WEBINAR ON BIOINSTRUMENTATION FRONTIERS 2021

26/06/2021- 14/08/2021

PLATFORM: GOOGLE MEET

Registration is free

E- Certificate will be provided

Faculty members, research scholars, and students can attend.

Day 1 Registration Link:
https://forms.gle/E6iewicEMVGZvSoR7

Webinar Convener:
Dr. Jisha MS
NIPST Co-ordinator, Professor
School of Bioscience, MG University

Dr. Sharrel Rebello
Assistant Professor in Microbiology
St. Joseph's College (Autonomous), Irinjalakuda

Webinar Co-ordinator:
Aswathy Ajayan
Assistant Professor in Forensics
St. Joseph's College (Autonomous), Irinjalakuda
Contact no.: +91-7034067551

Jointly Organized By

National Institute of Plant Science and Technology (NIPST)
Mahatma Gandhi University, Kottayam,
Kerala, India

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

University of Calicut
Thenjipalam, Malappuram,
Kerala, India

Kerala Police Academy, Thrissur

About the Webinar Series

'Bioinstrumentation Frontiers 2021' is envisioned to provide insights on instrumentation and applications of various analytical techniques used in life science research and medical diagnostic purposes. This series would be addressed by eminent speakers from different parts of Kerala and abroad who will be enlightening us with their valuable insights on Polymerase Chain Reaction, Nuclear Magnetic Resonance, Microscopy, Spectroscopic techniques, FTIR, Chromatography based techniques, GC MS and LC MS.

About the Collaborative Institutions

Mahatma Gandhi University was established on 2nd October 1983 as the fifth university in Kerala. The university envisions to champion the cause of higher education in the country. **National Institute of Plant Science and Technology (NIPST)**, an inter school centre of M G University, focuses on advanced education, promoting research in interdisciplinary areas of 'Plant and their Environmental relations' towards developing 'Plant based Eco-Technologies. **St. Joseph's College Irinjalakuda**, is a college for women, affiliated to the University of Calicut and managed by St. Joseph's Educational Society of the Holy Family Congregation. In 2013, the college was reaccredited in the third cycle at A level by NAAC. **University of Calicut** aims to nurture excellence in education and research in its catchment areas of northern Kerala. M.Sc Forensic science programme under the Department of Life Sciences, University of Calicut is one of its kind in the country. This course is conducted by the university in collaboration with the apex body of Police training in the state, the **Kerala Police Academy (KEPA), Thrissur**.

WEBINAR ON
BIOINSTRUMENTATION FRONTIERS
2021

(26/6/2021 – 14/8/2021)
10:30AM to 12:00PM

Inaugural session: 10:15 AM to 10:30 AM

Welcome Speech:	Dr. Jisha MS, Webinar Convenor, NIPST Coordinator, MG University
Presidential Address:	Dr. Sr. Asha Therese, Principal, St. Joseph's College, Irinjalakuda
Inaugural Address:	Dr. Jayachandran K, Director, School of Biosciences, MG University
Vote of Thanks:	Dr. Sharrel Rebello, Webinar Convenor, Assistant Professor, St. Joseph's College, Irinjalakuda

Technical Sessions

Dr. Linu Mathew
Professor, School of Biosciences, MG University
Topic: Polymerase Chain Reaction: Technique and Applications
Date: 26/06/2021

Dr. Sunilkumar P.N
Scientist, NMR Facility, IIRBS, MG University
Topic: NMR Spectroscopy: Basics, Instrumentation and Applications
Date: 03/07/2021

Dr. Jasim Basheer, Junior Researcher, Dept. of Cell Biology, Palacky University, Czech Republic
Topic: Techniques in Advanced Fluorescence Microscopy for Plant Microbe Interactions
Date: 10/07/2021

Mr. Sanu Xavier
Chief Executive Officer, Innovation Incubation Centre, MG University
Topic: Spectroscopic Analytical Techniques
Date: 17/07/2021

Dr. Anu Gopinath, Assistant Professor in Chemical Oceanography, Dept. of Aquatic Environment Management, KUFOS
Topic: FTIR: Principles and Applications
Date: 24/07/2021

Dr. Anie Y
Assistant Professor in Biochemistry, School of Biosciences, MG University
Topic: Chromatography Based Techniques
Date: 31/07/2021

Dr. Hazeena V.N.
Principal, Coaching Centre for Minority Youth, Mattancherry, Kochi
Topic: Chromatography Based Techniques
Date: 31/07/2021

Dr. Elizabeth Mary John
Assistant Coordinator, Food Science and Technology, MG University
Topic: Chromatography Based Techniques
Date: 31/07/2021

Dr. Aseem Wagle
Application Chemist,
Toshwin Analytical Pvt. Ltd
Topic: GC-MS: Understanding the Technicalities
Date: 07/08/2021

Mr. Dineep D, Field Application Specialist, Spinco Biotech Pvt. Ltd. Chennai
Topic: Introduction to Liquid Chromatography-Mass Spectroscopy (LC-MS) Technique
Date: 14/08/2021

*Note: The registration link of the upcoming webinar topics will be shared in separate brochures.

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Kerala, India

M.Sc. Forensic Science Programme,
Department of Life Science
University of Calicut
Kerala Police Academy

DAY 2 WEBINAR ON NMR SPECTROSCOPY: BASICS, INSTRUMENTATION AND APPLICATIONS

July 03, 2021

10.30 AM – 12.00 PM

PLATFORM : GOOGLE MEET

Registration is free

E- Certificate will be provided

Faculty members, research scholars, and students can attend.

Day 2 Registration Link:

https://forms.gle/Zeog1N2WMvWheVmf6

About the Webinar Session

Nuclear Magnetic Resonance spectroscopy, commonly known as NMR spectroscopy or magnetic resonance spectroscopy (MRS), is a spectroscopic technique used to observe local magnetic fields around atomic nuclei. This analytical technique is widely used to determine the structure of organic molecules in solutions. The application of nuclear magnetic resonance best known to the general public is magnetic resonance imaging for medical diagnosis and magnetic resonance microscopy in research settings. However, it is also widely used in biochemical studies such as proton NMR, carbon-13 NMR, deuterium NMR and phosphorus-31 NMR. As one of the two major spectroscopic techniques used in metabolomics, NMR is used to generate metabolic fingerprints from biological fluids to obtain information about disease states or toxic insults.

Resource Person

Dr. Sunilkumar P.N

Scientist, NMR Facility,
Institute for Integrated Programmes and Research in Basic Sciences (IIRBS),
Mahatma Gandhi University, Kottayam, Kerala

Webinar Convener:

Dr. Jisha MS
NIPST Co-ordinator, Professor
School of Bioscience, MG University

Dr. Sharrel Rebello
Assistant Professor in Microbiology
St. Joseph's College (Autonomous), Irinjalakuda

Webinar Co-ordinator:

Sherin Varghese
Research Scholar, School of Biosciences, MG University
Contact no.: +91 8075132855

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Kerala, India

M.Sc. Forensic Science Programme,
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University of Calicut
Kerala Police Academy

WEBINAR ON

Techniques in Advanced Fluorescence Microscopy for Plant Microbe Interactions

July 10, 2021

10.30 AM – 12.00 PM

PLATFORM: GOOGLE MEET

Registration is free

E- Certificate will be provided
Faculty members, research scholars, and students can attend.

Registration Link: https://forms.gle/94B3KFnKUPk2chrA9

Resource Person

Dr. Jasim Basheer,

Junior Researcher,
Dept. of Cell Biology,
Centre of the Region Haná for Biotechnological and Agricultural Research
Palacky University, Olomouc, Czech Republic

About the webinar session

Fluorescence microscopy is different from conventional microscopy as it uses a much higher intensity light source which excites a fluorescent species in a sample of interest. By exploiting the characteristics of fluorescence, various techniques have been developed that enable the visualization and analysis of complex dynamic events in cells, organelles, and sub-organelle components within the biological specimen. This webinar session will focus on advanced fluorescence microscopic techniques and how it is used for studying plant microbes interactions.

Webinar Convener:
Dr. Jisha M S
NIPST Co-ordinator, Professor
School of Bioscience, MG University

Dr. Sharrel Rebello
Assistant Professor in Microbiology
St. Joseph's College (Autonomous), Irinjalakuda

Webinar Session Co-ordinator:
Dhanraj N D
Research Scholar, School of Biosciences, MG University
Contact no.: +91 9633839273

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M.Sc. Forensic Science Programme, Departmen of Life Science
University of Calicut
Kerala Police Academy

WEBINAR ON

SPECTROSCOPIC TECHNIQUES

July 17,2021

10.30 AM – 12.00 PM

Registration is free

E-certificate will be provided

Faculty members, research scholars, and students can attend

PLATFORM: GOOGLE MEET

Registration link:
https://forms.gle/YrTpu9Y6uKysYj689

Resourse person

Mr. Sanu Xavier
Chief Executive Officer,
Innovation Incubation Centre,
MG University

About the Webinar session:

Spectroscopic techniques employ light to interact with matter and thus probe certain features of a sample to learn about its consistency or structure.

This webinar session will focus on different spectra analytical techniques

Webinar Convener:

Dr. Jisha MS
NIPST Co-ordinator, Professor
School of Bioscience, MG University

Dr. Sharrel Rebello
Assistant Professor in Microbiology
St. Joseph's College (Autonomous),

Webinar Co-ordinator:

Aleesha Thomas
Assistant Professor in Forensic Science
St. Joseph's College (Autonomous),
Irinjalakuda

BIOINSTRUMENTATION FRONTIERS 2021

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M.Sc. Forensic Science Programme,
Department of Life Science
University of Calicut
Kerala Police Academy

WEBINAR ON

FTIR: PRINCIPLES AND APPLICATIONS

July 24, 2021

10.30 AM – 12.00 PM

PLATFORM : GOOGLE MEET

Registration is free

E- Certificate will be provided

Faculty members, research scholars, and students can attend.

Registration Link:

https://forms.gle/3D2HyYvv1J3VhCaK6

About the Webinar Session

Fourier Transform Infrared Spectroscopy (FTIR) Identifies chemical bonds in a molecule by producing an infrared absorption spectrum. The spectra produce a profile of the sample, a distinctive molecular fingerprint that can be used to screen and scan samples for many different components.

Resource Person

Dr. Anu Gopinath

Assistant Professor in Chemical Oceanography, Dept. of Aquatic Environment Management, KUFOS

Webinar Co-ordinator:

Dr. Jimtha John C
Assistant Professor in Microbiology
St. Joseph's College (Autonomous), Irinjalakuda
Ph: 9497653629

Webinar Conveners:

Dr. Jisha MS
NIPST Co-ordinator, Professor
School of Biosciences, MG University

Dr. Sharrel Rebello
Assistant Professor in Microbiology
St. Joseph's College (Autonomous), Irinjalakuda

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NATIONAL INSTITUTE OF PLANT SCIENCE TECHNOLOGY (NIPST)
MAHATMA GANDHI UNIVERSITY, KOTTAYAM, KERALA, INDIA
ST.JOSEPH'S COLLEGE (AUTONOMOUS)
IRINJALAKUDA, THRISSUR, KERALA, INDIA

M.SC. FORENSIC SCIENCE PROGRAMME, DEPARTMENT OF LIFE SCIENCE
UNIVERSITY OF CALICUT
KERALA POLICE ACADEMY

WEBINAR ON

CHROMATOGRAPHY BASED TECHNIQUES

July 31, 2021

10.00 AM – 12.00 PM

Registration is free

E-certificate will be provided, Faculty members, research scholars, and students can attend

PLATFORM: GOOGLE MEET

Registration Link:

https://forms.gle/gjLHPEAv6ZYZF5kK8

About the Webinar Session

Chromatography is an Important biophysical technique that enables the separation, identification and purification of the components of a mixture for qualitative and quantitative analysis. A wide range of chromatographic procedures makes use of differences in sizes, binding affinities, charge and other properties to separate materials. It is a powerful separation tool that is used in all branches of science and is often the only means of separating components from complex mixtures. This webinar session will focus on different types and applications of chromatographic techniques

Webinar Convener:

Dr. Jisha MS
NIPST Co-ordinator, Professor
School of Bioscience, MG University, Kottayam

Dr. Sharrel Rebello
Assistant Professor in Microbiology
St. Joseph's College (Autonomous), Irinjalakuda

Webinar Coordinator:

Meenu Thampi
Research Scholar, SBS, MG University, Kottayam, Ph No: 8078860998

Helseena E H
Research Scholar, NIPST, MG University. Kottayam. Ph No: 9745522192

Resource Persons

Dr. Anie Y
Assistant Professor,
School of Biosciences
M G University,
Kottayam

Dr. Elizabeth Mary John
Assistant Coordinator,
School of Food Science and Technology, MG University, Kottayam

BIOINSTRUMENTATION FRONTIERS-2021

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National Institute of Plant Science Technology (NIPST), M.G.University, Kottayam, Kerala

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

M.Sc. Forensic Science Programme, Department of Life Science, University of Calicut, Kerala Police Academy

WEBINAR ON
GC-MS UNDERSTANDING THE TECHNICALITIES

August 07,2021
Time: 10:30am-12:00pm

PLATFORM: GOOGLE MEET

E-certificate will be provided
Faculty members, Research Scholars and Students can attend

Registration is free

Registration link:
https://forms.gle/nvUAoCcHiK8yyYYA6

Webinar Conveners:

Dr. JISHA M.S.
Coordinator,NIPST & Professor, School of Biosciences, M.G. University

Dr. SHARREL REBELLO
Assistant Professor in Microbiology, St. Joseph's College (Autonomous), Irinjalakkuda

Webinar Session Coordinator:
Anubha S
Research Scholar, NIPST, M.G.University
Mob:9744988161

About the webinar session

Gas chromatography- Mass spectrometry (GC-MS) is an analytical method that combines the features of gas chromatography and mass spectrometry to identify different substances within a test sample. Applications of GC-MS includes drug detection, fire investigation, environmental analysis, identification of unknown samples, detection of several congenital metabolic diseases and many more. This webinar session focuses on understanding the principle, construction and working of GC-MS along with insights into its significance in research.

RESOURCE PERSON

Dr. Aseem Rajan Wagle
Application Development Chemist
Shimadzu Analyticals India Pvt.Ltd.

BIOINSTRUMENTATION FRONTIERS-2021

WEBINAR ON

INTRODUCTION TO LIQUID CHROMATOGRAPHY AND MASS SPECTROSCOPY (LC-MS) TECHNIQUE

August 14, 2021
Time: 10:30am-12:00pm

Jointly organized by

National Institute of Plant Science Technology (NIPST), M.G. University, Kottayam, Kerala
St. Joseph's College (Autonomous), Irinjalakkuda, Kerala
M.Sc. Forensic Science Programme, Department of Life Science, University of Calicut, Kerala Police Academy

About the webinar session

Liquid Chromatography Mass Spectrometry (LCMS) is an analytical technique used for the identification and quantification of compounds at very low concentrations. This technique is used in different fields such as food, environmental matrix, proteomics, metabolomics, forensics etc. This webinar session focusses on the principle and instrumentation aspects of LCMS with some case studies.

PLATFORM: GOOGLE MEET

Free Registration link:
https://forms.gle/v55Jur1UkhJVkp7T8

E-certificate will be provided
Faculty members, Research Scholars and Students can attend

Webinar Conveners:

Prof. (Dr.) JISHA M.S.
Coordinator, NIPST
School of Biosciences,
M.G. University

Dr. SHARREL REBELLO
Assistant Professor in Microbiology, St. Joseph's College (Autonomous), Irinjalakkuda

RESOURCE PERSON

Mr. Dineep D.

Field Application Specialist,
Spinco Biotech Pvt. Ltd.
Chennai

Webinar Session Coordinator:

Ms. Edna Mary Varghese
Research Scholar, SBS,
M.G. University.
Mob: 9747265695