



SERB

ACCELERATE VIGYAN SCHEME

High-end Workshop on

**“Materials Advancement and Methods for Technological Applications
(MAMTA)”**

July 23-30, 2023

Organized by

Advanced Materials Technology Department

CSIR-Institute of Minerals and Materials Technology, Bhubaneswar

KARYASHALA:

‘KARYASHALA’ program under Accelerate Vigyan Scheme of SERB is an effort to improve research productivity of promising PG and PhD students from universities and colleges through high-end workshops on specific themes. This program aims to provide opportunities to acquire specialized research skills.

Who can Register:

PhD/Post graduate students (Ongoing)

Number of Positions Available:

25

Duration:

July 23-30, 2023

Venue:

Advanced Materials Technology Department,

CSIR-Institute of Minerals and Materials Technology, Bhubaneswar, Odisha-751013.



About CSIR-IMMT:

CSIR-Institute of Minerals and Materials Technology (IMMT) was established on 13.04.1964 as Regional Research Laboratory, Bhubaneswar in the eastern part of India under the aegis of the Council of Scientific and Industrial Research (CSIR), New Delhi. It was renamed in 2007 with a renewed research focus and growth strategy to be a leader in the areas of mineral & material resource engineering. The institute has expertise in conducting basic research and technology oriented programs in a wide range of subjects to address the R&D problems of mining, mineral and metals industries and ensure their sustainable development. For the last one decade, the main thrust of R&D at CSIR-IMMT has been to empower Indian industries to meet the challenges of globalization by providing advanced and zero waste process know-how and consultancy services for commercial exploitation of natural resources through the public-private-partnership (PPP) approach. Today, CSIR-IMMT is the first choice for many mineral based industries. It is also carving out a niche in processing of advanced materials for greater value addition and working on resource use efficiency of critical raw materials.

About the Workshop

Progress achieved in most technologies is closely related to progress in advanced materials. Periods of our civilization have names associated with materials – stone age, bronze age, iron age, and the silicon age. Materials impact all aspects of your daily life and will continue to do so in the future. The more we understand materials, the more we imagine the future with fantastic devices and advancements enabled by materials. Materials - metals, plastics and ceramics - typically have completely different properties, which mean that the technologies involved in their production are fundamentally different. Materials technology is a constantly evolving discipline, and new materials with interesting properties lead to new applications. For example, the combination of different materials into composites gives rise to entirely new material properties. With the current development of materials science and engineering, many different cost-effective and high-quality materials have come into use in various applications. Nowadays, the materials became multi-functional and required improvements and optimizations in their characteristics. The development of the structure of the material, adapted to each new application, needs the understanding of base matter characteristics, the changes in the microstructure and characteristics of the material during forming processes. Through this program, CSIR-Institute of Minerals and Materials Technology (IMMT) is looking to take up the challenge of skilling a select group of individuals



as it has several years of research and technical experience in the fabrication of advanced materials using physico-chemical methods for applications in electronics, photonics, electrochemistry, sensors etc.

The workshop will focus on:

- To educate the PhD and PG students about the fundamentals on the top-down and bottom-up synthesis approaches of advanced materials using physical and chemical methods and progress of these materials in technological applications.
- Lectures from experienced scientists will include the basics of advanced materials, their synthesis, properties and characterization, and applications in the areas such as photovoltaics, magnetic sensors, energy storage, photocatalytic degradation, gas sensing and opto-electronic applications.
- To provide understanding and insight to PhD and PG students about the practical aspects of synthesis of materials and hands-on experience on the processing equipments such as field emission scanning electron microscopy, Hall effect measurement, four-probe measurement, microplasma illumination, electrochemical work station, UV-visible spectroscopy and gas sensing equipment.
- The discussion sessions will offer a fertile atmosphere for brainstorming and creative thinking among students and scientists to compare and contrast the requirements for developing advanced materials across both domains and apply this knowledge to a real-world problem.

Since the core concept of this program is centered on the advanced materials and their technological applications, it fits perfectly within the aims and objectives as well as the core research capabilities of CSIR-IMMT.

How to Apply?

- The applicant has to e-mail the scanned copy of duly filled-in application form along with all required documents and certificates mentioned in the Table below (PDF only) to the e-mail ID: **csirimmt.kaaryashala@gmail.com** before 31st May, 2023, 23:59:59 (Time).
- Send the scanned copy of filled-in Application form with required documents as a single PDF file with the Subject line having **Application_Kaaryashala_Candidate Name_Institution Name**.
- Application sent after due date (31st May, 2023), incompletely filled application, application without signature, application without required attachment/document, application without proper clarity will **NOT** be considered.

Document Attaching Order (In single pdf file)	
1.	Filled & Signed Application Form (Annexure -I)
2.	Endorsement cum No Objection Certificate duly approved by Head of Department (Annexure -II)
3.	Signed Undertaking Form (Annexure -III)
4.	Letter of Intent (Upto 300 words): (i) Why do you wish to attend this Kaaryashala? (ii) What do you indent to learn? (iii) How will it be useful for your career?
5.	Resume (Not exceeding 2 pages)
6.	PhD/P.G. Semester Mark sheets (Self Attested)
7.	U.G. Degree Certificate (Self Attested) Or A proof for CPI/CGPA/% obtained in UG Degree (if CPI/CGPA/% not mentioned in UG Degree Certificate) (Self Attested)
8.	Institution/College/University I.D. Card (Scanned Copy)

Selection

- The screening will be primarily based on the details provided in the application form.
- Shortlisted applicants will be intimated electronically.

Provisions in Kaaryashala

- Food and accommodation facilities during the training and skill internship will be arranged by CSIR-IMMT.
- For outstation candidates, one time onward and return train ticket cost (Shortest route to Bhubaneswar Railway station in 2S/Sleeper class) will be reimbursed (as per TA norms)
- Certificate will be provided on successful completion of this Kaaryashala.
- The financial assistance for conducting this event has been provided by the **Science & Engineering Research Board**, a statutory body of the **Department of Science & Technology (DST), Government of India**.

Caution:

- **NO** benefit/certificate would be provided for the student dropping/leaving/partially attending the workshop.
- **NO STIPEND** for this Kaaryashala.

Document Submission during the Program:

- The student should submit original hard copy of the application form with relevant documents (emailed as soft copy while applying for this event).



- The student should submit a “Joining Report” to HRD, CSIR-IMMT at the time of joining.
- The student should also submit Self Declaration form - COVID 19 as per Government of India/State of Odisha guidelines at the time of joining.

Contact:

Dr. K. J. Sankaran, Senior Scientist, Advanced Materials Technology Department, CSIR-Institute of Minerals and Materials Technology, Bhubaneswar-751013, Odisha. 0674-237-9285 (Office)	Dr. Benadict Rakesh, Scientist, Hydro & Electrometallurgy Department, CSIR-Institute of Minerals and Materials Technology, Bhubaneswar-751013, Odisha. 0674-237-9151 (Office)
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ANNEXURE - I

SERB

ACCELERATE VIGYAN SCHEME

High-end Workshop on

“Materials Advancement and Methods for Technological Applications (MAMTA)”

July 23-30, 2023

Organized by

Advanced Materials Technology Department

CSIR-Institute of Minerals and Materials Technology, Bhubaneswar

APPLICATION FORM

1.	Prefix	Mr./Mrs./Ms.
2.	Full Name of the Applicant (Full name as described on certificate)	
3.	Father's/ Mother's/ Guardian's name	
4.	Date of birth (DD/MM/YY)	
5.	Gender	Male/Female
6.	Nationality	Indian/_____
7.	Email Address	
8.	Correspondence Address	
9.	Permanent Address	
10.	Contact Number	
11.	PhD/P.G. Degree Pursuing	



12.	PhD/P.G. Degree Specialization Subject					
13.	Name of the Institution/University/College					
14.	Institution/University/College Address					
15.	Division/Department/School					
16.	CPI/CGPA/Percentage obtained in P.G. Degree (Fill whichever applicable) *Attach self-attested photocopy of all available mark sheets	Semester 1	Semester 2	Semester 3	Semester 4	Overall
17.	U.G. Degree Completed	B.Sc. / B.Tech / B.E. / Others _____				
18.	U.G. Degree Specialization Subject					
19.	Name of the Institution/University/College					
20.	Institution/University/College Address					
21.	Division/Department/School					
22.	CPI/CGPA/Percentage obtained in U.G. Degree *Attach a proof for CPI/CGPA/% obtained in UG Degree					
23.	Emergency Contact Person					
24.	Emergency Contact Person's Mobile Number					

**I agree that all the information mentioned are correct and I shall be liable
for the same.**

Place:

Date:

Signature of Applicant



ANNEXURE – II

Endorsement cum No Objection Certificate from the Head of the Department

(To be given on University/ Institute/ College Letter head)

This is to certify that:

1. Mr. / Ms. / Mrs. _____, is a bonafide student of our University / Institute / College and will assume full responsibility for actively participating in the High-end Workshop on “Materials Advancement and Methods for Technological Applications (MAMTA)” sponsored by SERB under the Accelerate Vigyan Scheme, scheduled from July 23-30, 2023.
2. The Applicant is a Full-time / part-time student of our University/ Institute/ College and enrolled in PhD/ M.Tech / M.Sc. / M.E. / _____ Programme in _____ Department.
3. The candidate has secured _____ % / CGPA / CPI till date (if applicable).
4. The University/ Institute/ College also endorses the conduct of the applicant to be of highest order who bears a good moral character.
5. The University/ Institute/ College has “No-Objection” for the candidate participation during the above said period.
6. The candidate, if selected for participation, shall be duly permitted to attend the workshop on physical mode. The University/ Institute/ College may provide the necessary facilitation needed for this purpose.

Date:

Signature and Seal with name

Place:

(Head of the Department)



ANNEXURE - III

Undertaking from the Student Applicant

1. I hereby provide my consent to participate in the High-end Workshop on “Materials Advancement and Methods for Technological Applications (MAMTA)” organized by CSIR-Institute of Minerals and Materials Technology at Bhubaneswar upon selection.
2. Vouch for participating in this workshop whole-heartedly and attend all the lab sessions, sincerely with utmost dedication.
3. I shall also be responsible and attentive to involve myself during the discussion/interaction session.
4. I am aware that it is mandatory to attend all the lab sessions, compulsorily qualify the course assessment and submit report in order to successfully avail the certification.
5. I understand that the materials supplied during this workshop are only for educational/academic purpose.
6. Uploading/hosting/sharing any content on any platform shall be unlawful on the grounds of Intellectual Property Rights.
7. Any Proxy participation in the workshop shall invite immediate cancellation of his/her candidature and same shall be reported to parent institution.
8. I understand to ensure my physical presence and any support in this regard is to be sought from the applicant’s parent Institution. The organizing institute shall not be liable for the same.
9. I shall strictly follow the COVID guidelines issued by Government of India and State of Odisha.
10. I agree to abide by any other terms and conditions of Organizing Institute and SERB.

Name of the Applicant :
Gender & Age :
Degree (PhD/M.E./M Tech/M.Sc.) :
Institution/College/University :
Date :
Place :
Signature of the Applicant :