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From the Editor's Desk

Once more, it is with immense pleasure that I was given the opportunity to work on the First Edition of the Department News Letter. As we all know, a newsletter mirrors a department-its vision and mission. It also highlights events, activities and academic prowess and achievements. In this edition, I have tried to capture last six months excitement and activities. I do hope that the newsletter encourages many more including students to use it as a platform to express their creativity. I sincerely hope that this edition makes for an interesting read. Please feel free to offer any suggestions for the improvement.

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July 2019

Research Project, Paper Presentation and Lecture Programme

Dr. A. Arun, Associate Professor and Head (i/c), has received a Consultancy Project (Rs.3,60,000/-) for biopolymer research work from Galaxy Research Technologies, functioning at Alagappa University Campus.

Dr. Parasuraman Padmanabhan from Nanyang Technological University (NTU), Singapore served as Adjunct faculty from 1st-5th July, 2019.

Dr. Sudhakar Muniyasamy, Senior Researcher, Nanostructured Advanced Materials, Chemicals Cluster, Council for Scientific and Industrial Research (CSIR), Pretoria, South Africa, delivered an Invited Lecture on "Circular Economy for Innovation in Bioplastics and Biodegradable Products" on 4.7.2019 at the Department.

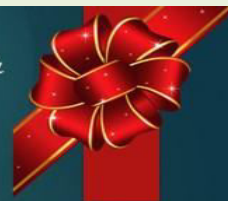
On behalf of Department of Microbiology, Journal club program was organized on 18.07.2019 in the themes of Microbiological research. Papers were presented in recent research advances in microbiology. All the Faculty members, Scholars and Students actively took part in this session. K. Vijay, Research Scholar presented the article entitled as **“Effect of *Trichoderma harzianum* on tomato plant growth and its antagonistic activity against *Phythium ultimum* and *Phytophthora capsici*”**. He explained about the vascular bundle, pith and cortex of treated host plant inoculated with *T. harzianum* and pathogens. Everyone was inspired by the research findings presented by research scholar.

August 2019

Dr. A. Arun, Associate Professor and Head (i/c) delivered an invited talk in Inaugural function of Helix Association on 05th August 2019 at Bishop Heber College (Autonomous), Tiruchirappalli. On behalf of Department of Microbiology, Journal club program was organized on 13.08.2019 in the themes of Microbiological research. Papers were presented in recent research advances in microbiology.



DEPARTMENT OF BIOTECHNOLOGY &
BIOINFORMATICS
Bishop Heber College (Autonomous)



Cordially invite you to the

Inaugural function of Helix Association

**On Monday, 05th August 2019, 10.00 a.m
at Multipurpose Auditorium**

Dr. A. ARUN

**Associate Professor and Head
Department of Microbiology,
Alagappa University, Karaikudi -630 003**

**will inaugurate the Helix Association and deliver a
special talk**

Dr. V. VIOLET DHAYABARAN,

**Dean of Sciences,
Head, Dept. of Biotechnology and Bioinformatics
Bishop Heber College (Autonomous),
Tiruchirappalli -620 017**

will preside over the function

All the Faculty members, Scholars and Students actively took part in this session. E. James Obeth, Research Scholar presented the article entitled as “**Microbial fuel cells: An overview of current technology**”. He explained about the the use of advanced carbon-based materials as electrode surface. Everyone was inspired by the research findings presented by research scholar.

Dr. A. Arun, Associate Professor and Head (i/c) delivered special lecture in Fifth awareness programme on Sanitation and Personal Hygiene on 29th August 2019 at Govt. High School, Melamanakudi, Sakkavayal organized by Centre for Swachh Bharat & Swasth Bharat.



September 2019

On behalf of Department of Microbiology, Journal club program was organized on 11.09.2019 (Wednesday) in the themes of Microbiological research. Papers were presented in recent research advances in microbiology. All the Faculty members, Scholars and Students actively took part in this session. Abhispa Bora, Research Scholar presented the article entitled as **“Microalgal hydrogen production – a review”**. She explained about the potential of microalgae for biohydrogen production which is an alternative, reliable and renewable energy source. She highlighted about the recent technological progress, enzymes involved and genetic as well as metabolic engineering approaches towards sustainable hydrogen production from microalgae. Everyone was inspired by the research findings presented by research scholar.

Dr. V. Balasubramanian, Assistant Professor delivered an invited lecture on Current trends and scope on Science and Technology held 15-09-2019, at Seethalakshmi Achi College for women, Pallathur.



**VILLAGE EXTENSION PROGRAMME (VEP),
KANDADEVI VILLAGE, SIVAGANGA DISTRICT**

Date: 20.09.2019–22.09.2019

For the academic year 2019-20, this programme was organized from 20th to 22nd of September, 2019. Department of Microbiology, Alagappa University adapted Kandadevi village, Sivaganga District. Students actively participated to collect the socio economic survey, gave motivational talk to the elementary school student. Rally was arranged to make awareness about the use of toilets, not to use the plastics. Yoga practice was given to school students. Wall paintings were made to great awareness rain water harvesting and plastic awareness.

SOCIO ECONOMIC SURVEY OF THE HOUSEHOLD AT KANDADEVI VILLAGE



RALLY TO MAKE AWARENESS ABOUT CLEANLINESS, TOILET USAGE AND SANITATION, AWARENESS OF PLASTIC POLLUTION



DOOR TO DOOR AWARENESS CAMPAIGN

Our students were involved in door to door awareness campaign and distributed notice instructing the cleanliness, health practices and about the control measure of dengue mosquito breeding.



YOGA TRAINING TO THE ELEMENTARY SCHOOL STUDENTS



WALL PAINTING IN GOVERNMENT ELEMENTRY SCHOOL WALL (ABOUT CLEANLINESS, RAIN WATER HARVESTING)



October 2019

On behalf of Department of Microbiology, Journal club program was organized on 17.10.19 (Thursday) in the themes of Microbiological research. Papers were presented in recent research advances in microbiology. All the Faculty members, Scholars and Students actively took part in this session. Dr. Balasubramanian, Assistant Professor, presented the article entitled as “**New Microbiological Techniques in the Diagnosis of Bloodstream Infections**”. He explained about the microbial biomass of the subculture can also be used in parallel for more rapid susceptibility testing with conventional methods, or, in future, with MALDI-TOF MS. Everyone was inspired by the research findings presented by faculty.

Dr. A. Arun, Associate Professor and Head (i/c) presented the research work entitled “Microbiological Research on Bioplastics, Bioenergy and Bioremediation” in the Department of Polymer Science and Engineering, School of Chemical Engineering and Technology, Tianjin

University, Tianjin, China on 31.10.2019 and also in Beijing Key Laboratory of Lignocellulosic Chemistry, College of Material Science and Technology, Beijing Forestry University, Beijing, China on 01.11.2019.



November 2019

On behalf of Department of Microbiology, Journal club program was organized on 29.11.19 (Friday) in the themes of Microbiological research. Papers were presented in recent research advances in microbiology. All the Faculty members, Scholars and Students actively took part in this session. D. Monica Research Scholar presented the article entitled as **“Isolation and characterization of a new cyanobacterial strain with a unique fatty acid composition”**. She explained about the isolation and purification of Cyanobacteria and its morphological and ultrastructure characteristics. Everyone was inspired by the research findings presented by research scholar.

December 2019

A Two-day International Conference on Recent Trends in Bioplastics (RTB-2019) was organised by the Department of Microbiology, Alagappa University, on 9th and 10th December 2019, in the Seminar Hall of the Science Campus. The conference was sponsored under the joint auspices of RUSA 2.0 Scheme and Scheme for Promotion of Academic and Research Collaboration (SPARC).





Presiding over the conference. Prof. N. Rajendran, Vice-Chancellor, Alagappa University, said air pollution in certain cities of the country has reached an alarming stage that has led us to establish oxygen centres. It has become an urgent necessity to control various environmental pollutions to protect mankind from the perils of health issues and serious researches in this area assume significance in the current scenario. Owing to the ease of use, durability and multiple applications, plastics have become inevitable part of our life. However, potential environmental hazards have rendered them as prohibited ones. In this context, demand for bioplastic has increased to a great extent because they are produced from renewable sources which are safe for human lives. According to recent estimates, the global bioplastic market is expected to grow from 17 billion dollars business this year to almost 44 billion dollars in 2052. He concluded by saying "Better researches for creating a healthy humanity and a better society" should be the end and aim of all research endeavours in all fields of science.

In his inaugural address, Dr. Parasuraman Padmanabhan, Nanyang Technological University (NTU), Singapore, said that we have to earnestly implement all the schemes for the production of bio-energy from various renewable sources because World Health Organisation has indicated by the year 2025 we should be free from using petroleum products to a very great extent. However, only 4% of petroleum products have been used for plastic products which should be improved through biotechnological research driven approaches. Biotechnological innovations would help in three essential sectors of life such as health, energy and environment; and hence

greater attention has to be paid in the biotechnological research which would ultimately safeguard the environment as well as human health.

Dr. G. Ravi, Head, Department of Physics, Alagappa University, in his felicitation address, asked the research community to focus on converting enormous agricultural wastes into bioplastic materials. He also added that the use of chemical pesticides and insecticides must be reduced to save the fertility and potential nature of the soil. He concluded his speech by saying that active conversion of agrowaste into useful bioplastic materials is the need of the hour.

The first copy of abstracts of research papers in the form of CD (ISBN 978-93- 89658-09-5) was released by the Vice- Chancellor and the copies were received by the distinguished guests. 250 participants from various Universities, Institutions across the country attended the conference. Dr. A. Arun, Head (i/c.), Department of Microbiology, Alagappa University, and Convener of the RTB- 2019, welcomed the gathering and delivered the thematic address. Dr. T. Kavitha, Assistant Professor and Organizing Committee Member RTB-2019, proposed a vote of thanks.

On behalf of the Department of Microbiology, the Journal Club program was organized on 13.12.2019 (Friday), under the theme of microbiological research. The paper was published in the World Journal of Microbiology and Biotechnology. All the Faculty members, Scholars and Students actively took part in this session. R. Akila, Research Scholar presented the article entitled “Advances in research on signal molecules regulating biofilms”. She discussed how it is crucial to look into the mechanisms by which QS, c-di-GMP, and TCS regulate the formation of biofilm to develop novel target medications that prevent biofilm production and find effective treatments for severe persistent infections. Everyone was inspired by the research findings presented by research scholars.

January 2020

Dr.T. Kavitha, Assistant Professor delivered an invited lecture at Department of Botany, Govt. Arts College for Women, Pudukkottai. Dr. A. Arun, Associate Professor and Head (i/c). Department of Microbiology, published three book chapters two in Springer Nature, Switzerland and one in Scrivener Publishing, Wiley, USA.

On behalf of the Department of Microbiology, the Journal Club program was organized on 07.01.2020 (Tuesday), under the theme of microbiological research. The paper was published in the World Journal of Microbiology and Biotechnology. All the Faculty members, Scholars and Students actively took part in this session. Shibasini, Research Scholar presented the article entitled **“Nanoparticles in the clinic: An update”**. She discussed new clinical approvals, trials, and technologies to provide an updated snapshot on the current clinical landscape of nanoparticles in 2019. Everyone was inspired by the research findings presented by research scholars.

February 2020

Professor Iyyam Pillai, Coordinator, Student Empowerment Cell (STEM) Alagappa University, interacted with M.Sc., Microbiology students on 12.02.2020 and provided coaching for the preparation of NET and JRF exams on 12.2.2020.

On behalf of Department of Microbiology, Journal club program was organized on 12.02.2020 (Wednesday) in the themes of Microbiological research. Papers were presented in recent research advances in microbiology. All the Faculty members, Scholars and Students actively took part in this session. Dr. T. Sathiamoorthi, Assistant Professor, presented the article entitled as **“mNGS in clinical microbiology laboratories: on the road to maturity”**. He explained about the mNGS is transforming the landscape of clinical microbiology laboratories, and to ensure that it is properly utilised in clinical diagnosis, both physicians and microbiologists should have a thorough understanding of the power and limitations of this method. Everyone was inspired by the research findings presented by faculty.

May 2020

A one day online Webinar on Biopolymers- Renewable Resources for Human Utilization was organized through ALU online portal on 27.5.2020 by the Department of Microbiology. The Department also organized a one day Webinar in "Trends in Microbiology" on 28.5.2020.