

One-Day Hands-on Training Program on Scanning Electron Microscopy (SEM)

January 16, 2025

Patron



Prof. Neelima Gupta
Hon'ble Vice Chancellor

Chief Coordinators



Prof. Shweta Yadav

Course Coordinator

Dr. Pushpal Ghosh
Dr. Vivek. P. Malviya



Technical Team:

Mr. Ramesh C. Prajapati
Dr. Vivek Kumar Pandey
Mr. Shivprakash Solanki
Mr. Saurabh Sah
Mr. Ashish Chadhar
Mr. Aravind Chadhar

Organized by:

Centre for Advanced Research (CAR)

Dr. Harisingh Gour Vishwavidyalaya (A Central University), Sagar (M.P.)

About the event

The Centre for Advanced Research (CAR) at Dr. Harisingh Gour Vishwavidyalaya hosted a successful one-day hands-on training program on Scanning Electron Microscopy (SEM) on January 16, 2025. The program, attended by 28 enthusiastic participants, aimed to provide comprehensive training on the principles, operation, and applications of SEM.

Program Highlights

- **Expert Guidance:** The training program was led by keynote speaker Dr. Pushpal Ghosh, Teacher In-charge of SEM, and coordinated by Professor Shweta Yadav, Chief Coordinator of CAR.
- **Theoretical and Practical Sessions:** The program included a balanced mix of theoretical lectures and hands-on practical sessions, ensuring a thorough understanding of SEM.
- **Comprehensive Coverage:** Participants were introduced to the history, principles, sample preparation techniques, and diverse applications of SEM across various scientific disciplines.



Participants actively participating in the Training

-
- **Interactive Sessions:** The program encouraged active participation, with ample opportunities for questions and discussions to clarify doubts related to SEM, sample types, and preparation methods.
- **Hands-on Experience:** Participants gained practical experience in operating the SEM instrument and its peripherals, including sample preparation, analysis, and data interpretation.
- **Technical Support:** A dedicated technical team from CAR provided comprehensive support during the hands-on sessions, ensuring a smooth and enriching learning experience.



Participants with the Training Organizers and the Technical Team

Instrument Introduction and Calibration

- Mr. Shivprakash Solanki, a member of the CAR technical team, provided a detailed introduction to the SEM instrument, covering its hardware components and peripherals.
- Participants learned about the SEM software, instrument calibration procedures, and essential operational functions.
- Technical support was provided by Mr. Ashish Chadhar and Mr. Aravind Chadhar throughout the hands-on session.

Sample Preparation Techniques

- Special emphasis was placed on sample preparation methods, with guidance on preparing various types of samples from different backgrounds.
- Participants were divided into groups to practice sample preparation techniques. Each group prepared and analyzed their own samples, gaining valuable hands-on experience.

Analysis and Data Interpretation

- The complete SEM workflow was covered, from sample preparation and analysis to data interpretation.
- Participants had the opportunity to ask questions and receive guidance related to their specific fields of interest.

Technical Supervision and Support

- The entire hands-on session was conducted under the technical supervision of the CAR Technical Team, including Mr. Ramesh C. Prajapati, Dr. Vivek Kumar Pandey, Mr. Shivprakash Solanki, Mr. Saurabh Sah, Mr. Ashish Chadar, and Mr. Aravind Chadhar.
- Participants were encouraged to utilize the SEM facility at CAR for their future research endeavors.

Feedback and Program Enhancement

- The training concluded with a feedback session, allowing participants to share their suggestions for improving future training programs.

Group of participants preparing their samples



Instrument Demonstration Session



Media coverage

हरिभूमि न्यूज़



विश्वविद्यालय: स्कैनिंग इलेक्ट्रॉन माइक्रोस्कोप पर हैंड्स ऑन प्रशिक्षण कार्यशाला का आयोजन

सागर। डॉ. हरीसिंह गौर विश्वविद्यालय की कुलगुरु प्रो. नीलिमा गुप्ता के मार्गदर्शन में 16 जनवरी को उन्नत अनुसंधान केंद्र (सीएआर) में स्कैनिंग इलेक्ट्रॉन माइक्रोस्कोप (एसईएम) पर एक दिवसीय हैंड्स ऑन प्रशिक्षण कार्यशाला का आयोजन किया गया। जिसमें कुल 28 प्रतिभागियों ने सक्रिय रूप से भाग लिया। उन्नत अनुसंधान केंद्र की मुख्य समन्वयक प्रो. श्वेता यादव ने केंद्र के संक्षिप्त परिचय के साथ सत्र की शुरुआत की और ऐसे कार्यक्रमों के महत्व के बारे में प्रतिभागियों को जानकारी दी। उन्होंने विश्वविद्यालय में आयोजित होने वाली आगामी कार्यशालाओं की भी जानकारी दी और प्रतिभागियों को प्रशिक्षण के लिए शुभकामनाएं दीं। व्याख्यान सत्र में मुख्य वक्ता डॉ. पुष्पल घोष (प्रभारी शिक्षक, एसईएम) ने प्रतिभागियों को एप्लाइड साइंसेज के विविध क्षेत्र में एसईएम तकनीक के इतिहास, सामान्य परिचय, सिद्धांत, सैम्पल तैयार करने और अनुप्रयोगों के बारे में बहुत ही बुनियादी से लेकर उन्नत स्तर तक जानकारी दी। हैंड्स ऑन सत्र शिवप्रकाश सोलंकी, सीएआर द्वारा एसईएम उपकरण के हार्डवेयर भाग और इसके सहायक उपकरणों के संक्षिप्त परिचय के साथ शुरू हुआ। विभिन्न पृष्ठभूमि से नमूना तैयार करने पर विशेष जोर दिया गया। प्रतिभागियों को सैम्पल तैयार करने, उसके विश्लेषण से लेकर डेटा व्याख्या तक की पूरी जानकारी प्रदान की गई। प्रतिभागियों की रुचि के क्षेत्र से संबंधित प्रश्नों पर विचार किया गया एवं उनका उत्तर दिया गया। सैम्पल तैयार करने के लिए प्रतिभागियों को समूहों में विभाजित किया गया था। प्रत्येक समूह ने नमूना तैयार किया और अपने सैम्पल का विश्लेषण किया।

स्कैनिंग इलेक्ट्रॉन माइक्रोस्कोप पर हैंड्स ऑन कार्यशाला हुई



पत्रिका न्यूज नेटवर्क
patrika.com

सागर. डॉ. हरिसिंह गौर विश्वविद्यालय के उन्नत अनुसंधान केंद्र (सीएआर) में स्कैनिंग इलेक्ट्रॉन माइक्रोस्कोप (एसइएम) पर एक दिवसीय हैंड्स ऑन प्रशिक्षण कार्यशाला का आयोजन किया गया, जिसमें कुल 28 प्रतिभागियों ने सक्रिय रूप से भाग लिया।

उन्नत अनुसंधान केंद्र की मुख्य समन्वयक प्रो. श्वेता यादव ने केंद्र के संक्षिप्त परिचय के साथ सत्र की

शुरुआत की और ऐसे कार्यक्रमों के महत्व के बारे में प्रतिभागियों को जानकारी दी। व्याख्यान सत्र में मुख्य वक्ता डॉ. पुष्पल घोष ने प्रतिभागियों को एप्लाइड साइंसेज के विविध क्षेत्र में एसइएम तकनीक के इतिहास, सामान्य परिचय, सिद्धांत, सैम्पल तैयार करने और अनुप्रयोगों के बारे में बहुत ही बुनियादी से लेकर उन्नत स्तर तक जानकारी दी। इस मौके पर रमेश सी. प्रजापति, डॉ. विवेक कुमार पांडे, शिवप्रकाश सोलंकी, सौरभ साह, आशीष चढ़ार और अरविंद चडार की आदि मौजूद रहे।

Brochure



Patron

Prof. Neelima Gupta
Hon'ble Vice Chancellor

One Day Hands-on Training Programme on Scanning Electron Microscope (SEM) 16th January, 2025



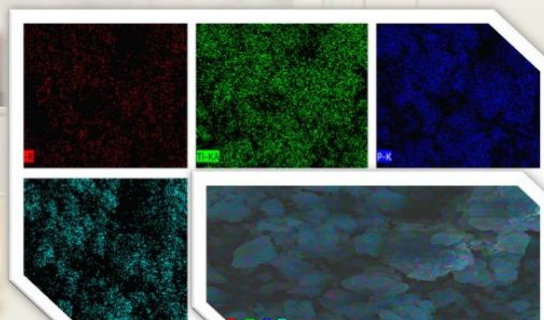
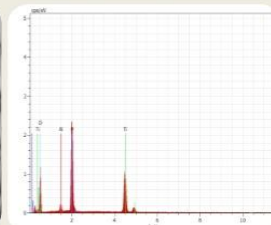
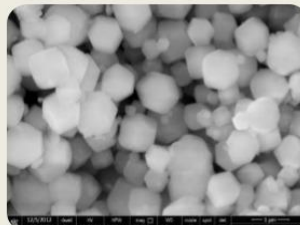
Centre for Advanced Research (CAR)

Dr. Harisingh Gour Vishwavidyalaya (A Central University) Sagar [M.P.]

One day demonstration on the Scanning Electron Microscope (SEM)

Training Highlights:

- Sample preparation.
- Morphological & Topographical study
- Compositional study
- Elemental Analysis
- Data Processing and Interpretation.
- Safety Protocols of SEM.



Scanning Electron Microscope (SEM)

EDX Mapping

Who can attend:

UG & PG Students/Research
Scholars of all Applied Sciences

Chief Coordinator

Prof. Shweta Yadav

Course Coordinator

Dr. Pushpal Ghosh

Dr. Vivek. P. Malviya

Technical Officer/Staff

Mr. Ramesh C. Prajapati

Mr. Shivprakash Solanki

Mr. Aravind Chadhar



Registration link:

<https://tinyurl.com/2jwbdajd>

Technical Team:

Mr. Ramesh C. Prajapati, Dr. Vivek Kumar Pandey, Mr. Shivprakash Solanki,

Mr. Saurabh Sah, Mr. Ashish Chadhar, Mr. Aravind Chadhar, Mr. Mahesh Soni, Mr. Mohit Rathore

Registration fee

Internal (DHSGSU) Participants: Rs. 200/-

External Participants : Rs. 350/-

(Fee non-refundable)

Bank Detail for paying Reg. Fees	
Account name	Centre for Advanced Research
Account no.	41487942215
Bank name	State Bank of India
Branch	Saugor University
IFS Code	SBIN0001143

Last Date of Registration: 14th January, 2025

Maximum No. of Participants: 25

(Registrations will be closed once seats are filled)

Notification to selected participants on or before: 15th January, 2025

Venue: Scanning Electron Microscope (SEM),

Centre for Advanced Research, DHSGSU, Sagar

Note: Only E-certificate will be provided to the registered participants.

Fooding & lodging will be the responsibility of the participants only.

For any query please write us at: sic122015@gmail.com

Contact No.: 07049718402

List of Participants

S. No	Name	Institute / Organisation Name	Type of Participant
1.	SHASWAT KUMAR	Dr.Harisingh Gour Vishwavidyalaya, Sagar	PG Student
2.	MANASWITA JHA	Dr.Harisingh Gour Vishwavidyalaya, Sagar	PG Student
3.	ANSHIKA RAJE	Dr.Harisingh Gour Vishwavidyalaya, Sagar	UG Student
4.	OM SHARMA	Dr.Harisingh Gour Vishwavidyalaya, Sagar	PG Student
5.	ARYA OJHA	Dr.Harisingh Gour Vishwavidyalaya, Sagar	PG Student
6.	ADARSH SHARMA	Dr.Harisingh Gour Vishwavidyalaya, Sagar	PG Student
7.	ADITYA PRATAP SINGH THAKUR	Dr.Harisingh Gour Vishwavidyalaya, Sagar	PG Student
8.	SHIV SHANKAR MARKAM	Dr.Harisingh Gour Vishwavidyalaya, Sagar	Research Scholar
9.	SURBHI CHOURASIYA	Dr.Harisingh Gour Vishwavidyalaya, Sagar	Research Scholar
10.	SHIKHA PATHAK	Dr.Harisingh Gour Vishwavidyalaya, Sagar	Research Scholar
11.	ASHWINEE KUMAR PALEWAR	Dr.Harisingh Gour Vishwavidyalaya, Sagar	PG Student
12.	ANKITA SINGH	Dr.Harisingh Gour Vishwavidyalaya, Sagar	PG Student
13.	SHRUTI SHARMA	Dr.Harisingh Gour Vishwavidyalaya, Sagar	Research Scholar
14.	MRIDUL KHUBCHANDANI	Dr.Harisingh Gour Vishwavidyalaya, Sagar	UG Student
15.	MRS. DURGA THAKUR	Dr.Harisingh Gour Vishwavidyalaya, Sagar	Research Scholar
16.	AMAN TIWARI	Dr.Harisingh Gour Vishwavidyalaya, Sagar	UG Student
17.	ANOOP JAIN	Dr.Harisingh Gour Vishwavidyalaya, Sagar	UG Student
18.	PANKAJ CHOUDHARY	Dr.Harisingh Gour Vishwavidyalaya, Sagar	UG Student
19.	ANAMIKA	Dr.Harisingh Gour Vishwavidyalaya, Sagar	PG Student
20.	SUPRITI MAHAPATRA	Dr.Harisingh Gour Vishwavidyalaya, Sagar	PG Student
21.	HEMLATA KACHHI	Dr.Harisingh Gour Vishwavidyalaya, Sagar	PG Student
22.	MADHURI SINGH MASHRAM	Dr.Harisingh Gour Vishwavidyalaya, Sagar	PG Student
23.	BRAJESH KACHHI	Dr.Harisingh Gour Vishwavidyalaya, Sagar	PG Student
24.	NIKHIL SINGH CHAUHAN	Dr.Harisingh Gour Vishwavidyalaya, Sagar	UG Student
25.	ALPANA PATEL	Dr.Harisingh Gour Vishwavidyalaya, Sagar	Research Scholar
26.	KAMLESH MEHARA	Dr.Harisingh Gour Vishwavidyalaya, Sagar	Research Scholar
27.	DROPATI KUSHWAHA	Dr.Harisingh Gour Vishwavidyalaya, Sagar	UG Student
28.	LAXMI DANDHARE	Dr.Harisingh Gour Vishwavidyalaya, Sagar	PG Student

Conclusion:

The one-day hands-on training program on SEM successfully provided participants with a comprehensive understanding of this powerful imaging technique. The program's well-structured blend of theoretical knowledge and practical experience has equipped participants with the skills necessary to utilize SEM effectively in their respective fields