National Conference

on

MICROBIAL TECHNOLOGY FOR SUSTAINABLE DEVELOPMENT

(NCMITSUD)

1 & 2 February 2013

Editor

P.U. MAHALINGAM

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FOREWORD

Microbial technology covers various aspects of microorganisms towards addressing some of the major challenges the world is facing, especially in the areas of sustainable agriculture, animal husbandry, human health and environment, energy, etc. Owing to its greater significance, newer and newer micro organisms are developed every day to address various fast emerging issues in the above areas. Though the benefits of such microbial technology are phenomenal, equally it has it's own potential dangers, for example in the form of changes caused in the above areas due to the introduction of new microbes and also the creation of hybrid microbes which may provide negative contributions as well. However a lot of research is going on in India too. Hence it was felt necessary to gather the galaxy of Scientists working in this field in different provinces of India over common platform to share the experiences and distill their wisdom so as carve out the road map for future research. Over 100 researchers working in this field are congregating on 1st & 2nd, February, 2013 at Gandhigram Rural Institute – Deemed University. **Dr.P.U.Mahalingam**, Assistant Professor, from Department of Biology who has envisioned the said congregation namely the National Conference on ***"Microbial Technology for Sustainable Development"*** needs appreciation for organizing this and also bringing out a compendium on the deliberations.

I am confident that this conference will yield tangible inflow back into the research as well as benefits to the society.

(SM. RAMASAMY)

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MESSAGE

Micro-organisms are the indispensable components of our ecosystems. Microorganisms were the first living organism on our planet. They influence and benefit the human society in countless ways. The modern biotechnology rests on the microbiological foundation. It has a great impact on agriculture, animal husbandry, environment, energy, therapeutics and many other fields. In the recent past, scientists have developed the microbial based technologies in the production of new crop varieties; vaccines for animal and human health; hormones to enhance milk and meat production; and so on. This **National Conference on "Microbial Technology and Sustainable Development"** would provide a forum for the exchange and dissemination of new ideas among the researchers working in the field of microbial technology. The outcome of the conference would, I firmly believe, provide a strong base for further research. I appreciate the earnest efforts made by **Dr.P.U.Mahalingam**, Assistant Professor of Biology and the Organizing Secretary of the Conference in conducting a very timely conference with a current theme.

I wish the participants an intellectually rewarding and academically refreshing interaction during the conference. I wish the Organizing Secretary and his colleagues in the Department all the best.

(N. NARAYANASAMY)

PREFACE

The Gandhigram Rural Institute (GRI) is one of the 14 rural institutes founded nationwide in 1956. Started in a small way, the institute has blossomed into an institute of international repute in view of its contribution to integrated rural development.

The objective of the National Conference on Microbial Technology for Sustainable Development) being organized at GRI, Gandhigram is to provide a platform for the exchange and deliberation of new ideas among the researchers and academicians in the field of microbial technologies leading to sustainable development. The response of the researchers and academicians across the nation for this National Conference has been tremendous. This volume contains seven invited lecturers and 122 abstracts from various states of our country covering all the thrust areas of this National Conference. The research articles received have been grouped under four major headings, namely:

- Microbial technologies for sustainable agriculture, animal husbandry and human health;
- Microbial food & feed technology and therapeutics;
- Microbes – animal/plant interactions and Fungal biotechnology & composting technology; and
- Microbiology of waste management and bio-energy

The presentations being compiled in this volume is expected to be a resource material for the researchers and academicians working in this field of biology. I thank the authorities of GRI for their support for the successful conduct of NCMITSUD 2013. I am grateful to UGC, New Delhi and GRI, Gandhigram for providing funds for organizing this National Conference. My special thanks to the Staffs and Research Scholars, Department of Biology for all their support in organizing this conference.

P.U. MAHALINGAM

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