



CENTURION UNIVERSITY OF TECHNOLOGY AND MANAGEMENT, ODISHA

FDP
On

Mass spectrometry and its applications in biological research
20.12.17 to 24.12.2017

REPORT

No. of Participants: **25**

DATE AND VENUE: 20th to 24th December, 2017, Centurion University of Technology and Management (CUTM), Paralakhemundi campus.

RESOURCE PERSON: Dr.Aditya Arya

Dr. Aditya Arya is currently working as a Scientist at National Institute of Malaria Research, a flagship lab of ICMR, where he has main responsibilities of molecular diagnostics. He has completed his Ph.D from Peptide and Proteomics division of Defence Institute of Physiology and Allied Science, New Delhi with proteomics and nanomedicine as thrust areas. He has made enormous contribution to high altitude biology, discovery of proteomics signatures, redox regulation in hypoxic-stress.

ABOUT THE SESSION:

A five day FDP on “Mass spectrometry and its applications in biological research” was organized by the department of Biotechnology under M.S.Swaminathan School of Agriculture from 20th December 2017 to 24th December 2017 where a total of 25 faculty members from the departments of Biotechnology, Plant pathology, Genetics and Plant Breeding, Horticulture and Chemistry participated.

The basic objective was to provide an insight into the applications of mass spectrometry in biological research as well as to provide knowledge on the use of different mass spectrometers for proteomic studies. The FDP also aimed towards providing the future trends in multiomic research and the vital role that proteomics will play over the next decade.

The FDP on “Mass spectrometry and its applications in biological research” emphasized on the exploitation of mass spectrometry in the characterization and analysis of biological samples through the measurement of mass to charge ratios of ions, the accurate determination of high and low molecular mass compounds as well as its use in combinatorial chemistry where a large number of similar molecules were analysed to find the most effective compounds from a group of related organic chemicals. High-throughput proteomics is changing the scope of what is possible in multiomic studies, understand disease, identify drug targets, and create novel therapies.

A session in the FDP also dealt on the application of MS to the determination of protein structure and the analysis of the MS/MS spectra using softwares. The last day of the FDP concentrated on the use of different mass spectrometers and the essential features of all mass spectrometers including:

- Production of ions in the gas phase
- Acceleration of the ions to a specific velocity in an electric field
- Separation of the ions in a mass analyser
- Detection of each species of a particular m/z ratio

OUTCOME:

The FDP was truly informative for the participants in which the participants have gained good knowledge on using mass spectrometry for the characterization of proteins. The participants were of the opinion that they would certainly design experiments for making use of the tools for characterization of biologically important proteins.



Participants during an FDP on the use of tools of mass spectrometry for analysis of biological proteins.



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ATTENDANCE SHEET

Sl. No.	Name	Signature
1	Dr. Narayan Gouda	<i>Narayan Gouda</i>
2	Mr. I. Siva Ram Koti	<i>S. Ram Koti</i>
3	Dr. Koustava Kumar Panda	<i>Koustava Kumar Panda</i>
4	Dr. Puspalatha G	<i>Puspalatha G</i>
5	Dr. Dinkar Gaikwad	<i>Dinkar Gaikwad</i>
6	Mr. Balaram Panda	<i>Balaram Panda</i>
7	Dr. Jaykishan Meher	<i>Jaykishan Meher</i>
8	Dr. B. Praveen	<i>B. Praveen</i>
9	Dr. Abhinandita Sahu	<i>Abhinandita Sahu</i>
10	Dr. Gyana Ranjan Mahalik	<i>Gyana Ranjan Mahalik</i>
11	Dr. Preetha Bhadra	<i>Dr. Preetha Bhadra</i>
12	Dr. S.P. Nanda	<i>S.P. Nanda</i>
13	Dr. Dojalisa Sahu	<i>Dojalisa Sahu</i>
14	Mr. Kertik Paramanik	<i>Kertik Paramanik</i>
15	Mr. Pradip Kumar Prusty	<i>Pradip Kumar Prusty</i>
16	Dr. Shantanu Bhattacharya	<i>Shantanu Bhattacharya</i>
17	Dr. Priyadarshini Mohapatra	<i>Priyadarshini Mohapatra</i>
18	Dr. Pratibha Rani Deep	<i>Pratibha Rani Deep</i>
19	Dr. Ashish Kumar Sarangi	<i>Ashish Kumar Sarangi</i>

20	Ms. Madhuri Pattnaik	<i>Madhuri Pattnaik</i>
21	Mr. Susanta K. Biswal	<i>Susanta K. Biswal</i>
22	Mr. Chittaranjan Routray	<i>Chittaranjan Routray</i>
23	Dr. R.N. Nayak	<i>R.N. Nayak</i>
24	Ms. Anjana Pattnaik	<i>Anjana Pattnaik</i>
25	Mr. Susanta Moharana	<i>Susanta Moharana</i>

Dr. Prasanta Ku. Mohanty
Dean Academic

Prof. KVD Prakash
Dean - IIE & HRD