

International conference conducted by the Department of Biotechnology, VFSTR, A P India

The Department of Biotechnology, Vignan's Foundation for Science, Technology and Research, Deemed to be University, organized an international conference on "Environmental Sustainability, Human Health and Development" during 20th-22nd December, 2019. The topic chosen for the conference, of course, a broad but intended to cover the environmental adversities and their impact on the health of biota. Particularly, increase in CO₂ levels in the atmosphere, Persistent organic pollutants in both air and water, denuding of forest, increase in concrete jungles, abuse of chemicals, health disparities due to social epigenetics, decline or extinction of biological species – they are all addressed in this conference to conceive the strategies for environmental sustainability.

The conference was supported by VFSTR and AICTE, New Delhi. The conference was inaugurated by Prof. Podili Appa Rao, Vice Chancellor, University of Hyderabad in the capacity of Chief Guest. Dr. Ch Mohan Rao, Former Director of CCMB, Hyderabad bestowed the inaugural function as the Guest of Honor. In addition, Prof. Shamsul Bahri Bin Adb Razak, Kaula Terengganu, Malaysia, Prof. John Kineman, University of Colorado, Boulder, USA, Prof. Sankar Mitra, Houston Methodist Research Institute, Houston, USA, Prof. Manoj Mishra, Alabama State University, Montgomery, USA, Prof. Raja Rami Reddy, Former Vice Chancellor of Vikram Simhapuri University and Prof. K R S Sambasiva Rao, Vice Chancellor, Mizoram Central University served as Guests of Honor. Ceremonial watering of plants, *Oscimum* and Lemon grass was performed by all the dignitaries on the dais.

Prof. S. Krupanidhi welcomed guests and explained the importance of the theme of the conference to participants reiterating the fact that the health of biota is quintessential as the same is directly proportional to human health and his prosperity. The participants have come from different states of India. 35 delegates from overseas viz., USA, Japan, Germany, Malaysia and South Africa have participated and delivered their talk in the conference. There are a total of 180 abstracts published in the proceedings of the conference. 20 Young scientists competed for the award. 11 Senior scientists presented in award competition. 46 posters were displayed. 29 experts delivered their presentations during the three day conference sessions. The valedictory function was held on 22nd afternoon. The Chief Guest for the valedictory function was Sri. M. Malkondaiah, Former DGP of AP, India, with Agricultural Science background. Dr. Lavu Rathaiah, Chairman, Vignan's Group of Institutions, Prof. K. Ramamurthy Naidu, Chancellor of VFSTRU, Dr. V. Vijayalakhmi, NIN, Hyderabad and Dr. Daniel Danish, Malaysia were bestowed the function. Prof. S. Krupanidhi presented the summary of the three day conference, Dr. Jalaja delivered Vote of Thanks, certificate distribution for the award winners and volunteers were done and culminated with National Anthem.

A few salient features of the lectures delivered by experts in the conference: Prof P Appa Rao elaborated on the scope of Biotechnology and focused on a few latest topics such as CRISPR-Cas 9, HPV virus, Microbiome and NGS platform. Antifungal activity of chaperon

proteins, HSPs and protein folding were elicited by Dr. Ch Mohan Rao. Dr. Samba Reddy, A & M University, Texas focused on the neurodegenerative diseases such as Alzheimer's, Parkinson's and Epilepsy and related drugs. Prof. Gummadi Satyanarayana, IIT-M highlighted on the human phospholipid scramblases involved in calcium dependent bidirectional transport of phospholipids across plasma membrane. DNA repair failure mechanism resulting in amyotrophic lateral sclerosis and dementia patients were elucidated by Prof. Sankar Mitra, Prof. Muralidhar Hegde, Houston Methodist Research Institute, Houston and Tapas Hazra, UTMB, Galveston, Texas. The Persistent Organic Pollutants in flowing waters and in aerosols were given emphasis in the talk delivered by Dr. Noboyoshi Yamashita, NIAIST, Japan. Interesting study relating to the Meliponiculture focusing on the developed product, Designer Honey from a stingless bee culture coupled with *Stevia* cultivation was revealed by Prof. Shamsul Bahri Bin Adb Razak, Kaula Terengganu, Malaysia. Prof. Godhandam, VIT, Tamil Nadu, India delivered a talk on carotenoid production by microalgae co-cultured with *Agrobacterium*. Exhaustive information was given by Dr. Amit Krishna De, Indian Science Congress, Kolkata, on 51 varieties of Indian spices and their role in nutrition and combating pollution.

The forenoon of the second day of the conference i.e., 21-12-19, Prof. Satyanarayana Swamy M, University of West Georgia, USA gave a talk on molecular chaperons, protein folding, misfolding and unfolding in compliance with progressive age and also chaired a session and conducted five presentations on the topics such as the Nanoparticles augmented drug delivery by Dr. Suresh babu Naidu Krishna, South Africa, Social determinants in the regulation of epi-genetics to address health disparities by Prof. Jamboor Viswanatha, Texas and Dr. S. Nagaraju from Germany focused on the Assisted Robotics in medical science. Dr. S. Nagaraju was informed about the Robotics facility at VFSTRU and Biotech students opting Robotics as an Open Elective by Prof. S. Krupanidhi. He was also informed that Mazumdar Shaw Medical Centre, Bangalore with whom VFSTRU is having MOU, is interested to use Robotics on patients relapsed from paralytic stroke. Herbal products and Micropropagation of *Andrographis paniculata* were given by Malaysian team. Dr. Manoj K Mishra, Alabama State University, emphasised on biomarkers relating to prostate cancer and clarified doubts on the disadvantages/advantages of surgical removal of prostate gland. Prof. Venkata Dasu from IIT G gave the bioprocess technique developed in their laboratory on the production of recombinant Interferon gamma using the strain of *Bacillus subtilis*. The Senior Scientists and Young Scientists award sessions were conducted in parallel sessions. There were fifteen member delegates from Malaysia delivered on the diversified topics such as Exopolysaccharides from marine algae, Metagenomics approach in the evaluation of microbial diversity, Palm plantation, Micropropagation of *Musa gracilis* and Beta glucons in biotechnology applications.

In the forenoon of the third day of the conference i.e., 22.12-19, Dr. V. Vijayalakshmi functioned as the Chair of the session and conducted successfully 4 interesting talks, of which the following were very interesting with practical application namely Value-added

products from agro-industrial wastes, Browning of adipose fat for exothermic reactions and Organically certified medicinal herbs. Prof. Pullaiah gave a talk on the flora of Andhra Pradesh and highlighted the importance of plant species in the entrepreneurial practices. Dr. Sarat Chandra of Nagaland University acted as the Chairperson for the last session of the conference and conducted 4 talks. Most interesting one is that *Drosophila* insect would be a model specimen for dopaminergic neuro-protection studies to understand the possible biochemical mechanisms in neurodegenerative diseases and Eco-friendly technologies in reducing post-harvesting losses of fruits and vegetables. The conference ended with the collection of feedback information from participants and open expression of opinions of a few senior participants in the valedictory function.

The Registrar of VFSTR University arranged a grand banquet to all delegates.

Recommendations:

1. Organize and conduct model display by students on the practices to achieve sustainable health.
2. Organize and conduct poster sessions for students and faculty on the practices to be followed for restoring sustainable ecosystem.
3. Disseminate the anthropogenic factors that affect the continuation of human race on the planet earth.

Collaborations emanated:

1. MOU with Dr. Noboyoshi Yamashita, National Institute of Advanced Industrial Science and Technology, Japan with Prof. S Krupanidhi, HoD, Department of Biotechnology, VFSTR University was developed for collaborative research work on POPs and student exchange.
2. Expressed intent to develop MOU by Dr. V. Vijayalakshmi, National Institute of Nutrition, Hyderabad for collaborative research, student internship, recognize co-research supervisors and conduct of workshops on Stem cell Biology.
3. Discussions were held with Malaysian Team in the presence of The Chancellor, VFSTRU, Dean, R & D, Professor and Head of the Department of Biotechnology and a few faculty members of the Department of Biotechnology. Identified individual faculty members from VFSTRU and coupled with individual members of Malaysian team for research collaboration in the mutually interested topics.
4. Collaboration was agreed upon with Dr. John Kineman on ecological epigenesis: connecting micro and macro, field and laboratory by coupled modelling.
