

**REPORT**

**Webinar On**

**« Importance of Materials Characterization in Material Science and Engineering »**

**Background:**

**1. Materials characterization** technique forms the basis for understanding the composition, phase, structure and particle size of a material.

**2. The characterization of materials** plays a **significant role** when it comes to understanding their overall properties. In order to introduce nano-materials to various applications, detailed **characterization** of their optical, morphological, electrical, thermal and magnetic properties are needed.

**3. Material characterization** is the process of measuring and determining physical, chemical, mechanical and microstructural properties of **materials**.

**4. Material Characterization Techniques**

**There are different characterization of a material are used to characterize a material.**

- Scanning Electron Microscopy (SEM)
- X-ray Photoelectron Spectroscopy (XPS)
- Time-of-Flight Secondary Ion Mass Spectrometry (ToF-SIMS)
- Focused Ion Beam (FIB)
- X-Ray Diffraction (XRD)
- Transmission Electron Microscopy (TEM)
- Nano indentation.
- Atomic Force Microscopy (AFM)

**Date and Venue:**

- The webinar was conducted on 08<sup>th</sup> MAY 2021 through Zoom platform.

Link:- Join from a PC, Mac, iPad, iPhone or Android device:

Please click this URL to join

<https://us02web.zoom.us/j/82567014195?pwd=Ry9ydHo3SGMrQUJOazhkUXNNQWtQZz09>

Webinar ID: 825 6701 4195

Passcode: 226957

Description: WEBINAR CONDUCTED BY DEPARTMENT BASIC SCIENCE AND HUMANITIES,RITE

**Resource Person:**

- **Dr. Manas Kumar Dalai, Senior Scientist, CSIR-IMMT, Bhubaneswar, India**

**Panelists:**

- Prof(Dr.)Jui Pattnayak, Principal
- Prof (Dr.) Saumyadarsan Mohanty, Dean Academics
- Prof. Sasmita Senapati,HOD BSc.H
- Asst. Prof. Subrajeet Rout, BS&H
- Prof. Jyoti Ranjan Sahoo HOD CSE
- Prof. Subash Ranjan KabatHOD EE
- Prof. Samyukta Choudhury HOD CE
- Narendra Sarangi, BS&H
- Debashis Parida , BS&H
- Pritijyotsna Mohapatra, BS&H
- Rachna Gupta, BS&H

**Agenda:**

<b>Time</b>	<b>Events</b>
	Hosted by Prof. Sasmita Senapathy,HOD BSc.H
02.50	Welcome speech given by Honorable Principal, RITE,BHUBANESWAR
03.00	Introduction of the speaker delivered by Honorable Dean Academics,RITE,BHUBANESWAR,
03.10	Guest speech. (Dr. Manas Kumar Dalai)
04.10	Question-Answer Session conducted by Asst. Prof. Subrajeet Rout, BS&H
04.20	Vote of thanks by Rachna Gupta ,Bs&H



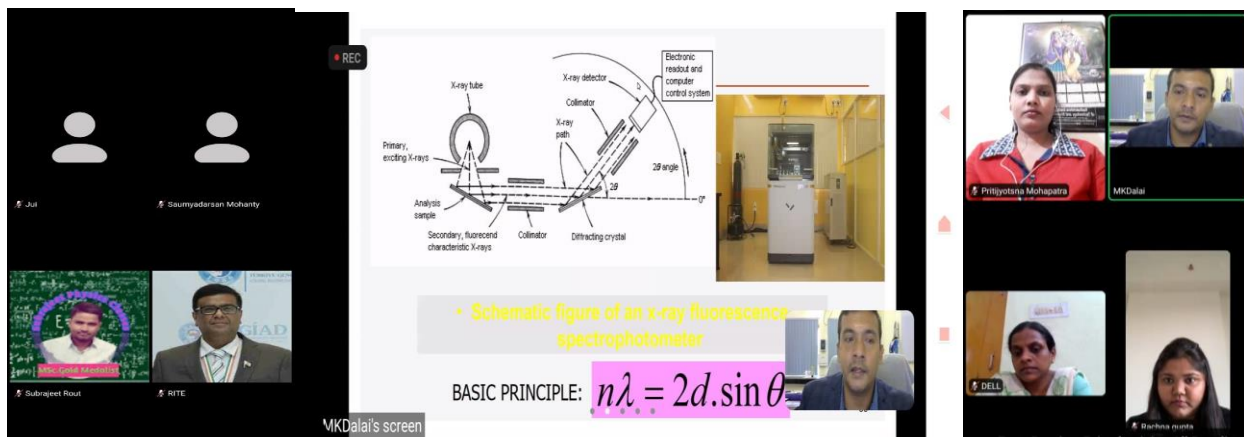
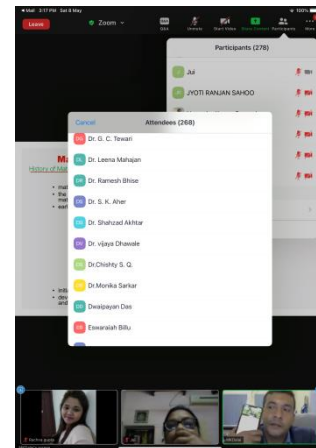
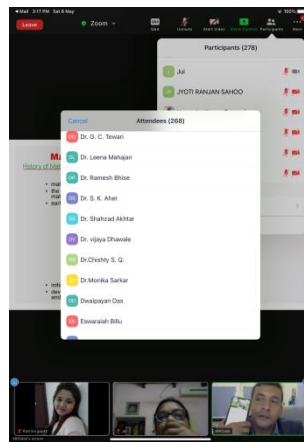
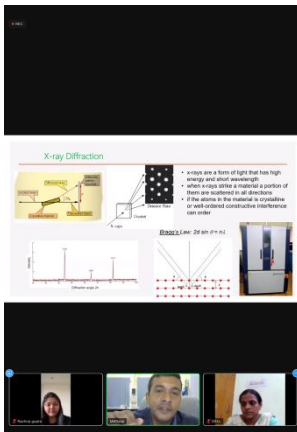
## Participants:

- Total 282 no's of participants including students, Authorities, faculty members, Research Scholars, industry experts had participated in the webinar.

## Outcomes of the webinar:

Students were able to..

- Understand the different types of materials( bulk material, nano material, composite material) Know about different characterisation techniques for a materials like XRD, SEM, TEM,TGA, FT-IR, XRF etc.
- Using this techniques to calculate phase, particle size, percentage of crystallinity, surface morphology, different functional groups, element identification etc.
- **Webinar Photographs:**



## Webinar flyer:



JOIN US FOR A WEBINAR ON  
**IMPORTANCE OF MATERIALS  
CHARACTERIZATION**

IN MATERIAL SCIENCE AND ENGINEERING



**Resource person**

Dr Manas Kumar Dalai (*Senior Scientist*)  
CSIR-IMMT Bhubaneswar

08 MAY | 3PM-4PM | **zoom**

CHIEF PATRONS  
MR. V.M GUPTA (*Chairman, JRGET*)  
Gp. Capt K.N Venkatesh (*Gp. Director, JRGET*)

PATRON  
PROF. (DR). S.D MOHANTY,  
Dean (*Academics*)

CONVENER  
PROF. (DR) JUI PATTNAYAK  
Principal

COORDINATOR  
PROF. SUBRAJEET ROUT  
(*B&E*)

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Radhakrishna-Institute-Of-Technology-and-Engineering

Webinar Certificate:



**RITE**

**RADHAKRISHNA INSTITUTE OF  
TECHNOLOGY AND ENGINEERING**

**DEPARTMENT OF BASIC SCIENCE & HUMANITIES**

**Certificate of Participation**

This is to certify that **Surya Narayan Tripathy** of **Radhakrishna Institute of Engineering and Technology** has participated in the webinar on **"IMPORTANCE OF MATERIALS CHARACTERIZATION"** Organised by the Department of Basic Science & Humanities, RITE BHUBANESWAR on 8<sup>th</sup>, MAY, 2021.

*[Signature]*  
**Gp. Capt KN Venkatesh**  
Group Director  
JRGET

*[Signature]*  
**Convener**  
**Prof (Dr.) Jui Pattnayak**  
Principal, RITE

*[Signature]*  
**Dr. S.D. Mohanty**  
Dean Academics, RITE

*[Signature]*  
**Co-ordinator**  
**Prof. Subrajeet Rout**  
Asst. Prof., RITE

**IDCO PLOT NO. 1, BARUNEI, BHUBANESWAR- 752057**

All the participants were distributed the webinar certificate.

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