

# **Annual Report of PG Department of Biotechnology (2018-2019)**

## **Objectives of the Department**

- **To provide better opportunity to every one for performing their capacity in knowledge and innovative research to compete with the global**
- **To bring advanced knowledge among youth generations and skills of research oriented work based on theoretical knowledge**
- **To motivate students on handling basic research work along with academic curricula**

## **Memorandum of Understanding (MoU)**

- ✓ Department signed MoU with Centre for Bioscience and Nanoscience Research (CBNR), Coimbatore on 8<sup>th</sup> February 2013 for collaborative research and academic programs (Renewed till 2020).
- ✓ Signed MoU with Synkro Max Biotech, Chennai on 2<sup>nd</sup> November 2013 (Renewed till 2019).
- ✓ Signed MoU with CYTXON BIOSOLUTION Pvt. Ltd, Hubli, Karnataka on 26<sup>th</sup> Feb 2017.
- ✓ MoU with KVK, Regional Research Station (ICAR), Brahmavar, Udupi 2017 onwards
- ✓ MoU with PG Dept of Chemistry (Organic Chemistry), Alva's College 2017 onwards
- ✓ CPCRI-ICAR, Kasaragod
- ✓ IISc- CES Bangalore
- ✓ MoU with Indian Institute of Horticulture Research

## **Staff members**

Number of Teaching Faculties - **04** (4 with Ph.D., 2 with M. Phil. and 2 with SLET)

Ph D. Guides – 03, PhD Scholars : 04 (under Mangalore University)

Total number of students – 08+ 07 = 15

Results – During 2018 - 100%

## **Research papers published**

Research articles published by P.G. Department of Biotechnology during June 2018- May 2019: **03** (in International Reviewed Journals)

## **Research Centre**

Number of Research Scholars enrolled under Mangalore University: Nil

Number of Research Scholars working for Ph.D.: 04 (Bharathiar University) 03

Awarded: 01

## **Ongoing Collaborative research project**

Collaborative project with Nitte Dental College, Deralakatte on Nanotechnology

**Certificate Course – Nanotechnology**

**Students: 20**

## **Extension activities**

- ❖ Drinking water quality test
- ❖ Biofertilizer production for Farmer
- ❖ Spawn production

## **Guest Lectures**

Cancer on a rise: causes and treatment and diagnosis- an awareness program organized in association with MIO, Mangalore. Resource person Dr. MS Baliga Dy. Director Research and Dr Sanath Kumar Hegde, Director, MIO, Mangalore.

25<sup>th</sup> August 2018.

## **Seminar/conference/workshops attended and paper presented by Faculties and Students**

### **Poster Presented - 02 (Students)**

S.Ananya Sirisha, Lavanya B.V., Rama Bhat P. *In vitro* culture and secondary metabolites of *Jasminum sambac* L. at *Alumni sponsored National Conference* organized in association with Karnataka State Pollution Control Board, Mangalore on “Secondary Metabolites and Health Care” held on 23/02/2019 at Kuvempu Hall, Vidyagiri, Moodbidri (Second Prize)

Rachana, C.B. Swathi, R., Manasvi, M.M. and Raghavendra Rao, B. Isolation and characterization of exopolysaccharide producing bacteria from forest soil at *Alumni sponsored National Conference* organized in association with Karnataka State Pollution Control Board, Mangalore on “Secondary Metabolites and Health Care” held on 23/02/2019 at Kuvempu Hall, Vidyagiri, Moodbidri.

## **Paper Presented- 02 (Staff)**

Dr Rama Bhat presented a paper in Lake 2018, jointly organized by EWRC, IISC, Bangalore and Alva's College, AIET, Moodbidri held at Alva's College, Moodbidri during 22-25 Nov 2018.

Dr Rama Bhat P. presented a paper in two days **International Conference** organized jointly by UG FND and PG FSN Depts., Alva's College, Moodbidri during 8-9 February 2019.

Joseena Jasmine Lasrado, Ashitha H.S , Akshatha, Jenitta Emima Packiyam, Nisha K.M. A green nanotechnology method in textile dye preparation using coconut husk at *Alumni sponsored National Conference* organized in association with Karnataka State Pollution Control Board, Mangalore on "Secondary Metabolites and Health Care" held on 23/02/2019 at Kuvempu Hall, Vidygi, Moodbidri.

## **Served as resource persons:**

Dr Rama Bhat P. -Resource person in three days **International Conference** on Radiation Biology (ICRB 2018), organized by Nitte University, Deralakatte held during 4-6 October 2018.

Dr Rama Bhat P. - Resource person in Alumni sponsored one day **National Conference** in association with KSPCB, Mangalore on Secondary Metabolites and Healthcare held at Alva's College, Moodbidri on 23 Feb 2019.

## **Seminar/Conferences Organized**

*Alumni sponsored National Conference* organized in association with Karnataka State Pollution Control Board, Mangalore on "**Secondary Metabolites and Health Care**" held on 23/02/2019 at Kuvempu Hall, Vidygi, Moodbidri

*The following Biotechnology Alumni served as Resource persons:*

Dr. Ravi M M.Sc., Ph.D. – Lecturer- Pharmacology, Kodagu Institute of Medical Sciences, Madikeri, Karnataka

Mr. Chaithanya Karant Dept of Pharmacology, Karwar Institute of Medical Sciences, Karwar

Dr. Kiran Shetty, Manager- R&D, Cardiovascular Division, Meril Life Sciences, Vapi, Gujarat

Mr. Akshara Damle, Founder and Psychologist at Mano Samvaada, Snehashilaa, Gandhi Nagar, P O Sullia

## **Workshop organized**

**One-day hands on training/workshop** to B.Sc. Microbiology students on rDNA technology and TLC on 2<sup>nd</sup> April 2018.

**Involved in Alva's Vijnanasiri – 16<sup>th</sup> to 18<sup>th</sup> 2018: Science model exhibition**

**Work shop / seminar attended**

Students participated and presented a paper in Four days Lake 2018 Conference organized jointly by EWRG, IISC, Bangalore and Alva's Education Foundation, Moodbidri held at Vidyagiri, Moodidri during 22-25 November 2018.

**Institution/Industry visit:** \*IIT Mumbai, \*Hopkin's Institute, Mumbai, \*Natural History Museum, Mumbai, \*Serum Research Institute, Pune, \*National Research Center for Grapes, Pune during March 10-15, 2019.

**Publications**

Deepa PR, Rama Bhat P. and Ravi Rao S 2019. Evaluation of the wound healing properties of methanolic extract of bark of *Samadera indica* Gaertner *in vivo*. *Asian Journal of Pharmaceutical and Clinical Research* **12**(5): 355-358. IF 0.52

P. Rama Bhat, PG. Laxmi and BS Vernon D' Silva. 2019. A study on the phytochemical screening, antibacterial activity and silver nanoparticle synthesis from *Ficus racemosa* L. *International Journal of Research in Pharmacy and Chemistry (IJRPC)* **9**(3): 131-141.

Fouzana Nikhath and Rama Bhat P. 2019. Phytochemical studies and antimicrobial activity of *Cheilanthes bicolor* (Roxb.) Griff. ex Fraser Jenkins. *International Journal of Recent Scientific Research* **10**(06): 32366-32369. DOI: 10.24327/IJRSR

Nikita Ghorpade and Rama Bhat P. 2019. Studies on isolation and characterization of calcium carbonate bioprecipitating bacteria. *International Journal of Research in Engineering and Innovation (IJREI)* **3**(5): 110-120. IF 4.782

S. Ananya Sirisha, E. Jenitta.E.P. 2019. Spiderweb- A green nanotechnology method in the field of medicine. *Journal of Emerging Technologies and Innovative Research (JETIR)* **6**(4) ISSN-2349-5162

S. Ananya Sirisha, E. Jenitta E.P. 2019. Spiderweb - A Nanosuture Material in the Field of Medicine. *International Journal for Research in Applied Science & Engineering Technology (IJRASET)* **7**(IV): 2307-2012.,

Lavisha K, Jenitta E. P. 2019.Green synthesis of silver nanoparticles from leaves of *Neolamarckia cadamba* and monitoring their phytochemical and antibacterial activity. *Journal of Emerging Technologies and Innovative Research (JETIR)* **6**(5) ISSN-2349-5162.

**PROPOSED 5 YEAR PLAN (2018-23)**

1. Extension activities – Biofertilisers, mushroom cultivation extended to famers of local nearby taluks and creation of awareness among school children

2. Establishment of biofertiliser production unit
3. Mushroom spawn production units
4. Upgrading water quality analysis laboratory
5. Establishment of soil testing lab
6. Development of technology for biofuel

**Guest Talk:**

Cancer on a rise: causes and treatment and diagnosis- an awareness program organized in association with MIO, Mangalore. Resource person Dr. MS Baliga Dy. Director Research and Dr Sanath Kumar Hegde, Director, MIO, Mangalore.

25<sup>th</sup> August 2018.



**A REPORT ON ALUMNI SPONSORED INTERNATIONAL CONFERENCE ON  
RECENT VISTAS IN SCIENCE AND TECHNOLOGY AND ITS RELEVANCE  
TO BIOLOGICAL SCIENCES.**

2018

The inaugural function started at 9:30 in the presence of Dr. Nandini K., Scientist, ISRO Satellite Centre, Bangalore, who was the alumni of Alva's college. The president was Dr. M. Mohan Alva, Chairman Alva's Education Foundation. Dr. Rama Bhat. HOD, Department of Biotechnology, Alva's college was present, who welcomed the gathering. The function went on with the prayer, lighting of lamp and release of abstract proceedings was done by the dignitaries on the dais. Later the inaugural address was given by Dr. Nandini K. Then Dr. M. Mohan Alva gave the presidential address where he spoke about the problems pertaining to pure water, pure air to breathe, nontoxic food, effective medicine and the environment without plastics should be available to everyone on earth for that the young people should work for the betterment of society. Later on the inaugural function was ended by proposing the vote of thanks by the Associate Professor of PG Department of Biotechnology, Dr. Raghavendra Rao.

Then we started with the first technical session where Dr. Nandini K. took over the session on topic "From space to Species", she gave the overall talk on application of satellite which were developed from ISRO and the usefulness in agricultural fields, pollution control boards, hotspots and various other fields also. She also gave a brief introduction about ISRO and their inventions. The interesting thing was, she said about the Indian currency notes that is 2Rs and 2000Rs where the picture of satellites Aryabhata and Mangalayana can be seen this printing was done to respect their success.

The second speaker was Mr. Rajashekar Puranik, Environmental Officer, Karnataka State Pollution Control Board, Mangalore. Where he spoke about waste solid management. The problems facing by normal people due to waste treatment and the effects causing due to untreated waste. He said about the waste treatment plants in Mangalore and remedy about the offensive odor that coming from a sewage.

The last speaker of the first technical session was Dr. Shama Rao, Research Assistant, Nitte University Centre for Stem Cell Research and Regenerative Medicine, Nitte University, Mangalore. Her talk was on the topic "Human Mesenchymal Stem Cells: from Basic Biology to Clinical Applications". She gave a huge knowledge about how stem cells are used in regenerative medicine, their usefulness and the works which was done using the stem cells and the applications related to the stem cell research and regenerative medicine.

Later there was a lunch break for an hour and simultaneously poster presentations was done by the delegates of the conference. The presentations was judged by Dr. Shama Rao, Ms. Avinash Holla, Dr. Vernon D'Silva and Dr. Shankar Shetty.

The second session was started at 1:30 pm. The first speaker for the second session was Dr. Sudarshan Kini was a post-doctoral research fellow at department of Atomic and Molecular physics in Manipal University, Manipal. His talk was on “Fabrication of Nanoparticles for Biomedical Applications”. He spoke about polymeric Nano formulations of microtubule targeting agents for cancer chemotherapy. He is proficient and skilled in fabrication of Nano formulation and characterization technique and also expertise in fluorescence microscopy. Fabrication of micro technology based smart devices in both, silicon and flexible biofilm monitoring and he also mentioned and explained about application of quantum dots for biosensor applications.

The second speaker for the second session was Dr. Arun Naibi Lakshminarayana from Department of Chemistry, National University of Singapore, Singapore. Who gave a detailed account on the Multidisciplinary Research; he spoke about the transcending disciplinary boundaries and adopting a holistic approach to solve problems. He also gave an account on the multidisciplinary research. The works which was done by him for the holistic approaches was entitled. The application part was also discussed by him which gave a broad idea about the concept.

The third speaker for the session was Dr. Kiran Kumar N. Shetty, A Doctorate from Manipal University, presently working as a tutor in Vadodara. He gave a lecture on the “Recent advances in Cardiovascular Medicines”. He said that we all are aware of the things and methods taking place outside the operation theatre but we all are not aware of the methods and new instruments used inside the operation theatre, he spoke about the pacemakers, then he said about atherosclerosis, the clotting of blood, fats, cholesterol on the artery walls. New instruments used instead of the open heart surgery.

After his talk the oral presentations was done by the delegates who presented their work and the judges for the presentation was Dr. Kiran Kumar N Shetty and Dr. Nandini K.

Last but not the least the conference came to valediction. Chief guest for valedictory function was by Dr. Kiran Kumar N Shetty, other guest was Dr. Avinash Holla the diagnostics Dr. Raghavendra Rao and Dr. Rama Bhat was present . Dr. Jenitta welcomed the guests. A student from engineering college, Harshith G Shetty shared his opinion on the conference .Dr. Kiran Kumar N Shetty addressed the gathering and said how not only marks is important but also the skill development. Later the prizes for winners in poster and oral presentation were handed over by the chief guest. Dr. Jayadev gratitude by giving vote of thanks.

The Alumni Sponsored International Conference was concluded with the national Anthem.

**RECENT VISTAS IN SCIENCE AND TECHNOLOGY AND ITS RELEVANCE TO BIOLOGICAL SCIENCES.**

