

RECENT ACHIEVEMENTS

DEPARTMENT OF BIOTECHNOLOGY

Jan 2021-Oct 2021





PUBLICATIONS

- E. Bhatt and P. Gauba. "Phytotoxicity of Tetracycline and Amoxicillin on *Vigna radiata* and its remediation potential in hydroponic system". *Current trends in biotechnology and pharmacy*, vol. 15(3), 2021.
- C. Faujdar, Priyadarshini. "Evaluation of In-vitro Cytoprotective, Wound Healing and Antioxidant Effects of *Ocimum sanctum* Leaf Extract". *Current trends in biotechnology and pharmacy*, vol. 15(3), 2021.
- D. Mody, V. Verma and V. Rani. "Modulating host gene expression via gut microbiome microRNA interplay to treat human diseases". *Critical Reviews in Microbiology*, vol. 47(3), 2021.
- G. Agarwal and R. Gabrani. "Antiviral Peptides: Identification and Validation". *International Journal of Peptide research and therapeutics*, vol. 27, 2021.
- M. Singh, S. Agarwal, P. Pancham, V. Agarwal, H. Kaur, and R. Kaur. "In silico Validation and Fabrication of Matrix Diffusion-based Polymeric Transdermal Patches for Repurposing Gabapentin Hydrochloride in Neuropathic Pain". *CNS & Neurological Disorders - Drug Targets*, vol. 20, 2021.
- V. Gupta, E. Bhatt, M. Verma, N. Singhvi, K. Ponnusamy, Md. Malik, H. Verma, R. Kumar, U. Sood, P. Hira, S. Satija, Y. Singh and Rup Lal. "Comparative Genomics and Integrated Network Approach Unveiled Undirected Phylogeny Patterns, Co-mutational Hotspots, Functional Crosstalk and Regulatory Interactions in SARS-CoV-2". *mSystems*, vol. 6(1), 2021.
- S. Mani, G. Swargiary and R. Chadha. "Mitophagy Impairment in Neurodegenerative Diseases: Pathogenesis and Therapeutic Interventions". *Mitochondrion*, vol. 57, 2021.
- K. Passi, P. Patel and C. K. Jain. "Prediction of Heart Cancer Data Using Hybrid Optimization and Machine Learning Techniques". *International journal of extreme automation and connectivity in healthcare*, vol. 3(1), 2021.
- D. Rani, B. Nayak and S. Srivastava. "Immunogenicity of gold nanoparticle based truncated ORF2 vaccine in mice against Hepatitis E virus". *3 Biotech*, vol. 11(2), 2021.
- I. Thapa, S. Gaur. "Decolorization of azo dyes by newly isolated *Citrobacter* sp. Strain EBT-2 and effect of various parameters on decolourization". *J Appl Biol Biotech*, vol. 9(4), 2021.
- M. Singh, S. P. Singh, D. Yadav, M. Agarwal, S. Agarwal, V. Agarwal, G. Swargiary, S. Srivastava, S. Tyagi, and S. Mani. "Targeted delivery for neurodegenerative disorders using gene therapy

- R. Ghildiyal and R. Gabrani. "Computational approach to decipher cellular interactors and drug targets during co-infection of SARS-CoV-2, Dengue, and Chikungunya virus". *Virus disease*, vol. 32(1), 2021.
- R. Ghildiyal, R. Gabrani. "Deciphering the human cellular interactors of alphavirus unique domain of Chikungunya Virus". *Virus Res.*, vol. 295, 2021.
- P. Mathur and V. Rani. "MicroRNAs: A critical regulator and a promising therapeutic and diagnostic molecule for diabetic cardiomyopathy". *Current gene therapy*, vol. 21 (5), 2021.
- N. Atale, C. B. Mishra, S. Kohli, R. K. Mongre, A. Prakash, S. Kumari, U. C. S. Yadav, R. Jeon and V. Rani. "Anti-inflammatory Effects of *S. cumini* Seed Extract on Gelatinase-B (MMP-9) Regulation against Hyperglycemic cardiomyocyte Stress". *Oxidative medicine and cellular longevity*, vol. 2021, 2021.
- K. Sharma and V. Rani. "A comparative study of antioxidative and cardioprotective efficacy of raw and aged garlic extract". *International journal of herbal medicine*, vol. 9(3), 2021.
- K. Sharma and V. Rani. "Anticancerous and Antimicrobial Properties of Garlic". *Journal of natural product and plant resources*, vol. 11(2), 2021.
- R. K. Tiwari, S. Chanda, M. Udayabanu, M. Singh and S. Agarwal. "Anti-Inflammatory, and Anti-Arthritic Potential of Standardized Extract of *Clerodendrum serratum* (L.) Moon". *Frontiers in pharmacology*, vol. 12, 2021.
- I. P. Sarethy and A. Saharan. "Genomics, proteomics and transcriptomics in the biological control of plant pathogens: a review". *Indian phytopathology*, vol. 74 (5), 2021.
- A. Saharan, N. Srivastava, I. P. Sarethy. "Morphological and molecular characterization of Actinomycetes isolates and their metabolite fingerprinting". *Indian journal of agricultural sciences*, vol. 91 (4), 2021.



Projects Sanctioned by Extramural Agencies

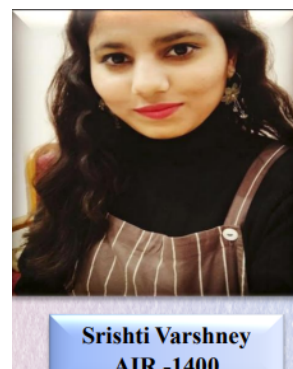
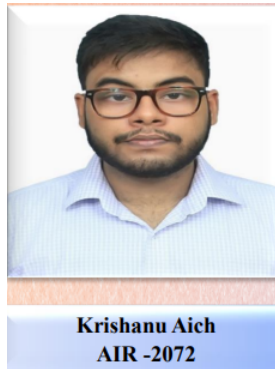
(Total funding generated till

Oct 2021 = 89 lakhs)

- ▶ Design and fabrication of amperometric enzyme sensors for the detection of parabens. Department of Biotechnology, Government of India. Duration : 2021-2024. PI: Dr. Ashwani Mathur and Prof Pammi Gauba. Grant Value: Rs 34.77 lakhs
- ▶ Evaluation of the production strategies, nutritional value and therapeutic properties of probiotic Seabuckthorn juice. Department of Science & Technology, Govt. of India and Academy of Scientific Research and Technology (ASRT), Egypt. (from Indian Scientist only; Separate for Egypt Scientist) PI: Prof. Pammi Gauba, Dr. Ashwani Mathur (India) jointly with Prof. Shoby El-Sohaimy, ARID Lands Cultivation Research Institute, SARTA City, Egypt; Duration: 2021-2023, Grant Value: 12 Lakh
- ▶ Targeting biofilm formation by inhibiting Cysteine biosynthesis pathway enzymes in ESKAPE pathogens with natural products. PI: Dr. Vibha Gupta/ Dr Prerna Diwan/Dr. Rakesh Kumar Gupta, DST, GOI, Duration: 2021-2024, Grant Value: 42.30 Lakh

Students Achievements

GATE 2020



Recognition and Awards

- Ms. Priyadarshini Gupta (Research Scholar) Awarded DST-INSPIRE fellowship (Ref. No. DST/INSPIRE/03/2019/002656; Dated- 19th Aug 2021) for her research entitled "Investigation of Indian herbs as ACE-2 and TMPR-2 modulator in Hydroxychloroquine induced Cardiotoxicity". (Duration: 2021-2026; Grant value: Rs. 25 Lakh); Faculty Mentor: Prof. Vibha Rani
- Ms. Shivani Singhal (Research Scholar) awarded Best poster presentation at 2nd Virtual International Conference on Naturopathy, Nanotechnology, Nutraceuticals, and Immunotherapy in Cancer Research - 2021 (ICN3IC-21) June 11th-12th, 2021
- Ms. Divya Jindal (M. Tech Student) awarded Best oral presentation at 2nd Virtual International Conference on Naturopathy, Nanotechnology, Nutraceuticals, and Immunotherapy in Cancer Research - 2021 (ICN3IC-21) June 11th-12th, 2021