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# THESES OF THE MONTH

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## SCIENCE & TECHNOLOGY

A List of doctoral theses accepted by Indian Universities  
(Notifications received in AIU during the month of Feb-March, 2024)

### AGRICULTURAL & VETERINARY SCIENCES

#### Forestry

1. David, Camus D. **Assessment of *Melia dubia* Cav progenies of some candidate plus trees for salinity stress.** (Dr. N S Thakur), Department of Forestry, Navsari Agricultural University, Navsari.

#### Horticulture

1. Lalruatsangi, Esther. **Characterization of *Hatkora (Citrus macroptera* Mont) accessions for selection of superior genotypes from Mizoram.** (Prof. T K Hazarika), Department of Horticulture, Aromatics & Medicinal Plants, Mizoram University, Aizawl.

### BIOLOGICAL SCIENCES

#### Biochemistry

1. Rajeshwari, K Venkata Naga. **Studies on polygalacturonase enzyme from *Aspergillus Niger* strain RA401.** (Prof. S Suma), Department of Biochemistry, Chaitanya (Deemed To Be University), Himayatnagar, Hyderabad.

#### Biotechnology

1. Pachua, Lalawmpuii. **Clinicopathological and genomic mutational analysis of triple negative breast cancer in Mizo population.** (Prof. N Senthil Kumar), Department of Biotechnology, Mizoram University, Aizawl.

#### Genetics & Plant Breeding

1. Vivek Singh. **Genetic analysis for yield and its attributing traits in buckwheat (*Fagopyrum tataricum* Gaertn).** (Dr. Gopal Katna), Department of Genetics and Plant Breeding, CSK Himachal Pradesh Krishi Vishvavidyalaya, Palampur.

#### Life Science

1. Agarwal, Sristi. **Preclinical pharmacokinetics and biomarkers profiling of *Trigonella foenum-graecum* in polycystic ovary syndrome induced rats.** (Dr. Rabi S Bhatta), Faculty of Biological Sciences, Academy of Scientific and Innovative Research, Ghaziabad.
2. Dnyane, Pooja Avinash. **Towards the development of a systems pharmacology model for vitiligo.**

(Dr. Chetan Gadgil), Faculty of Biological Sciences, Academy of Scientific and Innovative Research, Ghaziabad.

3. Gupta, Rohit. **Understanding dermal-epidermal interactions during skin homeostasis and wound repair.** (Dr. Archana Singh), Faculty of Biological Sciences, Academy of Scientific and Innovative Research, Ghaziabad.

4. Kumar, Sreelekshmi S. **Role of angiogenesis and angiogenic modulators on browning of white adipocytes and its implication in obesity.** (Dr. M S Kiran), Faculty of Biological Sciences, Academy of Scientific and Innovative Research, Ghaziabad.

5. Kushwaha, Vinita Tribhuvan. **Molecular & therapeutics approaches to ameliorate HFD-induced metabolic disorders enriching beneficial gut microbiome: Immune-metabolic alteration in adipose tissue.** (Dr. Anil K Gaikwad), Faculty of Biological Sciences, Academy of Scientific and Innovative Research, Ghaziabad.

6. Nandwani, Arun. **Regulation of Mitochondria-Associated ER Membrane (MAM) proteins in liver by ncRNAs during type 2 diabetes.** (Dr. Malabika Datta), Faculty of Biological Sciences, Academy of Scientific and Innovative Research, Ghaziabad.

7. Rauthan, Riya. **Loss of ERBB4 perturbs the migration of cortical interneurons in human forebrain organoids.** (Dr. Debjyoti Chakroborty), Faculty of Biological Sciences, Academy of Scientific and Innovative Research, Ghaziabad.

8. Vyas, Akanksha. **Identification and characterization of Cancer Oocyte Antigen (GOA) SAS1B as potential biomarker for cervical cancer.** (Dr. Monika Sachdeva), Faculty of Biological Sciences, Academy of Scientific and Innovative Research, Ghaziabad.

#### Marine Science

1. Kummari Suresh. **Surveillance for *Antibiotic Resistance (ABR)* in common pathogens in freshwater aquaculture farms in Kolleru Region of Andhra Pradesh, India.** (Dr. Devika Pillai),

Department of Aquatic Animal Health Management, Kerala University of Fisheries and Ocean Studies, Kerala.

2. Raj, Bincy M. **Taxonomy and distribution of snake mackerels along the Southern Coast of India with special reference to the Biology of *Rexea Bengalensis* (Alcock,1894).** (Dr. M K Sajeevan), Department of Fisheries Resource Management, Kerala University of Fisheries and Ocean Studies, Kerala.
3. Thomas, Liju. **Systematics of Chitons from the Indian Coast.** (Dr. Ranjeet K), Department of Aquatic Environment Management, Kerala University of Fisheries and Ocean Studies, Kerala.

#### Microbiology

1. Mendhe, Siddharth Nagorao. **Studies on seasonal growth variation, characterization, screening as antibiotic producers and evaluation of phylogram of actinomycetes from saline water of lonar crater of Buldana District of Maharashtra.** (Dr. A M Garode), Department of Microbiology, Sant Gadge Baba Amravati University, Amravati.

#### Molecular Biology

1. Borah, Priyanka. **Inhibition approaches of amyloid- $\beta$  and  $\alpha$  synuclein amyloidogenic aggregation: An in-silico study.** (Dr. Venkata Satish Kumar Mattaparthi), Department of Molecular Biology and Biotechnology, Tezpur University, Tezpur.

#### Zoology

1. Marak, Chuckles Ch. **Effect of methanolic extracts of *Cycas pectinata* (Buch.Ham) seed on testicular activity in mice.** (Dr. Vikas Kumar Roy), Department of Zoology, Mizoram University, Aizawl.

### EARTH SYSTEM SCIENCES

#### Environmental Science

1. Borah, Parashmoni. **Spectral signatures in rainfall and its inter relationship with other meteorological variables in North-East India.** (Dr. Amit Prakash), Department of Environmental Science, Tezpur University, Tezpur.
2. Gondwal, Tarang Kumar. **Characterization of road dust and its management.** (Dr. Papiya Mandai), Faculty of Engineering Sciences, Academy of Scientific and Innovative Research, Ghaziabad.
3. Zonunthari. **Seasonal monitoring of ground water quality in Aizawl City, Mizoram.** (Prof.P K Rai),

Department of Environmental Science, Mizoram University, Aizawl.

### ENGINEERING SCIENCES

#### Architecture

1. Jain, Priyanka. **Sustainable development framework inclusive of landscape elements: Study area Nainital.** (Prof.Minakshi Jain and Dr. Inderpal Singh), Department of Architecture, National Institute of Technology, Hamirpur.

#### Biochemical Engineering

1. Khatri, Shivani. **Understanding the role of soil microbiota in disease suppression under different farming practices.** (Prof. Shilpi Sharma), Department of Biochemical Engineering and Biotechnology, Indian Institute of Technology Delhi, New Delhi.

#### Biomedical Engineering

1. Rishabh, Bajpai. **Development of a comprehensive clinical decision support system for GAIT assessment in children with spastic cerebral palsy.** (Prof.Deepak Joshi), Department of Biomedical Engineering, Indian Institute of Technology Delhi, New Delhi.
2. Sikidar, Arnab. **Musculoskeletal modelling of human lower limb.** (Prof.DineshKalyansundaram), Department of Biomedical Engineering, Indian Institute of Technology Delhi, New Delhi.

#### Chemical Engineering

1. Chaudhary, Sagar Dattulal. **Catalytic conversion of carbon dioxide to value added chemicals.** (Dr. Nilesh Atmaram Mali), Faculty of Engineering Sciences, Academy of Scientific and Innovative Research, Ghaziabad.
2. Deulgaonkar, Prashant Suresh. **Theoretical and experimental investigation of process chromatography step for purification of monoclonal antibody therapeutic.** (Dr.Rahul Bhambhure), Faculty of Engineering Sciences, Academy of Scientific and Innovative Research, Ghaziabad.

#### Civil Engineering

1. Bakare, Mayuresh Dhanraj. **Field performance of flexible pavement constructed with copper and steel industry wastes in subbase layer.** (Prof. J T Sahu and Prof. Satyajit Patel), Department of Civil Engineering, Indian Institute of Technology Delhi, New Delhi.

2. Gayathri, VL. **Shear behaviour of frictionally anisotropic geotechnical interfaces: Snakeskin-inspired patterns.** (Prof.Prashantah), Department of Civil Engineering, Indian Institute of Technology Delhi, New Delhi.
3. Gupta, Durva. **An affordance framework to formalize the integrated design of built environment.** (Prof.J Uma Maheswari), Department of Civil Engineering, Indian Institute of Technology Delhi, New Delhi.
4. Gupta, Tanmay. **Machine learning-enabled liquefaction hazard assessment of some Indian sandy soil deposits.** (Prof. G V Ramana and Prof.A W Elgamal), Department of Civil Engineering, Indian Institute of Technology Delhi, New Delhi.
5. Panda, Susmita. **Vibration control and mechanics-driven machine learning techniques for high speed railway bridges.** (Prof.Bappaditya Manna and Prof.Arnab Banerjee), Department of Civil Engineering, Indian Institute of Technology Delhi, New Delhi.
2. Dutta, Ayan Kumar. **Some studies on the time-variance of time-varying systems and the non-stationarity of the associated processes.** (Prof.S D Joshi), Department of Electrical Engineering, Indian Institute of Technology Delhi, New Delhi.
3. Gupta, Jitendra. **Design and development of light electric vehicle chargers.** (Prof.Bhim Singh), Department of Electrical & Engineering, Indian Institute of Technology Delhi, New Delhi.
4. Khushboo Kumari. **Controlling of PV integrated grid-tied converters: Reduced DC-link capacitor and reduced sensors.** (Prof.Amit Kumar Jain), Department of Electrical & Engineering, Indian Institute of Technology Delhi, New Delhi.
5. Maheshwari, Ankur. **Multi-objective optimal operation of deregulated power sector incorporating renewable energy sources.** (Prof. Y R Sood and Dr. Supriya Jaiswal), Department of Electrical Engineering, National Institute of Technology, Hamirpur.

#### Computer Science & Engineering

1. Ali, Mohammad Afaq. **Big data analytics in smart city planning for performance and decision making through real time data processing.** (Prof. V K Panchal), Department of Computer Science & Engineering, Al-Falah University, Faridabad.
2. Patowary, Pallabi. **Disease biomarker identification for esophageal squamous cell carcinoma using gene expression data analysis.** (Prof. Dhruba Kumar Bhattacharyya), Department of Computer Science & Engineering, Tezpur University, Tezpur.
3. Tewari, Saurabh. **Optimizing neural networks performance on parallel architectures.** (Prof. Kolin Paul and Prof. Anshul Kumar), Department of Computer Science & Engineering, Indian Institute of Technology Delhi, New Delhi.
4. Yogendra Kumar. **Enhancing the performance of intrusion detection system frameworks using computational intelligence techniques.** (Dr. Vijay Kumar and Dr. Basant Subha), Department of Computer Science & Engineering, National Institute of Technology, Hamirpur.

#### Electrical & Electronics Engineering

1. Anchal, Sahil. **Person identification through footprint-based biometric recognition.** (Prof. Subrat Kar), Bharti School of Telecommunication Technology and Management, Indian Institute of Technology Delhi, New Delhi.

#### Food Science & Technology

1. Rohini, B. **Photocatalytic assisted valorization of corn cob biomass.** (Dr. H Umesh Hebbar), Faculty of Engineering Sciences, Academy of Scientific and Innovative Research, Ghaziabad.

#### Mechanical Engineering

1. Raina, Deepak. **Robotic sonographer: Robot learning ultrasound procedure skills from domain expertise.** (Prof.S K Saha), Department of Mechanical Engineering, Indian Institute of Technology Delhi, New Delhi.
2. Vibhanshu, Vipul. **Development of guidelines for design of TLUD cookstoves.** (Prof. Sangeeta Kohli and Prof. M R Ravi), Department of Mechanical Engineering, Indian Institute of Technology Delhi, New Delhi.

#### Metallurgical Engineering

1. Singla, Rashmi. **Study of structure-property correlations of inorganic-organic hybrid geopolymers.** (Dr. Sanjay Kumar), Faculty of Engineering Sciences, Academy of Scientific and Innovative Research, Ghaziabad.

#### Mineral Engineering

1. Baral, Bineeth. **Genomic sequence-based self-assembled branched DNA nanostructures for gene regulation.** (Dr. Umakanta Subudhi), Faculty of Biological Sciences, Academy of Scientific and Innovative Research, Ghaziabad.

- Rauf, S Abdul. **Development of micromixer for solvent extraction of metals.** (Dr. K Sanjay), Faculty of Engineering Sciences, Academy of Scientific and Innovative Research, Ghaziabad.
- Patel, Vivek Kumar. **Formulation and characterization of Gamma oryzanol loaded chitosan nanoparticles.** (Dr. Rajasekaran S), Department of Pharmacy, Bhagwant University, Ajmer.

### Structural Engineering

- Gautham, S. **Nanoscale investigations on engineered cementitious composites using simulated and experimental grid nanoindentation technique.** (Dr. Ing Saptarshi Sasmal), Faculty of Engineering Sciences, Academy of Scientific and Innovative Research, Ghaziabad.
- Swarup, J. **Comparative evaluation of anti-inflammatory activity of green tea leaves and its herb-drug interaction study with Dmard's.** (Dr. Rajasekaran S), Department of Pharmacy, Bhagwant University, Ajmer.

### Telecommunication Engineering

- Gautam, Naveenta. **Leveraging machine learning for enhanced performance of optical and wireless communication systems.** (Prof. Brijesh Lall and Prof. Amol Choudhary), Bharti School of Telecommunication Technology and Management, Indian Institute of Technology Delhi, New Delhi.
- Ruchita. **Study of select issues in the management of electric vehicles charging infrastructure in India.** (Prof. Ravi Shankar), Bharti School of Telecommunication Technology and Management, Indian Institute of Technology Delhi, New Delhi.
- Singh, Anushikha. **Deep learning based framework for automated screening and medical assistance: Lung diseases from chest x-rays.** (Prof. Brijesh Lall and Prof. B K Panigrahi), Bharti School of Telecommunication Technology and Management, Indian Institute of Technology Delhi, New Delhi.

### MEDICAL SCIENCES

#### Biotechnology

- Sarma, Ranjan Jyoti. **Genetic variants in pharmacogenes in North-East Indian population and their association with adverse drug reaction in gastric cancer.** (Prof. N Senthil Kumar), Department of Biotechnology, Mizoram University, Aizawl.

#### Pharmaceutical Science

- Bhadouriya, Anupam Singh. **Formulation and evaluation of Eugenol loaded PCL nanoemulsion gel for anti-inflammatory activity.** (Dr. Rajasekaran S), Department of Pharmacy, Bhagwant University, Ajmer.
- Maury, Shashikant. **Development and performance evaluation of  $\gamma$  oryzanol loaded albumin nanoparticles for the treatment of cancer.** (Dr. Rajasekaran S), Department of Pharmacy, Tezpur University, Tezpur.

- Venkataramana, E. **Synthesis and characterization of drug-loaded polymeric matrices encapsulated with nanoparticles for drug delivery and pharmaceutical applications.** (Prof. Naseem), Department of Pharmaceutical Chemistry, Telangana University, Nizamabad.

### PHYSICAL SCIENCES

#### Chemistry

- Bhushan, Anil. **Phytochemical investigation of Saussurea costus and Cocculus hirsutus and chemical modification of isolated bioactive compounds.** (Dr. Prasoon Kumar Gupta), Faculty of Chemical Sciences, Academy of Scientific and Innovative Research, Ghaziabad.
- Boda, Sunitha. **Design and synthesis of some new indole derivatives as anticancer agents.** (Prof. M Ravinder), Department of Chemistry, Chaitanya (Deemed To Be University), Himayatnagar, Hyderabad.
- Gogoi, Dipanta. **Computational probe of an alkylating prodrug: Temozolomide and its derivatives.** (Dr. Zodinpuia Pachuau), Department of Chemistry, Mizoram University, Aizawl.
- Gouthami, D. **Synthesis and biological evaluation of novel quinoxaline and indole scaffolds and their molecular docking studies.** (Prof. M Ravinder), Department of Chemistry, Chaitanya (Deemed To Be University), Himayatnagar, Hyderabad.
- Patwa, Nitika. **Bone morphogenetic protein 2 (BMP2): From cloning to purification, characterization, stability and interaction studies with its receptor.** (Prof. Shashank Deep), Department of Chemistry, Indian Institute of Technology Delhi, New Delhi.
- Ranjan, Ravi. **Gas-solid interactions and its influence in electronic structure evolution and heterogenous catalysis.** (Dr. C S Gopinath), Faculty of Chemical Sciences, Academy of Scientific and Innovative Research, Ghaziabad.

7. Saini, Parul. **Development of novel metal and non-metal catalysts for the sustainable synthesis of BIS (INDOLYL) methanes, C3 alkylated oxindoles, and benzoic acids.** (Prof. Anil J Elias), Department of Chemistry, Indian Institute of Technology Delhi, New Delhi.
  8. Sanjay Singh. **Organocatalytic stereoselective C-C bond formation through desymmetrization, michael, and aldol condensation reactions.** (Prof. Ravi P Singh), Department of Chemistry, Indian Institute of Technology Delhi, New Delhi.
  9. Shukla, Jyoti. **Mannich cyclization between hydroxylactam and acetal: Application in the synthesis of izidine alkaloids.** (Dr. Dipankar Koley), Faculty of Chemical Sciences, Academy of Scientific and Innovative Research, Ghaziabad.
  10. Swain, Gitanjali. **Lactam based polymer semiconductors for electronic applications.** (Dr. K Krishnamoorthy), Faculty of Chemical Sciences, Academy of Scientific and Innovative Research, Ghaziabad.
  11. Vaishna, K Priya. **Metal-Organic Frameworks (MOFs) derived heteroatom-doped carbon for energy and environmental applications.** (Dr. Harish US), Faculty of Chemical Sciences, Academy of Scientific and Innovative Research, Ghaziabad.
  12. Verma, Ashutosh. **Development of transition metal catalysts for C-H bond functionalization of aryl ketones, sulfones and carboxamides.** (Prof. Anil J Elias), Department of Chemistry, Indian Institute of Technology Delhi, New Delhi.
- Physics**
1. Bhatt, Sunil. **High contrast label-free single shot quantitative phase imaging and spectroscopy techniques for biological applications.** (Prof. D S Mehta), Department of Physics, Indian Institute of Technology Delhi, New Delhi.
  2. Laihuna. **Optical and transport properties of selected binary and ternary semiconductor compounds.** (Prof. Zaithanzauva Pachuau), Department of Physics, Mizoram University, Aizawl.
  3. Malik, Vikas. **Electrical transport studies on multiferroic metal organic framework.** (Prof. Ratnamala Chatterjee), Department of Physics, Indian Institute of Technology Delhi, New Delhi.
  4. Naithani, Ravindra. **A study of weather impacted KU band satellite channel: Propagation impairment and improvement in quality of service in moist tropical climate.** (Prof. R C Tiwari), Department of Physics, Mizoram University, Aizawl.
  5. Sharma, Shivani. **Telecom-band quantum photonic state preparation via dispersion engineering in SOI nanowaveguides.** (Prof. Joyee Ghosh and Prof. Vivek Venkataraman), Department of Physics, Indian Institute of Technology Delhi, New Delhi.

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