



CENTRAL INSTRUMENTATION FACILITY
ORISSA UNIVERSITY OF AGRICULTURE & TECHNOLOGY
BHUBANESWAR-751003



**Imaging
Facility**



**Analytical
Facility**



**Molecular
Facility**



Techno touch for Agro search.

Services Provided by the CIF:

- Imaging facility for effective documentation, chemical analysis for compound characterization & molecular characterization.
- High quality service, innovative solutions and cutting-edge technologies in many areas of modern science and technology.
- Organises short term training program on various instrumentation techniques.
- Organizing seminars and workshops on various advanced techniques by inviting experts from different fields for enhancement of technical knowledge.
- Creates a platform for collaborative research activity with institutes of national and international repute.

Operational framework:

- The Central Instrumentation Facility of OUAT maintains good laboratory practices (GLP) and follow standard operating procedures (SOP):
 - Sample collection, labeling, storage and processing.
 - Well defined written protocols in a chronological listing of action steps.
 - Routine inspection, cleaning, maintenance, testing and calibration.
 - Actions to be taken in response to equipment failure.
 - Storage conditions for consumables.
 - Result analysis and reporting.
 - Keeping records, reporting and retrieval of data.
 - Waste disposal mechanisms.

Equipments available at the Central Laboratory:

Sl. No	Name of the Equipments	Make & Model	Capabilities
1	Scanning Electron Microscope with EDS	<i>Hitachi S3400N</i>	It provides detailed high resolution images from 10 X to 300,000 X magnification of the sample surface. An Energy Dispersive X-ray Spectrometry (EDS) attached with this system is used to provide elemental identification and quantitative compositional information.
2	HPTLC (High Performance Thin Layer Chromatography)	<i>CAMAG</i>	It is one of the most advanced form of TLC having utmost separation efficiency and powerful analytical tool for chromatographic information of complex mixtures.
3	FTIR* WITH ATR	<i>Perkin Elmer Spectrum Two</i>	Highly sophisticated infrared spectroscopy system with Diamond ATR helps in non destructive sample analysis.
4	ICP-OES	<i>Perkin Elmer Avio 200</i>	Analyses multiple inorganic compounds both qualitatively and quantitatively within minutes.
5	UV-VIS Spectrophotometer	<i>Perkin Elmer Lambda 365</i>	With a double beam scanning facility and user friendly software a lot of analysis can be done.
6	Microwave Digestion System	<i>Anton Paar Multiwave-3000</i>	It provides comprehensive reaction control features and helps in digestion, leaching, oxygen combustion, solvent extraction, evaporation with one single system.
7	Kel Plus Nitrogen Analyser	<i>Pelican, KELPLUS. ClassicDX</i>	It provides uniform heating and even digestion, Auto fix exhaust manifold system for absolute fume trapping and for pollution free analysis.
8	Cryostat	<i>Leica</i>	It is a versatile cryostat with an optimized cooling system, rapid specimen freezing and smooth specimen orientation for the high-quality sectioning.
9	Ice flaking Making machine	<i>Ice matic F-200</i>	This high throughput Ice flaker produced very small ice flakes in a continuous mode.
10	High Speed Centrifuge.	<i>Eppendorf</i>	With max RPM 7800 for 15/50ml tubes. And 14000 RPM for 1.5/2.0 ml tubes.
11	Rotary Vacuum	<i>Heidolph</i>	Highly suitable for standard distillation, for complex distilling processes as well as for automatic distillation.

	Evaporator		
12	Ultra Pure Water System	<i>ELGA</i>	Conductivity for Type 1: 0.055 $\mu\text{S}/\text{cm}$ (\cong 18.2 $\text{M}\Omega$ + cm) TOC content: <5 ppb Microorganisms: < 1 CFU/1,000 ml Particles: < 1/ml
13	Deep Freezer(-20°C)	<i>Elanpro</i>	Vertical with 5 separate chambers helps in storing different substances.
14	GC MS MS <i>(Presently under repair)</i>	<i>Perkin Elmer Clarus 700</i>	With head space trap sampler the system has several advantage over other GC MS system. The tandem mass spectrometry helps in measuring a broader range compounds.
15	LC MS MS <i>(Presently under repair)</i>	<i>Waters Quatro micro</i>	This system provides exceptionally clean product (fragment) ion chromatograms for quantification
16	Super Critical Fluid Extraction and analytical system <i>(Presently under repair)</i>	<i>JASCO PU-2080</i>	Extraction using supercritical CO_2 offers short extraction times and require little or no organic solvent compared with other extraction.
17	Solid Pahse Extraction System <i>(Presently under repair)</i>	<i>GILSON GX-271 ASPEC</i>	Make sample preparation more efficient prior to determination of the analytes of interest.
18	Real Time PCR <i>(Presently under repair)</i>	<i>BioRad Chromo4 four color CFB-3240G</i>	Real-time PCR detection is a powerful tool that simplifies DNA quantization, genotyping, expression analysis, and many other applications.
19	High Speed Cooling Centrifuge <i>(Presently under repair)</i>	<i>KUBOTA 6500</i>	Maximum speed : 20000 rpm Capacity: 2.0 ml – 3.0Lt
20	Ultra Centrifuge <i>(Presently under repair)</i>	<i>Hitachi CP100WX</i>	Max Speed: 100000 rpm

Sample analysis charges with effect from 1st of September 2017:

Sl. No.	Analysis	Charges (in Rs.)			
		OUAT	Other Educational Institutions	R&D Institutes	Industries
1	SEM/EDAX (With coating)	250/sample (5photographs)	750/sample (5photographs)	1500/sample (5photographs)	2500/sample (5photographs)
2	SEM With EDAX (With coating)	350/sample (5photographs)	1000/sample (5photographs)	2000/sample (5photographs)	3500/sample (5photographs)
3	FTIR	100/sample	400/Sample	1200/sample	2500/sample
4	HPTLC (plate to be supplied by the indenter)	75/ per sample	100/ per sample	150/ per sample	200/ per sample
5	HPTLC with plate 10X10 cm (2-8 samples)	750/plate	1000/plate	1500/plate	2000/plate
6	HPTLC with plate 20X10 cm(2- 18 samples)	1500/plate	2000/plate	3000/plate	4000/plate
6	ICP-OES	200/only one element	350/ only one element	750/ only one element	1500/ only one element
7	ICP-OES (Extra Elements)	50/element	100/element	200/element	200/element
8	UV-VIS Spectro	50/scan	200/scan	500/scan	750/scan
9	Microwave Digestion	50/sample	100/sample	300/sample	500/sample
10	Ultra pure water	Type 1: 20/Lt	Type 1: 100/Lt	Type 1: 200/Lt	Type 1: 300/Lt

GUIDELINES FOR SAMPLE SUBMISSION & ANALYSIS

HOW TO SUBMIT THE SAMPLES:

1. The samples should be submitted in the prescribed format to **Officer in Charge, Central Instrumentation Facility, Orissa University of Agriculture & Technology, Bhubaneswar-751003, Odisha, India.**
2. Sample will be received either by hand or by post.
3. Unstable and explosive compounds are not accepted for analysis.
4. All concerned scientists/faculties, research fellows and students are required to send their application and samples through their supervisors and/or Head of Department.
5. A sample receipt form with a reference number will be provided to the indenter for his reference.
6. In all correspondence related to analysis our reference number must be mentioned.
7. Sample should be submitted in two sets for analysis with proper labeling and in proper air tight vials.
8. Separate samples should be submitted for different analysis.
9. The indenter should bring appropriately prepared sample along with referred protocol for sample preparation and analysis.
10. The details of the sample need to be mentioned clearly as per the format (sample submission form). Samples submitted without these details will be rejected.
11. All users are required to submit MSDS (Material Safety Data Sheets) for each sample as mentioned in the sample submission form.
12. Please mention if the samples are to be returned after analysis.
13. If in any case a repeat test is required the indenter has to contact the **Officer In Charge, CIF, OUAT**. The decision of the **OIC** will be final in such cases.
14. Interpretation of spectra/image/data is not undertaken at the CIF.

MODE OF PAYMENT:

1. After receiving the indent, an invoice will be raised.
2. The indenter will pay in DD/Digital Transfer/Cash (if below Rs. 500/-).
3. Upon receiving the payment particulars, the samples will be analyzed and the money receipt with report will be handed over.
4. The DD must be drawn in favour of: **The OIC, CIF OUAT**, payable at Bhubaneswar and must be sent along with samples.

5. Account Details: State Bank of India ,OUAT campus branch, Ac/No: 36720726152,Branch Code: 3341.

SAMPLE ANALYSIS:

1. Samples will be analyzed as soon as possible in order of receipt. If emergency analysis is required, please contact the OIC, CIF for necessary arrangements.
2. Unless otherwise instructed, all samples will be held for a maximum period of one (1) month under room temperature (or refrigerated at 0-10°C if specified).
3. Users are responsible for collecting their sample vials, should they be needed.
4. Users will be contacted by email or phone once the samples are analyzed.

REPORTS:

1. Results can be sent by mail or picked up at the Centre.
2. Specifications of instrumental conditions utilized in the analysis as well as calibration curves, calculated concentrations, matching library data may be provided.
3. All paper and electronic records will be stored for a maximum of one (1) year following analysis.

TERMS & CONDITIONS:

1. All publications of research work, where in the analytical services of the CIF, OUAT have been made use of, shall be duly acknowledged.
2. The content of our report should not be used for any advertisement, evidence, litigation or quote as certificate to a third party.
3. The user will submit the feedback form duly signed for our reference.
4. Preference will be given to those users who regularly give us feedback about the end-use of the results, e.g., thesis, patent, process, publication etc.



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Sample Submission Form

1. Name:

2. Affiliation:

3. Address:

4. Email:

Mobile No:

5. Number of Samples:

6. Sample Code:

7. Sample Description:

a. No. of samples:

b. Source:

c. State: solid/liquid/gas

d. Quantity

e. any other information:

8. Analysis details:

9. Billing Name and Address:

10. Payment Details:

Amount paid:

Mode of payment:

Declaration:

1. Content of this report is meant for our information only and we will not use the content of this report for advertisement, evidence, litigation or quote as certificate to third party.
2. The samples submitted are non- toxic / non-hazardous and that the sample does not require special precaution while handling.

Date:

Signature

Authorised by:

Name:

Address:

Signature of the Head of the Dept./PI/OIC



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FEEDBACK FORM

1. Name:
2. Affiliation:
3. Address:
4. Email: Mobile No:
5. How do you know about the CIF, OUAT:
6. Facility Used with invoice number:
7. How would you rate your level of satisfaction with our laboratory's customer service?
 - Very satisfied—no improvement necessary
 - Satisfied—needs minor improvement
 - Dissatisfied—needs a few improvements
 - Very dissatisfied—needs considerable improvement
8. Did you acknowledge the previous services rendered by the CIF,OUAT: Yes/ No (if yes give details)
9. Remarks:

Date:

Signature

For further information, please contact:

Officer in Charge
Central Instrumentation Facility
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