

**A REPORT OF**  
**SCIENCE ACADEMIES' LECTURE WORKSHOP**  
**on**  
**“MODERN BIOLOGY IN AGRICULTURE”**  
**24<sup>th</sup> and 25<sup>th</sup> July 2017**

**Sponsored and Supported by**



Indian Academy of Sciences  
Bangalore



Indian National Science Academy  
New Delhi



The National Academy of Sciences  
India, Allahabad

**Indian Academy of Sciences,**

C V Raman Avenue,

Bangalore – 560 080.

**Organized by**

**Department of Biotechnology,**

**Karpagam Academy of Higher Education,**

Echanari,

Coimbatore - 641 021.

## **A BRIEF REPORT OF THE SCIENCE ACADEMIES' LECTURE WORKSHOP**

### **THEME OF THE WORKSHOP: MODERN BIOLOGY IN AGRICULTURE**

#### **About the Academia**

The Indian Academy of Science was established in the year 1943 by the renowned Professor Sir.C.V.Raman with the noble endeavor to promote the advancement of science in both pure and applied branches through the support of original research and the promulgation of scientific knowledge to the community. Academies augment the same by publishing the talented research outcomes in more than 10 science journals in various disciplines. Academies being a moral fiber of its own, also improve the state of science education, in Universities and colleges by supporting scientific meetings and symposia's. In addition the Academy encompasses a committee that takes in version the issues of women scientists and suggests suitable solutions. The Academy subsist on familiar terms with the special relationship of scientific creative activity with the process of education and holds that the course of discovery includes the identification and nurturing of scientific talent amongst the young; this lecture workshop supported by the academy will also be one such occurrence that lend a hand to connect various dots in the field of bioscience.

#### **KARPAGAM ACADEMY OF HIGHER EDUCATION**

The Karpagam Academy of Higher Education is located in a sprawling, green, lush campus extending 26 acres. It has emerged from Karpagam Arts & Science College (Autonomous) a unit under the Karpagam Charity Trust established in 1989 founded by the great philanthropist, industrialist and educationist Dr. R. Vasanthakumar with the vision of instilling originality in the learning minds, impart quality and value-based education and engage in Research and Development with the noble objective of creating unique men and women to serve and lead the society. Karpagam Academy of Higher Education was conferred Deemed to be University status by the Ministry of Human Resource Development in August 2008 under section 3 of the UGC Act 1956. It is a recognized Deemed University by the UGC. It is a member of the Association of Indian Universities. The University has been accredited by the NAAC in 2015. It has been Ranked 90th place by NIRF, MHRD, and Government of India in 2017. The University has 4 Faculty - Faculty of Arts, Science and Humanities,

Faculty of Engineering, Faculty of Architecture and Faculty of Pharmacy. It has 25 Departments offering a wide range of 78 academic programmes from graduation to doctorate levels. The University has more than 5,000 students on campus, with a strong contingent of more than 350 teaching faculty, well supported by an almost equal number of administrative and support staff. Faculty have got good number of research projects with financial support from various funding agencies like DBT / DST / ICMR and have filed more than 45 patents. As many as 1600 Research papers have been published by our faculty in SCOPUS and Peer Reviewed Journals. The University has entered collaboration with foreign Universities, Industries, Research bodies for mutual benefit. The Institute ensures that education epitomizes excellence in every sphere and students are prepared to take on the challenges of the day and become the next generation leaders.

### **About the Department**

The Department of Biotechnology at Karpagam Academy of Higher Education is a center for excellence in research. Biotechnology is "the commercial application of living organisms or their products, which involves the deliberate manipulation of their DNA molecules". This implies a set of laboratory techniques developed within the last 20 years that have been responsible for the tremendous scientific and commercial interest in biotechnology, the rise of many new companies, and the redirection of research efforts and financial resources among established companies and universities. The Department was started in 2001 and has consistently delivered 100% results. More than 100 students were placed in various companies during the last 3 years through our placement cell. The Department holds to its credit 6 students as entrepreneurs. Students of Biotechnology have received many awards from various Scientific Associations.

### **Aim and Objective of the Workshop**

This workshop gives in depth knowledge in the field of modern biology in agriculture. This lecture workshop is intended to inspire the young researchers, students to take research in new and frontiers areas of agricultural sciences. The eminent scientists were gave lectures in their respective field of research. The expert's lectures also highlighted the recent plunge in the above said fields which will help the participants to take up the contemporary requirements of the time.

The prime objective of the lecture workshop was to enrich the knowledge on the emerging trends in bioscience; to upgrade the knowledge of modern biology in agriculture. The workshop with eminent scientists; participants from various colleges and universities under a roof was an excellent podium to explore the “Modern biology in Agriculture”.

### **Workshop Deliberations**

#### **Day 1 (24<sup>th</sup> July 2017)**

The two day Science Academies' Lecture Workshop was started at 10 A.M with a Prayer Song, Followed with a welcome address by **Dr. G. R. Prabu, Head, and Department of Biotechnology**. Inaugural Address was delivered by **Dr. G. R. Prabu, Head, and Department of Biotechnology**. **Dr. D. J. Bagyaraj, Convener of the Workshop and INSA Honorary Scientist and Chairman, Centre for Natural Biological Resources and Community Development** emphasized the theme of the workshop.

### **Lecture Session**

The first day of the workshop had 4 lectures, each lecture covered one hour and fifteen minutes duration.

- ❖ **Lecture I** on “**Microbial mediated biofertilizers for sustainable agriculture and soil health**” was given by **Dr. D. J. Bagyaraj, Convener of the Workshop and INSA Honorary Scientist and Chairman, Centre for Natural Biological Resources and Community Development**, where he described the importance of various microorganisms and its application over agriculture.
- ❖ **Lecture II** on “**Biodiversity in India – 2017: Concerns and Strategies**” was delivered by **Dr. R. R. Rao, INSA Honorary Scientist, Central Institute of Medicinal and Aromatic Plants**, he described the drawbacks faced by India over Conservation of Plant Diversity.
- ❖ **Lecture III** on “**Conservation of Indigenous Medicinal Plants**” was delivered by **Prof. K. R. Shivanna, INSA Honorary Scientist and Honorary Senior Fellow, Ashoka Trust for Research in Ecology and Environment (ATREE)**, he described the advantages of Conservation of Indigenous Medicinal Plants.
- ❖ **Lecture IV** on “**Biocontrol agents in Modern Agriculture**” was delivered by **Dr. S. Nakkeeran, Professor, Department of Plant Pathology, Tamil Nadu Agriculture University**, in which he emphasized the importance of biocontrol agent in modern agriculture.

## Participants

About 150 participants (120 Students, 5 Research Scholars and 10 Faculty,) from various Universities and Colleges like, Bharathiar University, Nehru Arts and Science college, Hindustan Arts and Science College, Sri Ramakrishna College of Arts and Science. The participants were from diverse departments covering Biotechnology, Microbiology, Botany and Zoology.

## Day 2 (25<sup>th</sup> July 2017)

### Lecture Session

The second day of the workshop also had 4 lectures, each lecture covered one hour and fifteen minutes duration.

- ❖ The **Lecture I** started at 9.30 A.M on “**Biodiversity in Environmental Welfare**” was delivered by **Dr. R. R. Rao, INSA Honorary Scientist, Central Institute of Medicinal and Aromatic Plants**, he described the development and improvements of environment welfare by sustain the biodiversity.
- ❖ **Lecture II** on “**Microbial Production of Bacterial Cellulose and its Application**” was delivered by **Dr. U. Sivakumar, Professor, Department of Plant Microbiology, Tamil Nadu Agriculture University** in which he emphasized the importance of cellulose and its application over agriculture Field.
- ❖ **Lecture III** on “**Organic farming for sustainable crop production and soil health**” was delivered by **Prof. K. R. Shivanna, INSA Honorary Scientist and Honorary Senior Fellow, Ashoka Trust for Research**, he explained the importance of organic farming and soil fertility.
- ❖ **Lecture IV** on “**Microbial mediated biofertilizers for sustainable agriculture and soil health**” was given by **Dr. D. J. Bagyaraj, Convener of the Workshop and INSA Honorary Scientist and Chairman, Centre for Natural Biological Resources and Community Development**, where he described the importance of various microorganisms and its application over agriculture.

## Feedback Session

Final day of the workshop had open feedback session where the students, research scholars and faculty members from various colleges expressed their views about the Lecture Workshop. The Organizing committee of the lecture workshop made a note on the feedback and promised the participants to organize more lecture workshops in the near future.

## Valediction

Vote of thanks was rendered by **Dr. P. Rajiv, Coordinator of the Workshop and Assistant Professor, Department of Biotechnology and Supporting Staff of the Workshop**. Followed by National Anthem, the Two days Science Academies' Lecture Workshop successfully accomplished.



24 July, 2017		
DURATION	SPEAKER	TITLE
10.15-11.15 am	<b>Prof. D. J. Bagyaraj</b> NASI Sr. Scientist, Chairman, CNBRCD, Bangaluru-560024	Microbial mediated biofertilizers for sustainable agriculture and soil health
TEA BREAK		
11.30-12.45 pm	<b>Dr. R. Rao</b> INSA Honorary Scientist, Central Institute of medicana and aromatic plants, GKVK, Bangaluru- 560 064	Biodiversity in India -2017: Concerns and Strategies
LUNCH BREAK		
1.45-3.00 pm	<b>Prof. K.R. Shivanna,</b> INSA Honorary Scientist and Honorary Senior Fellow, Ashoka trust for Research in Ecology and Environment (ATREE), Jakkur, Bangaluru- 560 064.	Conservation of Indigenous Medicinal plants
TEA BREAK		
3.15-4.30 pm	<b>Dr. S. Nakkeeran,</b> Professor, Department of Plant Pathology, Tamil Nadu Agriculture University	Biocontrol agents in Modern Agriculture
25 July, 2017		
9.30-11.00 am	<b>Dr. R. Rao</b> INSA Honorary Scientist, Central Institute of medicana and aromatic plants, GKVK, Bangaluru- 560 064	Biodiversity in Environmental welfare
TEA BREAK		
11.15-12.30 pm	Dr. Sivakumar, Professor, Department of Agri. Microbiology, TNAU, Coimbatore	Microbial Production of Bacterial Cellulose and its Application
LUNCH BREAK		
1.30- 2.45 pm	<b>Prof. K.R. Shivanna,</b> INSA Honorary Scientist and Honorary Senior Fellow, Ashoka trust for Research in Ecology and Environment (ATREE), Jakkur, Bangaluru- 560 064.	Organic farming for sustainable crop production and soil health
TEA BREAK		
3.00-4.30 pm	<b>Prof. D. J. Bagyaraj</b> NASI Sr. Scientist Chairman, CNBRCD, Bangaluru-560024	Soil Biodiversity- Present Scenario

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