



One-week hands-on training program on Sophisticated Analytical Instrumentation Techniques For Basic Research and Development



24th- 30th August 2022

Organised by

Department of Chemistry,
Dibrugarh University
Dibrugarh-786004
Assam

Under

Project Management Unit,
NIT Agartala
Synergistic Training Program Utilizing the
Science & Technology Infrastructure
(STUTI)

Coordinators

Dr. Kalyanjyoti Deori

Dr. Jitu Ranjan Chetia

Overview of the STUTI program:

Science and technology play a vital role in humanity's evolution. The program STUTI consists of both a theory and a hands-on experience on various equipment supported by DST. The program includes a minimum of 6-hour session, half of the time is emphasised on theory and the rest duration is emphasised on practical training on the equipment. This will help the students, researchers and faculty members gain a deeper understanding of laboratory techniques, develop data analysis and interpretation skills, and gain the ability to apply their theoretical knowledge to practise by upgrading their knowledge and hands-on expertise on a variety of characterization techniques.

STUTI Program aims to develop India's human resource and knowledge by providing open access to S&T infrastructure across the country. It provides a platform to the participants to interact and exchange innovative ideas on current trends in the fields of Science and Technology, with talks by prominent and eminent people in the field.

Objectives of the programme:

- ❖ To enable the participants to understand the principle, instrumentation and application of NMR in basic research.
- ❖ To show the participants the structural and morphological characterization of solid/crystalline materials using high-end instrument like XRD and SEM-EDAX.

- ❖ To provide the hands-on experience on LC-MS, GC-MS, UV-vis, HPCC, HPTLC, FT-IR, PL, Surface area analyser etc.
- ❖ To enable the participants to learn the new pedagogic approaches and using free and open source for analyzing the various spectral data.
- ❖ To provide an opportunity to learn sampling for various analytical techniques and analyze the participant's own sample.

Topics to be covered:

- ❖ The theory and practical demonstration of about fourteen sophisticated analytical techniques.
- ❖ Out of total duration minimum 50% time will be reserved for the hands-on training of each instrument.
- ❖ Theory demonstration via power point presentation will include principle, instrumentation and application of each analytical technique.
- ❖ Effective use of characterization techniques such as Solid UV-vis spectrophotometer, LC-MS, GC-MS, FT-IR, HPCC, Bio-aerosol spectrometer, Photo-Luminescence (PL) spectrometer, HPTLC, Surface area analyser, SEM-EDAX, XRD, NMR, Multi-purpose coating and thermal evaporation technique, PCR-Thermal cyler etc. in basic research and developments of various disciplines-chemistry, physics, biological sciences, materials science, nanotechnology, biotechnology, engineering, agricultural

research along with commercially influenced energy, pharma and bio process industry.

Resource Persons:

Eminent faculty members of various Departments / Centres of Dibrugarh University who has gained expertise on respective analytical techniques will be the resource persons for this training program.

Mode of Delivery:

Resource persons will deliver the lectures physically and hands-on sessions through physical mode only.

Registration and Eligibility Criteria:

- ❖ Last Date of Registration: 5th August 2022 (Tentative).
- ❖ This hands-on training is completely funded by DST STUTI program and registration of selected candidates will be free of cost.
- ❖ Participants should be of Indian origin.
- ❖ Minimum qualification should be PG or B.Tech./ M.Tech.
- ❖ Professors/Scientists/ Post-Doc Fellows/ Ph.D. Fellows/ Industry Persons who are actively involved in research and development (R&D) in the above fields.
- ❖ Maximum 30 participants (Max 3 from one institute) will be allowed to join this program.
- ❖ Not more than 3 participants from one institution per training program will be allowed.

How to apply:

The candidates shall apply by filling the application through the link below on or before 5th August 2022

<https://forms.gle/qzmtUargGZPFXPaA9>

*Application form: <http://stuti.du2022.unaux.com/>

All the participants have to submit the application form enclosed herewith. This is to be endorsed by the concerned head of the institute with seal. The incomplete applications will be rejected.

Selection of candidates:

- ❖ All the applications received from the participants shall be scrutinized by the STUTI training program selection committee.
- ❖ Selected candidates will be notified through email and also in the website.
- ❖ Reimbursement for train fare to the shortlisted candidates from outstations will be provided as per the rule.
- ❖ Adjustment for the accommodation of the candidates will be made by university depending on the availability.

Brief profile of the Institute:

Dibrugarh University is one of the educational centres of excellence, seeking to amalgamate multidisciplinary fields with numerous theoretical perspectives, the realm of cultural diversity with the praxis of knowledge, and region-specific issues with global horizon. The University has a prolific and productive industrial academia interface. With its

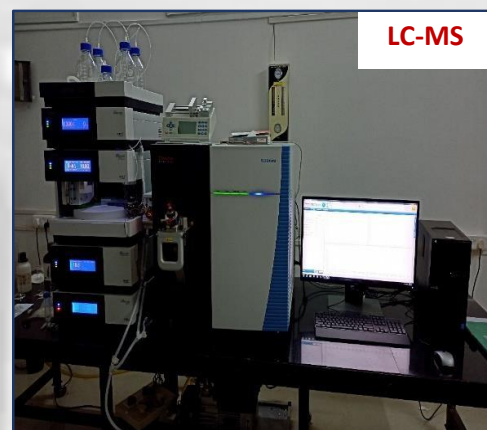
strong global links in teaching and research programmes, the University offers dynamic educational experiences that prepare the next generation to lead and make a difference and thus contribute to the society at large.



Brief profile of the department:

The Department of Chemistry was established in 1968. It started with 3 faculty members and 12 students. Along these years, from its nascent state, the department has grown both in terms of academics and research. The major objective of the

department is to create quality human resource for the country in various areas of chemical science by generating and distributing knowledge among the students. Presently, the department offers two courses: M.Sc. and Ph.D. in Chemistry. Students graduated out of this course are regularly recruited by different companies like OIL, ONGC, Pharmaceutical companies etc. Every year students from this department are also qualifying national level competitive exams like NET, GATE etc.



LC-MS



PCR thermal



FT-IR

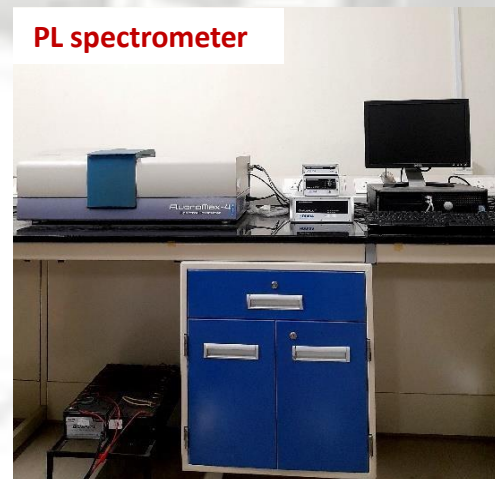
SEM



XRD work station



PL spectrometer



HPCC



GC-MS



NMR



Organising/Local advisory committee members

1. Prof. Jiten Hazarika (VC, Dibrugarh University)
2. Prof. Dipak Chetia (Dean, R&D)
3. Prof. Mukul Chandra Bora (Director, DUIET)
4. Prof. P. K. Saikia (HOD, Physics, DU)
5. Prof. M. K. Das (HOD, Pharm. Sci, DU)
6. Prof. L. R. Saikia (HOD, Life Science, DU)
7. Prof. Geetika Borah (HOD, Chemistry, DU)
8. Prof. Pankaj Das
9. Prof. Diganta Sarma
10. Dr. Rahul Kar
11. Dr. Bolin Chetia
12. Dr. Surajit Konwer
13. Dr. Prithviraj Khakhlyar
14. Dr. Anupaul Baruah
15. Dr. Jiban Saikia

For details visit:

<http://stuti.du2022.unaux.com/>

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