**PHYSICS R&D CENTRE:**

Our R&D centre was established in the year 2023 by the Department of Physics and it was recognized by the Centre for Research, Anna University in the year of 2024. We have three faculty members with Ph.D. degree and Anna university supervisor recognition. We have an electrospinning instrument in our Research Centre from which we have been actively preparing one dimensional nanomaterials.

## FACULTY DETAILS

| S.No | Name of the faculty member | Designation | Field of Research | Contact Mail |
|---|---|---|---|---|
| 1 | Dr. K. Kumar | Associate Professor | Materials Science, Inorganic Nanomaterials, Magnetic Materials | kumara@shanmugha.edu.in |
| 2 | Dr. G. Chandrasekar | Associate Professor | Soft Condensed Matter, Crystal Growth, Green Synthesis | chandrasekar.g@shanmugha.edu.in |
| 3 | Dr. Shanmugam | Associate Professor | Biomaterials and Biocompoistes | shanmugam.physics@shanmugha.edu.in |
| 4 | Dr. G. Anbu | Assistant Professor | Multi-crystalline silicon, Crystal Growth | anbu.g@ shanmugha.edu.in |

**RESEARCH FACILITIES**

**Electrospinning:**

Electrospinning is a versatile technique used to produce ultrafine fibers from a polymer solution or melt. It involves applying a high-voltage electric field to a liquid droplet, creating an electrically charged jet that stretches and solidifies into fibers.

**UV-Vis Spectrometer:**

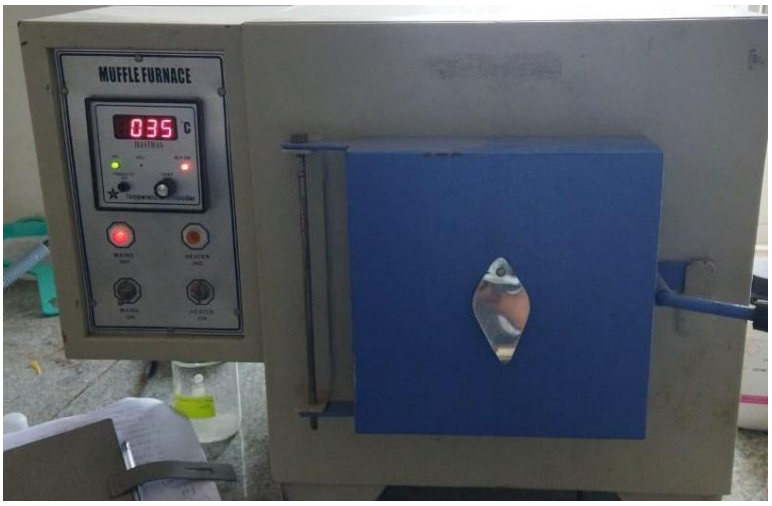
A UV-Vis Spectrometer is an analytical instrument used to measure the absorbance or reflectance of UV and visible light by a sample. It provides valuable information about the sample's composition, concentration, and chemical properties.

**Hot Air Oven:**

A Hot Air Oven is used for sterilization and drying applications in laboratories. It operates by circulating hot air uniformly throughout the chamber, ensuring consistent heating of samples. It operate in the temperature range of room temperature to 150℃

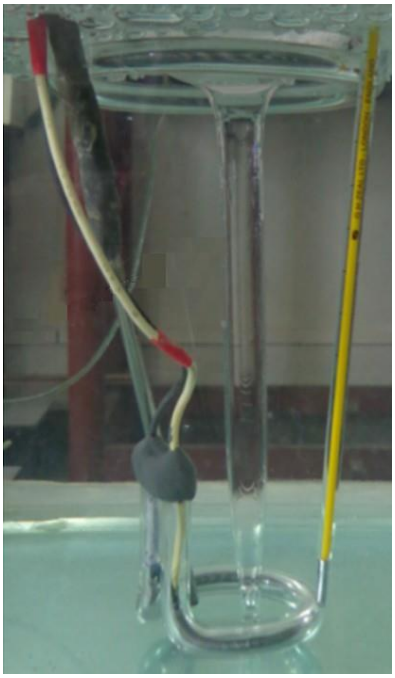

**Muffle furnace:**

A Muffle Furnace is a high-temperature furnace used for pyrolysis, ashing, and heat treatments. It isolates the sample from direct flame contact, providing a controlled environment for thermal processes.




**Crystal Growth Setup:**

Crystal Growth is a method used to grow high-quality single crystals from a solution.



**PUBLICATIONS:**

**Anbu Gopalakrishnan**, Chinnasami Sidden, Sivanandam Magudeeswaran, Sathya Bangaru, Anandhakrishnan Ramasamy, Kumar Kaliyappan, "Synthesis, crystal structure, spectroscopic and computational studies of NLO active 2-methylimdazolium 4-nitrobenzoic acid single crystal", Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, 310: 123936 (2024).

Anbazhakan Kandasamy, Kanakaraj Aruchamy, Praveena Rangasamy, Deepha Varadhaiyan, **Chandrasekar Gowri**, Tae Hwan Oh, Subramaniyan Ramasundaram, Balasankar Athinarayanan, "Phytochemical Analysis and Antioxidant Activity of Centella Asiatica Extracts: An Experimental and Theoretical Investigation of Flavonoids", Plants, 12:2023(3547).

**G Chandrasekar,** N Pongali Sathya Prabu, "Binary mixtures formed between methyl malonic acid and alkyloxy benzoic acids: optical and thermal investigations", Ferroelectrics, 606 :146-160(2023).

**G Chandrasekar**, N Pongali Sathya Prabu, MLN Madhu Mohan, "Binary mixtures of double hydrogen bond liquid crystals: chemical, optical, thermal investigations", Molecular Crystals and Liquid Crystals, 761: 42-56(2023).

**G Chandrasekar**, R Balaji and N Pongali Sathya Prabu, "Formation and investigation of hydrogen bond liquid crystal binary mixtures for optical and thermal energy applications", Ferroelectrics, 618: 777-788(2024).

**CONTACT US:**

Dr. K. KUMAR,

ASSOCIATE PROFESSOR,

DEPARTMENT OF PHYSICS,

SRI SHANMUGHA COLLEGE OF ENGINEERING TECHNOLOGY,

EMAIL: kumara@shanmugha.edu.in

MOBILE: +91-8344185554