



Avinashilingam Institute for Home Science and Higher Education for Women
(Deemed to be University Estd. u/s 3 of UGC Act 1956, Category 'A' by MHRD
Re-accredited with 'A++' Grade by NAAC. CGPA 3.65/4, Category I by UGC
Coimbatore - 641 043, Tamil Nadu, India

Bharat Ratna Prof. CNR Rao Research Centre

Report of the Workshop on “FESEM with EDX Instrumentation and its Usage”

**(PG students, Researchers of Science and Engineering disciplines
of any institution)**

Date: 04.11.2023 (Saturday)

Time: 10.00 am to 4.30 pm

Venue: Prof. CNR Rao Research Centre

Report on Workshop FESEM with EDX Instrumentation and its Usage

A workshop for FESEM with EDX Instrumentation and its Usage was organized by Dr. P. Lalitha (Coordinator), and Dr. P. Arulpriya (Assistant Coordinator) of Bharat Ratna Prof. CNR Rao Research Centre and Master of Ceremony was delivered by Ms. R. Rajalakshmi (Research Scholar, Chemistry). The workshop was held on 04th November 2023 from 10.00 am - 4.30 pm at Prof CNR Rao Research Centre of our institution for Researchers of Science and Engineering disciplines of inside and outside institution.

The session began with a prayer song and it is followed by welcome address and resource person introduction delivered by **Dr. P. Arulpriya**, Asst.Coordinator, Prof CNR Rao RC, and introductory talk delivered by **Dr. P. Lalitha**, Director, Research and Development Cell i/c. The facilities available at Bharat Ratna Prof. CNR Rao Research Centre and the various applications of FESEM instrumentation and its significance in day-to-day usage were also highlighted in the talk.

The theory session of the FESEM with EDS Instrumentation and its Usage was handled by **Dr. P. Lalitha**, The theory session focused on the historical overview of electron microscope, resolution of microscope, fundamentals about-atoms, electrons, interactions of electron with matters, electron sources, and magnetic lenses, functions of SEM, brief instrumentation, secondary electron image, back scattered electron image, Energy Dispersive Spectroscopy (EDS) with examples, sample preparation, comparison of TEM & SEM and its resolution, advantages about FESEM, and significant interpretations acquired are highlighted.

The theory part is followed by demonstration and Prof CNR RAO Research Center visit. During the visit, scholars explained the instrumentation and facilities available to the participants. First half covered Hands-on demonstration of sample sputtering and FESEM instrument was handled by **Ms. A. Pon Nivetha**, DST Inspire Fellow, Dept. of Chemistry. The various techniques involved in sample coating were detailed and gold sputtering was practically shown. It is followed by systematic steps involved in sample loading, software operation, image capturing and magnification. Second half of EDS was handled by **Ms R. Harinivashini**, Project Associate, Dept. of Chemistry. It included how to load the sample, focus specific area for elemental mapping, and to estimate the elemental composition, also explained how find the trace quantity of impurities to the participants.

The conclusion of the workshop was with the question and answer session. The applications of FESEM for textile-related studies, agriculture based plant and organic samples and their preparation, also what are the highly focused steps involved in

handling versatile samples, how to process liquid samples, bacterial, and fungal samples were clarified by **Ms. A. Pon Nivetha, and Ms R. Harinivashini**. Researchers of about **16 in numbers** belonging to Zoology, Food technology, Biochemistry from inside and outsiders from Tamil Nadu Agricultural University, PSG College for Arts and Science, Mahendra Arts and Science College, Kongunadu Arts and Science College, PSGR Krishnammal College for Women, and Muthayammal College of Arts and Science were the beneficiaries of the workshop.



Ms. R. Rajalakshmi, Research Scholar of Chemistry delivered Master of Ceremony and Dr. P. Arulpriya, Assistant Coordinator Bharat Ratna Prof. C.N.R Rao Research Centre delivered the Welcome Address and Speaker Introduction





Dr. P. Lalitha, Director (i/c), Research and Development, Coordinator Bharat Ratna Prof. C.N.R Rao Research Centre delivered introductory talk and Theory Session



A. Pon Nivetha, DST Inspire Fellow, Dept. of Chemistry gave sample coating and FESEM Instrument Demonstration



Ms R. Harinivashini, Project Associate, Dept. of Chemistry, gave EDS Demonstration



Feedback Session at Prof CNR RAO Research Centre



E-Certificate of participation (sample copy)



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Coimbatore-641 043, TamilNadu, India

BharatRatnaProf.CNRRaoResearchCentre

One Day Workshop on

"FESEM with EDX Instrumentation and its Usage"

On

04.11.2023 (Saturday)

Time: 10.00am to 4.30 pm

Dr.P.Lalitha

Director R&D i/c

Will deliver the introductory talk and Theory Session

Practical Demonstration

Ms. A. Pon Nivetha, DST Inspire Fellow, Dept. of Chemistry

Ms. R. Harinivashini Project Associate, Dept. of Chemistry

Avinashilingam Institute for Home Science and Higher Education for Women

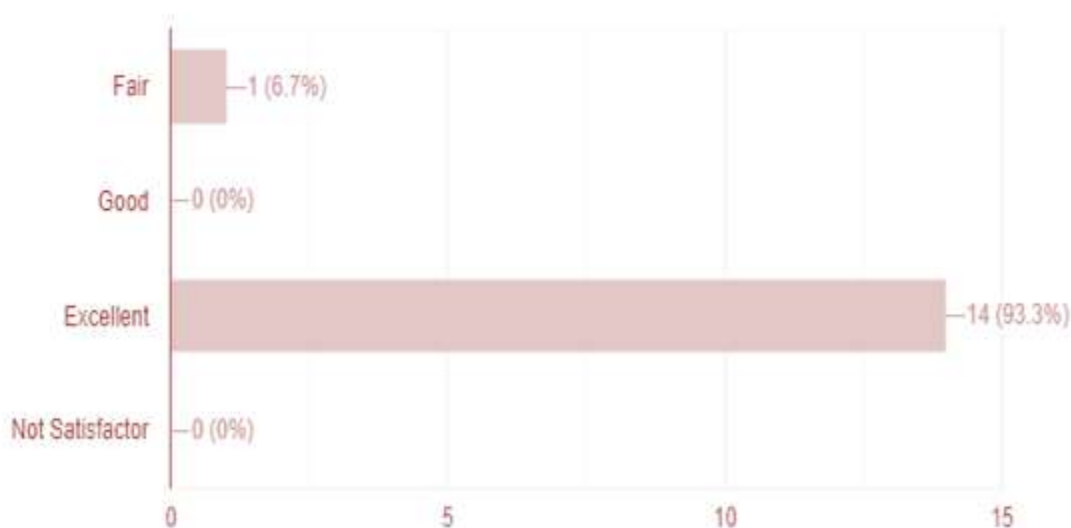
Registration Fee: Rs.500/-

E-certificate will be provided to registered participants

Eligibility- PG students, Research Scholars and Faculty of all discipline

Registration link: <https://tinyurl.com/bde28v7p>

Feedback about the event



Suggestion given by participants

No

Need manual

It is very clear idea

I am lucky today to attended this Workshop which helps me aware on preparation of FESEM samples and how to view and capture the image. Handling of other equipment Thank you mam

Please be inform more workshop for us


Thank you so much for your valuable information It is very helpful for my research

Thanks for the valuable workshop

The session was helpful and enabled us to learn many new things.

To conduct frequently

Attendance Sheet of the Participants

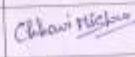

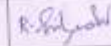





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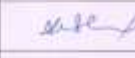



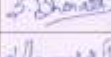



Bharat Ratna Prof.CNRRao Research Centre
 Workshop on "FESEM with EDX Instrumentation and its Usage"

Date: 04.11.2023 Time: 10.00 am to 4.30 pm Venue: Prof.CNR RAO Research Centre

Attendance Sheet

S.No	Name of the Participant	Class/Designation	E-mail	Mobile Number	Signature
1	Chhavi Mishra	Ph.D. (Research Scholar)	23PF23pfibofco@avinashilingam.ac.in UPI: 23PF23PFIBOFCO@AVINASHILINGAM	6307633827	
2	Ghage R. Davis	Ph.D Zoology Research Scholar	zphgyrdavis120@gmail.com	9443444210	
3	Sri Durairaj Devi R	Ph.D Research Scholar SC BT BI ASU	durairajdevi.01@gmail.com	9944297822	
4	Sanjay Choudry	Ph.D Scholar (TNAU)	sanjaychoudry19@gmail.com	9612720350	
5	Nitesh Kumar Jena	Ph.D scholar (TNAU)	niteshkumar19@gmail.com	809516630	
6	Shreetha S	Ph.D Scholar (TNAU)	shreethas19@gmail.com	7502511749	

Bharat Ratna Prof.CNRRao Research Centre
 Avinashilingam Institute for Home Science and Higher Education for Women,
 Coimbatore-641043

7	Lingala Hemaswari	M.Sc. (Student) (TNAU)	hemaswari017@gmail.com UPI: 23SWAR10-723102101	7542128840	
8	Dr.V.Bhuvaneshwari	Research Professor in Biotechnology PEARLAC (Autonomous college)	bhuvaneshwari.vb@gmail.com	9844107126	
9	A. Anishkumar	Muthayyanmal college of arts & science Vellore Organic Chemistry	anishkumar01@gmail.com UPI: 23ANISHKUMAR01	8925052934	
10	K. Jayaraja	Muthayyanmal college of arts & science Vellore Organic Chemistry	jayarajak02@gmail.com UPI: 23JAYARAJA02	9150202674	
11	K. Sakthivel	Muthayyanmal college of arts & science Vellore Organic Chemistry	sakthivel03@gmail.com UPI: 23SAKTHIVEL03	6881436654	
12	S. Bharathi	Muthayyanmal college of arts & science Vellore Research Scholar	sathishbharathi24@gmail.com UPI: 23SATHISHBHARATHI24	9488583471	
13	P. Dhanya	TSC college of Arts, Science	dhanyap05@gmail.com UPI: 23DHANYAP05	802274024	
14	Sowadhambal.M	Avinashilingam Institute for Home Science and Higher Education	23PF23PFIBOFCO@AVINASHILINGAM	8019014089	
15	Svetna Leela.G	TNAU, Ph.D scholar	svetnaleela07@gmail.com UPI: 23SVETNALEELA07	9442708167	
16	Sujanthiya	TNAU, Ph.D scholar	sujanthiya08@gmail.com UPI: 23SUJANTHIYA08	9095521020	
17					
18					
19					

Bharat Ratna Prof.CNRRao Research Centre
 Avinashilingam Institute for Home Science and Higher Education for Women,
 Coimbatore-641043

Receipts of the Workshop

(Total Amount: Rs.8000/-)

https://ecampus.avinuity.ac.in/ecampus/trn_feedetails/miscellaneous


Avinashilingam Institute for Home Science and Higher Education for Women
Recognized by University 200, vide U/MSQ/Av/1987 - Category A (U-MHE)
Recognized with an Order by AAC, Recognized by UGC Under Section 10B
Certificate no 1/95, Dated 19th Nov 2004

Miscellaneous Receipt


Original

Receipt No	:REM2099/2023-24
Receipt Date	:08-11-2023
Name	:Saradhambal, M & Others
Department Name	:Research Scholars and PG Students
Account Type	:Research and Consultancy
Towards	:Other Regn Fees
Description	:Workshop - FESEM with EDX Instrumentation & Its Usage on 4.11.2023, No. of Participants 16 Nos. Rs.500/- Per Participant
Mode of Payment	:Cash
Amount	: ₹ 8000.00/-

(Received Eight Thousand rupees only)



Cashier

Permission Letter


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GUIDELINES/PROFORMA FOR ORGANISING CONFERENCES, SEMINARS, WORKSHOPS, FDPs & O

Department: Bharat Ratna Prof. CNR Rao Research Centre



- Activity : Workshop
- Geographical Coverage: International Level
- Name of the Event : **One-Day Workshop on FESEM with EDX Instrumentation and its Usage**
- Date(s) : 28.10.2023 (Saturday) Total number of days: One
- Venue : Prof. CNR Rao Research Centre
- Name & Designation of Convenor/Organizing Secretary and Team
Convenor : Dr. P. Lalitha, Coordinator, Prof. CNR Rao RC
Organizing Secretary : Dr. P. Arulpriya, Asst. Coordinator, Prof. CNR Rao RC
Organizing Member : Ms. S. SubaSree, Lab Technician, Prof. CNRRao RC
- Financial Assistance Required: Rs.1500 (Rs.30 per participant for refreshment)
Income: 30participants x Rs.500= Rs.15000
- Details of assistance sought from other sources: -Nil-
- Details of collaborating institution, if any: -Nil-
- Detailed Proposal of the Activity
 - Aims/Objectives : To learn about the basics about sample/material preparation and characterization for the students and research scholars of Science and Engineering division
 - Target audience/participants with expected number: 30
Details of Sessions:
The Session covered the sample preparation, coating, material Characterization and its importance and usage in the field of science and Engineering
 - Please mention themes/topics to be covered under each Technical Session and names of National and International Resource Persons:
Theory Session: Dr. P. Lalitha, Director R&D, c,
Demonstration: A.Pon Nivetha, & R. Harinivashini, Research Scholars,
Dept. of Chemistry
 - Expected outcome: Understand the basic concept and material characterization involved in FESEM with EDX
- In case of International Conference and collaboration, kindly give resources for International travel and a letter from the concerned head of collaborating body. Attach Govt clearance in case of International events: -Nil-
- Registration fee : Yes
 - If Yes, mention proposed amount per registration in Rs.500/- per person
- Social Media Handles attached : No

Signatures

P. Arulpriya
12/10/2023
Organizing Secretary

P. Lalitha
12/10/2023
Convenor

P. Lalitha
12/10/2023
Director R&D

Arulpriya
10/10/23
Finance Officer

S. Ramesh
16/10/23
Registrar

Harinivashini
16/10/2023
Vice Chancellor

Date: 13.10.2023

Rao
16/10/23
16/10/23



26.10.2023

From
Dr.P.Lalitha
Director R&D i.c

To
The Vice Chancellor

Through
The Registrar

Respected Madam,

Sub: Extending date for workshop- requisition - reg.

We had floated advertisement for one-day workshop on FESEM on 28.10.2023. As 28th is working day and on request from participants we request you to kindly permit us to extend the date to next Saturday 4.11.2023.

Thanking you

Yours faithfully

P. Lalitha
26/10/23
P.Lalitha

*Sub to
Vc Madam
S. Shankar
27/10/23*

*To
R/Directo
Permitted
By
29/10*

*Dir R & D
Permitted
S. Shankar
30/10/23*

*Recd
28/10/23
VK/R/2605
29/10/23*

Acknowledgement

The organizers thank the authorities of the Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore for the necessary approvals and opportunity to conduct this event.



Dr. P. Lalitha
Professor of Chemistry & Director R&D
& Co-Ordinator
Bharat Ratna Prof. C. N. R. Rao Research Centre
Avinashilingam Institute for Home Science and
Higher Education for Women,
Coimbatore - 641 043 E-mail : lalitha_chem@avinuty.ac.in
Dean_research@avinuty.ac.in

Signature of the Coordinator