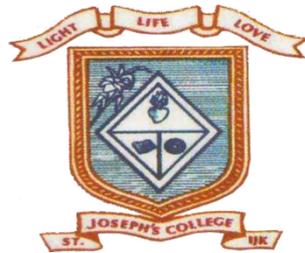


Webinar on Trends in Technology in Bioscience

Organized by

Department of Zoology
St. Joseph's College (Autonomous), Irinjalakuda



Speakers

Session I

Dr. Sreelakshmi Nair,
Quality Control Analyst,
Aroa Biosurgery,
New Zealand

Session II

Dr Valsamma Joseph
Professor & Director,
National Centre for Aquatic Animal Health,
Cochin University of Science & Technology.

BROCHURE

INTERNATIONAL

WEBINAR

ON

TRENDS IN
TECHNOLOGIES IN
BIOSCIENCE



Inaugural Address
Dr. Sr. Asha Therese
Principal

To Join

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e-Certificate will be issued

Department of Zoology

St. Joseph's College (Autonomous) Irinjalakuda, Kerala

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**Molecular Biology to
Systems & Synthetic Biology**

Dr. Valsamma Joseph

Professor & Director

National Centre for Aquatic Animal Health
Cochin University of Science & Technology

02-10-2021, 11.30 am



Endotoxins & Its Detection

Dr. Sreelakshmi B. Nair

Quality Control Analyst

Aroa Biosurgery, New Zealand

02-10-2021, 10.30 am

Co-ordinator

Dr. Gigi Pouluse

Assistant Professor & Head
zoology@stjosephs.edu.in

Organizing Committee

Dr. Vidya G, Ms. Deepthi PD, Ms. Juliet OK.,
Ms. Vidya Sadanandan, Ms. Aswani Das,
Ms. Athira VC, Ms. Athira Anand

CERTIFICATE



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CERTIFICATE

This is to certify that **Ms. AMESHA A** of **ST JOSEPH'S AUTONOMOUS COLLEGE, IRINJALAKUDA**

has participated in the online International *Webinar on Trends in Technologies in Bioscience* organized by the Department of Zoology, St. Joseph's College (Autonomous), Irinjalakuda, Kerala on **2nd October, 2021.**

Certificate ID 210260

Dr. Gigi Poullose
Co-ordinator & HoD



Dr. Sr. Anis K. V.
Convenor
Principal

REPORT ON
Trends in Technology in Bioscience
Organized by
Department of Zoology

Department of Zoology of St Joseph's College Irinjalakuda conducted a webinar on the Topic "Trends in Technologies in Bioscience" on October 2nd, 2021. Dr Gigi Paulose, Head of the Department, Department of Zoology had welcome Dr. Sreelakshmi Nair and Dr Valsamma Joseph to take the webinar. The first session was taken by Dr. Sreelakshmi Nair, Quality Control Analyst, Aroa Biosurgery, New Zealand and second session was taken by Dr Valsamma Joseph Professor & Director, National Centre for Aquatic Animal Health, Cochin University of Science & Technology.

First section was taken by Dr. Sreelakshmi Nair. Her topics include Microbial toxins, Endotoxins and exotoxins, pathogen associated Molecular pattern, Complications of Endotoxins, Endotoxins in pharmaceuticals and Endotoxin's detection methods. Microbial toxins are the toxins produced by bacteria and fungi.it promote infection and disease directly damaging host tissue and disabling the immune system. Bacteria mainly produse Endotoxins and exotoxins. Neisseria meningitidis, Escherichia coli, Pseudomonad sp. are some Endotoxins producers. Vibrio cholerae, Salmonella, Shigella are some exotoxin producers. Microbial toxins can be detected in many ways. Endotoxins are produced mainly due to the Contaminations' can be controlled by monitoring by routine testing of raw materials and process checks. Complication by endotoxins include Anaphylaxis, massive histamine release, Vasodilation, tissue hypoxia and Organ dysfunction.

Second session was initiated by doctor Valsamma Joseph professor and director of National centre for aquatic animal health (University of science and technology) about the topic molecular biology to system and synthesis of biology. Molecular biology is the field of biology that studies composition structure and interaction of cellular molecules such as nucleic acid and proteins that carry out biological process essential for cell function and maintained. Genomes contain biological information needed to construct and maintain living example of organism. Prokaryotic genome is contained in a single circular DNA molecule localised with in nucleoid. DNA-binding proteins

collagen in an organised the fashion. Super calling occurs when additional turns are introduced into DNA double helix or if turns are removed. Frederick Sanger is father of genomics. In 1980 shared for pioneering development in DNA sequencing.

Bioinformatics: uses computational approaches to solve genomics problem. It's also contained sequence analysis, gene prediction, modelling of biological process or network. Genome sequencing contain and analogy & Two approaches. Gene by gene approach to biological process is analogous to understanding circulate by following wires, choose one wire, follow circuit to transistor, fall of Ram translator to capacitor, follow from capacitor to power source, do again. Serial analysis of gene expression (SAGE) yields short sequences, little as 12bp in length of which represent and MRNA present in all transcriptomes. Basis of this technique is that these 12bp sequences despite their shortness sufficient the genes that codes for mRNA to be identified.

Engineering synergy in Biotechnology to predictive mathematical models for biological systems and these can be used for design of completely synthetic cells and for modifying existing cells through metabolic engineering.

At the end of the session Varsha, III B.Sc. Zoology student had express vote of thanks.

REC

10:43 AM | International Webinar on Trends in Techno...

Participants:

- Gigi Poullose
- Annet Manoj
- navya jayakrish...
- Minu Sabu
- Anitta AT
- Maria
- Rosmi joyce
- mahitha syriac
- Athira Anand
- jewel paul
- 37 others
- You

REC Valsamma Joseph is presenting

Template dependent RNA synthesis

DNA 3' = TACCCAGCCCATTC = 5'
 5' AUGG 3'
 RNA

3' = TACCCAGCCCATTC = 5'
 5' AUGG 3'

KEY

- All organisms
- Eukaryotes only

Total RNA

- Coding RNA (4% of total)
 - mRNA
- Functional RNA (96% of total)
 - Pre-mRNA (hnRNA)
 - mRNA
 - Pre-rRNA
 - rRNA
 - Pre-tRNA
 - tRNA
 - snRNA
 - snoRNA
 - miRNA
 - siRNA

11:39 AM | International Webinar on Trends in Technol...

Participants:

- Valsamma Joseph
- Gigi Poullose
- Sreelakshmi Nair
- jewel paul
- Annet Manoj
- Maria
- mahitha syriac
- Rosmi joyce
- Namita mk
- Usha Bhagirath...
- 38 others
- You