



Bio-TransMiT

An Annual E-newsletter that Transmits the Biotechnology Department Activities of MIT

A Sneak Peek into 2018

Message From HOD



Dr. Ramananda Bhat M.

Dear Reader,

I am delighted to share our first E-newsletter for the year 2018.

We had several activities such as guest lectures, workshops, as well as various student and faculty achievements. I would like to congratulate all the students and faculty-members who actively participated in all the academic activities.

We will get back to you next year with more exciting news and activities from the Biotechnology Department of MIT.

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Many Thanks!!



Dr. Bharath Raja Guru

The students and faculty of the department thank our Ex-HOD, Dr. Bharath Raja Guru, from the bottom of our heart for his constant encouragement and leadership over the years (2014-18).

INDUSTRY MOU

The dawn of 2018 brought a new enthusiasm to our department in the form of MOU with the bioprocessing industry BioZEEN - Bangalore Biotech Labs.

SymBiot - 2018

A National level Biotechnology Symposium “SymBiot-2018” on recent advances in biotechnology was organized by the department of biotechnology, MIT, Manipal and the Institute of Engineers Biotechnology (IEBt) on 19th & 20th October 2018. There were three guest lectures followed by paper and poster presentation by nearly 70 participants from various institutes and universities including MAHE. This symposium was sponsored by the pharmaceutical company Zydus Cadila.



Guest Lectures

1. Dr. Nellaiah Hariharan, Head, R&D, Biotech Labs (BioZEEN), Bangalore delivered a guest lecture “Modern Vaccines: A Case study from the Biopharmaceutical Industry” on 19th January 2018.
2. Dr. K.V. Venkatesh, Professor, Dept. of Chemical Engineering, IIT Bombay delivered a guest lecture “Systems Engineering Perspective of Human Metabolism through a Multiscale Model for Disease Analysis: A Cell to Human Framework” on 19th October 2018.
3. Dr. Pankaj Kalita, Project head, Zydus Cadila delivered a guest lecture “Development of a novel antibody cocktail for prophylaxis against Rabies virus” on 19th October 2018.
4. Dr. Alex Hankey, Professor, S-VYASA, Bangalore delivered a guest lecture “The Duel Aspect Information Theory of Consciousness Realized through Complexity Biology” on 19th October 2018.



Workshops

The student club Student club “Techcroft” has conducted a one-day workshop “Krishideepam” for farmers on 25th February 2018.



Journal Publications

1. Shahana Bishnoi, Aarti Kumar, Raja Selvaraj. “Facile synthesis of magnetic iron oxide nanoparticles using inedible *Cynometra ramiflora* fruit extract waste and their photocatalytic degradation of methylene blue dye”, *Materials Research Bulletin*, 2018, 97:121-127. (Impact Factor: 2.44)
2. Ramesh Vinayagam, Thivaharan Varadavenkatesan, Raja Selvaraj. “Green synthesis, structural characterization, and catalytic activity of silver nanoparticles stabilized with *Bridelia retusaleaf* extract”, *Green Processing and Synthesis*, 2018, 7:30-37. (Impact Factor: 0.78)
3. Vinayaka B Shet, Anusha M Palan, Shama U Rao, C Varun, Uday Aishwarya, Raja Selvaraj, Louella Concepta Goveas, C Vaman Rao, P Ujwal. “Comparison of response surface methodology and artificial neural network to enhance the release of reducing sugars from non-edible seed cake by autoclave assisted HCl hydrolysis”, *3 Biotech*, 2018, 8:127-133. (Impact Factor: 1.36)
4. Balaji S, Chempakam B. “Anti-bacterial Effect of Essential Oils Extracted from Selected Spices of Zingiberaceae”, *The Natural Products Journal*, 2018, 8:70-76.
5. Rathnakar B, Rao BSS, Prabhu V, Chandra S, Mahato KK. “Laser-induced autofluorescence-based objective evaluation of burn tissue repair in mice”, *Lasers Med Sci*, 2018, 33:699-707. (Impact Factor: 2.29)
6. Kannan N, Shanmuga Sundar, Balaji S, Amuthan A, Anil Kumar NV, Balasubramanian N. “Physiochemical characterization and cytotoxicity evaluation of mercury-based formulation for the development of anticancer therapeutics”, *PLoS One*, 2018, 13:1-13. (Impact Factor: 2.80)
7. Sneha P, Panda PK, Gharemirshamlu FR, Bamdad K, Balaji S. “Structural discordance in HIV-1 Vpu from brain isolate alarms amyloid fibril forming behavior- a computational perspective”, *J Theor Biol*. 2018 Aug 14;451:35-45. (Impact Factor: 2.26)
8. Priyodip P, Balaji S. “Microbial degradation of myo-inositol hexakisphosphate (IP6): specificity, kinetics, and simulation”, *3 Biotech*, 2018, 8:268. (Impact Factor: 1.36)
9. Chatterjee PM, Datta S, Tiwari DP, Raval R, Dubey AK. “Selection of an Effective Indicator for Rapid Detection of Microorganisms Producing γ -Polyglutamic Acid and Its Biosynthesis Under Submerged Fermentation Conditions Using *Bacillus methylotrophicus*”, *Appl Biochem Biotechnol*, 2018, 185:270-288. (Impact Factor: 1.7)
10. Dubey SP, Balaji S, Kini NG, Sathish Kumar M. “A Novel Framework for Ab Initio Coarse Protein Structure Prediction”, *Adv Bioinformatics*, 2018, 2018:42736.
11. Narasimhan S. “Trichome structure of *Coscinium fenestratum* (Gaertn.) Colebr., a critically endangered medicinal liana suggests a role in defense mechanism”, *Medicinal Plants-International Journal of Phytomedicines and Related Industries*, 2018, 10:151-154.
12. Vairavel P., Ramachandra Murty V. “Optimization of batch process parameters for Congo red color removal by *Neurospora crassa* live fungal biomass with wheat bran dual adsorbent using response surface methodology”, *Desalination and water treatment*, 2018, 103:84-101.
13. Hakkimane SS, Shenoy VP, Gaonkar SL, Bairy I, Guru BR. “Antimycobacterial susceptibility evaluation of rifampicin and isoniazid benz-hydrazone in biodegradable polymeric nanoparticles against *Mycobacterium tuberculosis* H37Rv strain”, *Int J Nanomedicine*, 2018, 13:4303-4318. (Impact Factor: 4.30)
14. Mukunthan KS, Balaji B, Patil TN. “Black Turmeric Database: A Database of Natural Compounds from *Curcuma Caesia* Roxb”, *Asian Journal of Pharmaceutical and Clinical Research*, 2018, 11:406-408.
15. Rangappa Santosh, Mukunthan KS, Saptami UK, Gundibasappa KN, Madan Kumar. “Design, Synthesis, DNA Binding, and Docking Studies of Thiazoles and Thiazole-Containing Triazoles as Antibacterials”, *Chemistry Select*, 2018, 3:3892-3898. (Impact Factor: 1.50)
16. Rangappa Santosh, Mukunthan KS, Saptami UK, Gundibasappa KN. “Synthesis, Characterization, Antibacterial and Antioxidant Studies of Some Heterocyclic Compounds from Triazole-Linked Chalcone Derivatives”, *Chemistry Select*, 2018, 3: 6338-6343. (Impact Factor: 1.50)
17. Prabhu V, Acharya A, Satish Rao BS, Rathnakar B, Kumar P, Guddattu V, Mahato KK. “Probing endogenous collagen by laser-induced autofluorescence in burn wound biopsies: A pilot study”, *J Biophotonics*, 2018, 11:e201700394. (Impact Factor: 3.76)
18. Murthy VR, Padmalatha Rao, Lavanya M. “Electrochemical Investigation of Erosion-corrosion Behavior of 6061 Aluminum Alloy in Marine Environment”, *Tribology in Industry*, 2018, 40:552-564. (Impact Factor: 1.29)

Student Achievements

1. Ms. Sushruta S Hakkimane, Research Scholar, filed a Patent & Published in 4.3 IF Journal.
2. Ms. Anusha Prabhu, Research Scholar, received a research grant of ₹5 lakhs from VGST.
3. Ms. Joyce Pinto received DBT NIDHI-EIR Fellowship.
4. Ms. Neerada Meenakshi Warriar, Research Scholar, won 2nd prize for poster presentation at 'National Seminar on Innovation, IPR and Entrepreneurial Opportunities in Biotechnology'.

Faculty Achievements

1. Dr. Balaji S received a research grant of ₹30 lakhs from VGST & research grant of ₹8 lakhs from DBT.
2. Dr. Naresh Kumar Mani received a research grant of ₹5 lakhs from VGST & ₹2 lakhs from Manipal-McGill Centre.
3. Dr. Ritu Raval received a research grant of ₹2 lakhs from Manipal-McGill Centre.
4. Ms. Archana Mahadev Rao received 2nd Prize in Poster presentation at Manipal McGill centre for infectious diseases International conference, held at MAHE Manipal on 11th August 2018.
5. Ms. Archana Mahadev Rao received 3rd Prize in Oral presentation at International Conference on Informatics Tools in Drug Discovery and Drug Delivery, held at Punjabi University, Patiala on 1st to 4th November 2018.
6. Dr. Fayaz received 2nd Prize in Oral presentation at International Conference on Informatics Tools in Drug Discovery and Drug Delivery, held at Punjabi University, Patiala on 1st to 4th November 2018.
7. Dr. Subbalaxmi was awarded Ph.D. by MAHE, Manipal.
8. Dr. Salmataj was awarded Ph.D. by MAHE, Manipal.
9. Dr. Thivaharan and Dr. Naresh Kumar Mani (Asst. Prof.) received summer research fellowship from the Indian Academy of Sciences.

Activities Outside the Department

1. Dr. V. Ramachandra Murty was a Resource Person for VGST sponsored FDP program at NMAMIT, NITTE and delivered two guest lectures on "Bioreactor Design and analysis".
2. Dr. V. Ramachandra Murty was a Technical Advisor for International Conference on Emerging Trends in Engineering (ICETE-18) at NMAMIT, NITTE.
3. Dr. Raja was a Guest Speaker for imparting valuable insights to students and faculty of MCOPS Manipal on "Statistical and Data Analysis Tools, Module I".
4. Dr. Thivaharan delivered a Guest Lecture on "National Biodiversity" at Smt. Rukmini Shedthi Memorial National Govt. First Grade College, Barkur.
5. Dr. Ramananda Bhat was a Resource Person for one day workshop on "Design of Experiments" at KLE Belgaum.
6. Dr. Thivaharan was an Event Judge at Expro 2018 - Poster Presentation Competition.
7. Dr. Balaji was a Guest Speaker at "Summer School – 2018".
8. Dr. Bharath Raja Guru was a Guest Speaker at the Association of Clinical Biochemists of India-South Zone Conference.
9. Dr. Balaji was an External Supervisor & Chairman to conduct a Ph.D. open defence viva at Kannur University.