KARUNYA INSTITUTE OF TECHNOLOGY AND SCIENCES
(Declared as Deemed to be University under Sec. 3 of the UGC Act 1956)
A CHRISTIAN MINORITY RESIDENTIAL INSTITUTION
AICTE Approved & NAAC Accredited
Karunya Nagar, Coimbatore - 641 114, Tamil Nadu, India

DEPARTMENT OF MECHANICAL ENGINEERING

Micro and Nano Heat Transfer Lab

The Micro and Nano Heat Transfer Lab, Centre for Research in Material Science and Thermal Management of the Department of Mechanical Engineering is a plat form to develop micro and nano level hydrophilic and hydrophobic structures, then characterizing them and test the same by applying them into the cooling devices such as heat pipes. This laboratory is extensively used by research scholars, M.Tech students and B.Tech students for their projects and research activities. Nearly 60 research referred Journal/Conference papers were published using these facilities. This laboratory consists of modern facilities to test various heat pipes, anodizing the tubes, Electroplating and many others. Highly accurate measurement devices such as Drop Shape Analyzer (Surface Energy Measurement), SITA dyno Tester (Surface tension Measurements), HP Agilent data loggers and DC supply from Key sight technologies are available which are actively used by the research students.

COURSE OBJECTIVES: Not applicable (Research Lab)

COURSE OUTCOMES: Not applicable (Research Lab)

FACILITIES AVAILABLE FOR REGULAR CLASSWORK, PROJECT, RESEARCH AND CONSULTANCY

- ✓ Data Acquisition System
- ✓ Hand-Held Tensio Meter
- ✓ Drop Shape Analyser
- ✓ Coating Thickness Tester
- ✓ Gauss Meter
- ✓ DC supply
- ✓ Heat pipe testing facilities
- ✓ Anodizing facitlities

INDUSTRY MATCHING EQUIPMENT'S

- ✓ Hand-Held Tensio Meter
- ✓ Drop Shape Analyser
- ✓ Gauss Meter

MAJOR EQUIPMENT'S & FACILITIES

Figure 1 Heat Pipe Testing facility

Figure 2 Anodization cell set up

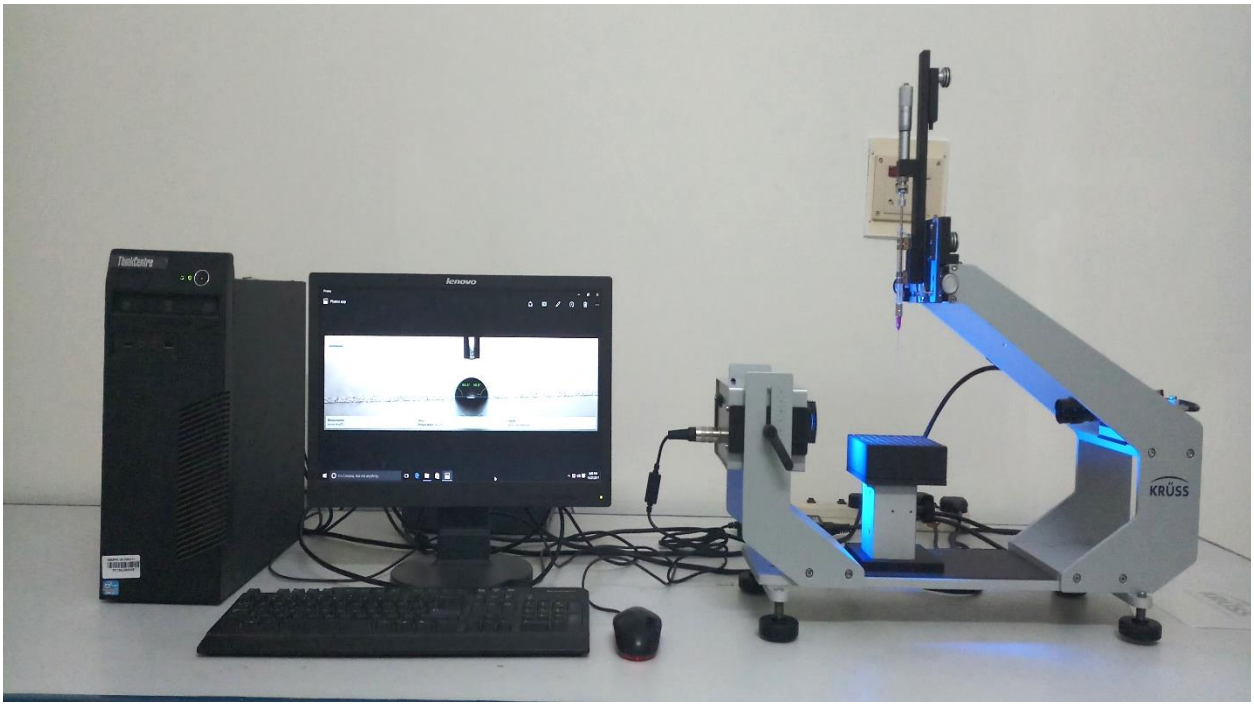

Figure 3 Drop shape Analyzer

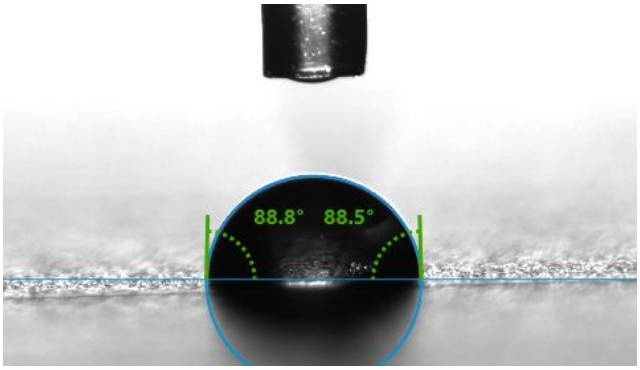

Figure 4 Sample contact measurement using drop shape analyzer

Figure 5 Tensio meter (hand held surface tension measuring device)

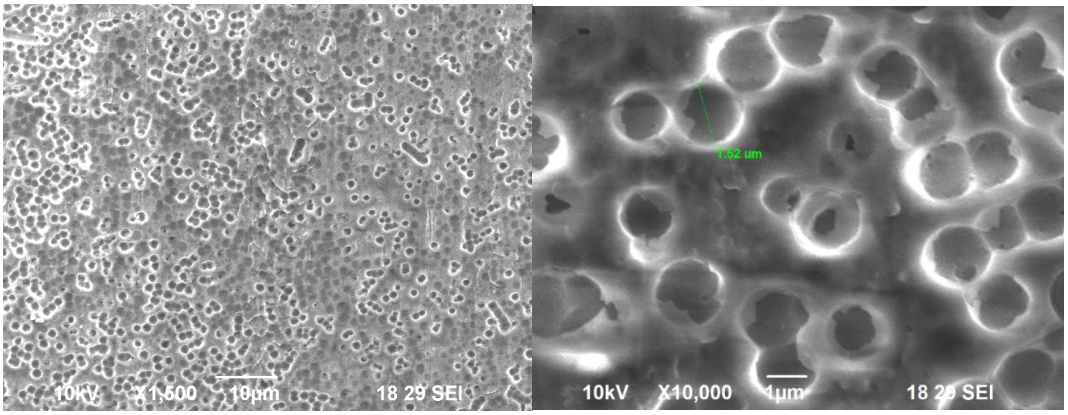

Figure 6. SEM images of anodized surfaces

Lab in charge:

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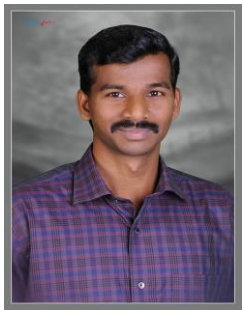

Lab technicians:

Mr. Jaya Seelan, D.M.E., Mechanic Grade II