CSIR-INTEGRATED SKILL INITIATIVE PROGRAMME

Hands on Training program on Herbarium Preparation and Plant based Technology

1st - 2nd December, 2026



Organized By

Environment & Sustainability Department
CSIR-IMMT, Bhubaneswar-751013

E&S Department:

E&S Department focuses on development of sustainable, innovative and science-driven solutions for environmental protection and societal well-being. The department aims to monitor, assess, and mitigate pollution in air, water, soil, and ocean ecosystems while developing advanced materials and technologies for human health and environmental applications. It focuses on efficient waste management, wastewater treatment, resource recovery, and bioremediation of contaminated sites. Through interdisciplinary research, chemical and microbial testing, and sustainable process development, the department strives to promote industrial growth, ecological restoration, and a cleaner, healthier environment.

Herbarium and Plant based Technology at CSIR-IMMT:

The Herbarium of the erstwhile Regional Research Laboratory (RRL), Bhubaneswar, now CSIR–Institute of Minerals and Materials Technology (CSIR-IMMT), was established during 1971 as part of its botanical exploration and floristic documentation activities in Odisha. Designated as RRLB, the herbarium houses approximately 25,000 preserved plant specimens, primarily representing Odisha's flora. Its significance is further highlighted by the four-volume publication *Flora of Odisha*, authored by Dr. H.O. Saxena and Dr. M. Brahmam, making it an important institutional resource for plant diversity documentation and conservation.

CSIR-IMMT also contributes to the sustainable reclamation of mine- and metal-contaminated lands in Odisha through environmental remediation and phytoremediation research. Pilot-scale studies have been undertaken at chromite mining sites associated with OMC, JSL and FACOR-Vedanta in the Sukinda Valley, Jajpur district, using metal-tolerant species such as Vetiver, Lemongrass, Karanja, Neem and Mango, along with suitable soil amendments and microbial interventions to improve overburden quality, reduce chromium mobility and promote ecological restoration. Additionally, CSIR-IMMT promotes biochar technology, converting agricultural and organic biomass waste into carbon-rich soil amendments through pyrolysis. Its initiatives include potassium-enriched biochar production from banana waste, supporting soil fertility improvement, carbon sequestration, waste valorization, technology transfer and entrepreneurship through practical demonstrations and skill development programmes.



Beneficiary:

Undergraduate and Postgraduate students, Research scholars, College and University faculty members, School science teachers and science educators, Forest department personnel, Environmental consultants and biodiversity professionals, NGOs and biodiversity conservation workers, Entrepreneurs and aspiring start-up founders, Self-help groups (SHGs) and rural youth.

Benefit of the program:

The programme will equip participants with practical skills in plant collection, identification, herbarium preparation, preservation, and documentation of plant biodiversity. It will also provide exposure to plant-based technologies (Phytoremediation, Biochar etc.) and value-added product development, fostering research capabilities, environmental conservation awareness, and entrepreneurial opportunities.

CSIR-IMMT at Glance:

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.

Highlights:

- Theoretical and Hands-on practical training in plant collection, identification, pressing, drying, preservation, mounting, and herbarium preparation.
- Conceptual Exposure to different parameters of conducting phytoremediation experiment (pH, EC, SOC, WHC, Heavy metal analysis) and development of processes for mine OB dump ecological restoration.
- Basic knowledge and Exposure to technologies to prepare Biochar through different low cost methods (Rotary Klin drum method, Pyrolysis method).
- Interactive learning and skill enhancement through expert lectures, practical demonstrations, and research opportunities, and entrepreneurship.

Registration Details:

- Registration Fee: Rs. 300/- (CSIR–IMMT bank details are provided below*).
- For registration: Participants have to confirm by filling up the Google form for their participation at the earliest (Correspondences may be made at below mentioned contact details).
- Registrations are on First-Come-First-Served Basis and participant number is limited.
- For registration: https://forms.gle/pU58Frf12AYLUXWWA

Payments:

BANK ACCOUNT: INDUSTRIAL RESEARCH FUND ACCOUNT FOR INSTITUTE OF MINERALS & MATERIALS TECHNOLOGY
ACCOUNT NO.: 30267734773
IFSC CODE: SBIN0007499
CSIR-IMMT, BBSR

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