Mohammad Younus Bhat	Institute of Technology and Science Pilani,Goa 2-Hiranmoy Roy@Co-PI@HNB Garhwal University, Srinagar	School of Business	12/19/2024	12	Project Completed			
80	Himalayan Calling	Hyundai Motor India Foundation-HMIF	Seema Shukla	Jitendra Kumar Pandey		School of Liberal Studies & Humanities	12/30/2024	12	Project Completed	storytelling. This project merges oral traditions, storytelling, and sustainable practices to engage local communities and a wider audience in meaningful discussions about cultural heritage, climate change, and biodiversity conservation. By collaborating with local	•Collaboration with local communities and traditional artisans. •Use of multimedia storytelling to communicate	traditional narratives. •Engages youth and local communities in heritage and climate action initiatives.
81	Impact Assessment of Street Lighting in Urban Local Bodies in Uttarakhand & Impact Assessment of Chief Minister's Solar Self-Employment Scheme in Uttarakhand	Power Transmission Corporation of Uttarakhand Limited-PTCUL	Bikarama Prasad Yadav	Abhishek Nandan		School of Advanced Engineering	2/11/2025	7	Project Completed	Minister of Uttarakhand, is conducting an impact assessment of SLNP in various Nagar Nigams of the state. The study aims to evaluate the effectiveness of the program and	multiple Nagar Nigams) Energy Savings and Efficiency Analysis Sustainability Initiatives Adopted by ULBs Identification of Operational Challenges & Areas for	environment for women, encouraging greater mobility. Job Creation & Skill Development: Employment opportunities in the installation, maintenance, and
82	Development of noble electrochemical sensors with 2D MXene/Ferrite magnetic nano composites for environmental applications.	Indian National Science Academy	Nilar Lwin(India Science And Research Fellowship (ISRF));Ashish Mathur			School of Advanced Engineering	7/3/2025	6	Project Completed			
83	applying biochar in agricultural soils (We at UPES are working on Work Package 1 (WP1) : "Synthesis of Biochar from Various Lignocellulosic Waste Biomass and Development of Biochar-	Korea University (K-CLUB Program)		Sunita Jagdishbhai Varjani	Prof. Jung-Hwan Kwon@PI@Korea University, Seoul, Republic of Korea	School of Advanced Engineering	7/7/2025	7	Project Completed		• Mechanistic Insight: Uses advanced characterization techniques (SEM, BET, FTIR, XPS, etc.) to understand microplastic-biochar interactions.	comprehensive study. • Mechanistic Insight: Uses advanced characterization techniques (SEM, BET, FTIR, XPS, etc.) to understand microplastic-biochar interactions.
84	Designing Intelligent Materials for Advanced and Sustainable Applications(FIST)	Department of Science & Technology-DST	Ranjeet Kumar Brajpuriya	Sravendra Rana,Bhawna Lamba,Tapas Goswami,Sushil Kumar,Ritesh Dubey,Jimmy Mangalam,Parteek Prasher		School of Advanced Engineering	12/20/2024	60	Awaiting For Fund Confirmation			
85	Development of an Integrated Intelligent Disaster Management System for Mountain Communities in India	Department of Science & Technology-DST	Anil Kumar			School of Computer Science	3/22/2024	36	Awaiting For Sanctioned Letter	project, they are IIT Patna, IIT Roorkee, NIT Surathkal, Amrita Vishwa Vidyapeetham. The goal of this project is to develop an indigenous intelligent responsive system based on a comprehensive knowledge	(IWSP), AI and ML based models for hazard mapping and susceptibility indexing, community knowledge, unified evaluation framework, Physical model tests to	making through automated means by gaining quick knowledge from the past disasters as well as obtaining a more precise view of the current situation post disaster. This would help in better decision making and would
86	SWACHH - Social Wellness, Agriculture, Clean and Hospitable Habitat Incubation Center at UPES	Biotechnology Industry Research Assistance Council-BIRAC	Nidhi Chauhan			School of Health Sciences & Technology	4/22/2024	60	Awaiting For Sanctioned Letter			
87	Ecoherbal-Mulch: Harnessing Native Flora for Sustainable Farming in Arid India	Indian Knowledge Systems (IKS)	Durga Madhab Mahapatra			School of Advanced Engineering	9/8/2025	12	Sanctioned Letter Received,Awaiting For Fund Confirmation			
88	Anti-glycating DJ-1 in human lenses: Implications in onset of presbyopia and cataract	Science and Engineering Research Board-SERB	Sandip Kumar Nandi			School of Health Sciences & Technology	11/10/2021	24	Project Transferred			
89	Data-Driven Approaches for Enhanced Detection of Fetal Arrhythmia	Science and Engineering Research Board-SERB	Muthukumar Ka			School of Computer Science	1/22/2024	36	Project Transferred	analyzing them through a deep learning model that categorizes the segments based on the estimated heartbeat interval. Additionally, the project introduces an innovative	3-Enhanced Signal Analysis Techniques: Application of unsupervised learning methods, such as clustering and self-organizing maps, based on EMD values, to	of arrhythmias can lead to interventions that prevent complications, reducing infant mortality and morbidity associated with fetal heart conditions. 3-Ease Parental Anxiety: Improved diagnostic tools and
90	for Small-Marginal Farmers of Higher Himalayas: A Nano-Pyrite Based Seed/Root/Shoot Treatment Approach for Improving Potato Yield	Sree Padmavathi Venkateswara Foundation	Himanshi Jangir			School of Health Sciences & Technology	9/9/2024	24	Project Transferred	Here, we intend to create a self- reliant and profitable food production ecosystem in remote areas for small-scale farmers with minimal investment while maintaining the niche Himalayan ecosystem without polluting with synthetic chemicals 1,2 We propose a fertilizer-free nano	preserve the niche ecosystem and improve productivity. We expect both nano pyrite seed and shoot (vegetative) priming of potato will improve its yield. Generation of	Given their significance as human and cattle energy sources, we have chosen potato and four fodder crops. According to the Horticulture Statistics Division,
91	Communicable Disease Prevention and control demonstration workshops with special focus on Covid -19 for students in schools of dehradun district in Uttarakhand	Department of Science & Technology-DST	Atri Nautiyal	Mohammed Yaqoot		School of Business	9/3/2021	33	Project Withdrawal			
92	Development and characterization of casein nanomicelles with palmitoyl groups for drug delivery applications	Science and Engineering Research Board-SERB	Manish Gupta			School of Health Sciences & Technology	12/2/2021	36	Project Withdrawal			
93	Repurposing of drugs and validation of lead compounds against the main protease and RNA dependent RNA polymerase of SARS-CoV-2" (BRICS2020-127)	Department of Science & Technology-DST	Dhruv Kumar			School of Health Sciences & Technology	5/18/2023	24	Project Withdrawal			
94	NSS Uttarakhand	Uttarakhand | National Service Scheme - NSS	Nishant Mishra	Shailey Singhal;Amar Shukla;Anant Prakash Mishra		School of Advanced Engineering	2/9/2022	12	Project Withdrawal			
95	Prediction of Hydrogen Atom Position in Metal Carbonate Hydroxide Hydrate Based Materials, using Neutron Diffraction for Energy Storage Applications	UGC - DAE	Prateek Bhojane			School of Advanced Engineering	3/30/2022	12	Project Withdrawal			