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 anddiagnostic 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 rdiomyocyte 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