

**RESEARCH LABORATORIES & CENTRALIZED INSTRUMENTATION FACILITIES**  
**Department of Physics, NIT Tiruchirappalli**

S.No.	Name of the Equipment	Name of the Laboratory	Short description of the Equipment (Model, Make Important Details)	Faculty In charge Contact Details
1.	Nd: YAG Laser	Laser Laboratory	PRO -230-10, Spectra Physics,USA	Dr.Sastikumar 0431-2503604
2.	INFRARED THERMOGRAPHY CAMERA	NDT Thermography laboratory	SC 7500/ (FLIR - AUTOMATION TECHNOLOGY) (GERMANY)	Dr.Sastikumar 0431-2503604
3.	Impedance Analyser	Nanomaterials Labratory	Solartron: Model:1260	Dr A. Chandra Bose 0431-2503605
4.	Cyclic Voltameter	Nanomaterials Labratory	Bio-logic: Model:SP150	Dr A. Chandra Bose 0431-2503605
5.	HRTEM	TEM lab	Technai Model:G230S	Dr A. Chandra Bose 0431-2503605 & Dr Justin Josephus 0431-2503614
6.	LOW TEMPERATURE PHOTOLUMINESEC NCE (LTPL)	SAIF	HORIBA-IHR550 INSTRUMENTS INC., ARS, KIMMON LASER	Dr.N.Gopalakrishnan 0431-2503607
7.	RF Magnetron Sputtering (TEQIP-I)	Thin film Laboratory	HHV 12" MSPT	Dr.N.Gopalakrishnan 0431-2503607
8.	Thermal evaporation (TEQIP-I)	Thin film Laboratory	HHV12A4D	Dr.N.Gopalakrishnan 0431-2503607
9.	Spin coating unit	Thin film Laboratory	Milman Series Model 3000S	Dr.N.Gopalakrishnan 0431-2503607
10.	Atomic Force Microscope (AFM)	AFM Lab	NX 10, Park systems	Dr.J. Hemalatha 0431-2503608

11.	Magneto resistance measurement set up	Advanced Materials Lab	Marine India	Dr.J. Hemalatha 0431-2503608
12.	Electro spinning Unit	Advanced Materials Lab	ESPIN-NANO	Dr.J. Hemalatha 0431-2503608
13.	CLUSTER Computing system	Condensed Matter Theory Lab	HPC cluster with 4 compute nodes and 1 master node	Dr. N. Baskaran 0431-2503606
14.	FTIR (Fourier Transform- Infra Red) Spectrometer	New Generation Materials Laboratory, Department of Physics, NITT	<u>Model:</u> Thermo Scientific Nicolet iS5	Dr. M. Ashok 0431-2503610
15.	UV- Visible Spectrometer	New Generation Materials Laboratory, Department of Physics, NITT	<u>Model:</u> Shimadzu Pharma spec UV-1700	Dr. M. Ashok 0431-2503610
16.	Raman spectrometer	New Generation Materials Laboratory, Department of Physics, NITT	<u>Model:</u> Enspectr R532	Dr. M. Ashok 0431-2503610
17	Solar simulator (lamp only)	New Generation Materials Laboratory, Department of Physics, NITT	<u>Model:</u> Oriel LCS-100 small area Sol1A	Dr. M. Ashok 0431-2503610
18.	Spray Dryer	New Generation Materials Laboratory, Department of Physics, NITT	Techno search SPD-P-11	Dr. M. Ashok 0431-2503610
19.	Hall Measurement Unit,	Optoelectronic Materials and Devices Lab	Used to measure carrier concentration, resistivity, magnetoresistance and mobility of semiconductor films.( ECOPIA HMS-5000)	Dr. M. C. Santhosh Kumar 0431-2503611
20.	Thermal evaporation Unit,	Optoelectronic Materials and Devices Lab	Metal and semiconductor Thin Film Deposition (Mansha Vacuum)	Dr. M. C. Santhosh Kumar 0431-2503611
21.	Specrofourometer	Optoelectronic Materials and Devices Lab	To measure the fluoresce excitation and emission spectra of semiconducting films and powder samples. (JASCO, FP-8500)	Dr. M. C. Santhosh Kumar 0431-2503611

22.	Vacuum Spray pyrolysis unit,	Optoelectronic Materials and Devices Lab	To deposit metal oxide or metal sulphide thin films by chemical pyrolysis process (Holmarc)	Dr. M. C. Santhosh Kumar 0431-2503611
23.	RF-Magnetron Sputtering Unit,	SIF Lab	To deposit Metal and semiconductor Thin Film Deposition	Dr. M. C. Santhosh Kumar 0431-2503611
24.	Uv-vis-NIR spectrometer,	SIF Lab	Record UV-vis-NIR spectrum of thin films, powder and liquid samples.	Dr. M. C. Santhosh Kumar 0431-2503611
25.	MicroRaman spectrometer	MicroRaman Spectrometer Lab	Labram MicroRaman spectrometer, Horiba Jobin Yvon	Dr. B. Karthikeyan 0431-2503612
26.	Time resolved spectrometer	Time resolved spectrometer Lab	Deltaflex TCSPC system, Horiba Jobin Yvon	Dr. B. Karthikeyan 0431-2503612
27.	LCR Tester	Advanced Functional Materials Laboratory	Model: 3532-50 Make: HIOKI, Japan  Measurement of Capacitance, impedance, Inductance and Resistance	Dr. N.V.Giridharan 9443689391 0431-2503613
28.	High energy Ball mill	Advanced Functional Materials Laboratory	Model:Pulverisette-7 premium line Make: FRITSCH, Germany	Dr. N.V.Giridharan 9443689391 0431-2503613
28.	High temperature heating module and accessories	High temperature Crystal Growth Laboratory	Make: KANTHAL, Sweden  Superthal heating modules (SMU 125 and SMU 150)	Dr. N.V.Giridharan 9443689391 0431-2503613
30.	Precision Multiferroic tester	SIF-Multiferroic Tester	Make: Radiant Technologies Inc. USA  To measure ferroelectric and piezoelectric properties of bulk and thin film samples	Dr. N.V.Giridharan 9443689391 0431-2503613
31.	Thermogravimetric/Differential Thermal Analyzer	Magnetic Materials Laboratory	SIINT Make, D, EXSTAR TG/DTA6200	Dr. R. Justin Joseyphus 0431-2503614
32.	Vibrating sample magnetometer	VSM Laboratory	Lakeshore Make, model 7404	Dr. R. Justin Joseyphus 0431-2503614

33.	Liquid Nitrogen Plant	Liquid nitrogen facility (CIF Lab)	Kelvin Intl., NL280	Dr. R. Justin Joseyphus 0431-2503614
34.	Electrospinning unit	Intermetallics and NLO laboratory	Model: Super ES-2 Make: E-spin Nanotek Spinng: Vertical, horizontal, Co-spinning, under liquid Input voltage: 90-240 VAC+/- H.V. Power Supply: 0-30kV Collectors: static, drum& plate Collector RPM: 300-3000 RPM Computer controlled X-axis, Y-axis and Z-axis stage	Dr.R.Nagalakshmi 0431-2503615
35.	Tri Arc melter	Intermetallics and NLO laboratory	Centorr Furnace Model: 5TA Tri arc furnace	Dr.R.Nagalakshmi 0431-2503615
36.	Vacuum glass blow-	Intermetallics and NLO laboratory	HIND HIVAC Rotary + Diffusion pump Vacuum attained: 10 <sup>-6</sup> Torr	Dr.R.Nagalakshmi 0431-2503615
37.	LCR Hi-TESTER	Carbon Nanomaterials Laboratory-(CNM-Lab)	Model: HIOKI 3532-50  (For dielectric measurements)	Dr. S. Manivannan 0431-2503616
38.	Source Measurement Unit	Carbon Nanomaterials Laboratory-(CNM-Lab)	Model: KEITHLEY 2450 (for I-V studies)	Dr. S. Manivannan 0431-2503616
39.	DIODE LASER	Carbon Nanomaterials Laboratory-(CNM-Lab)	Model: VORTRAN LASER TECHNOLOGY, INC.  (637 nm- 140 mW, 660 nm 100 mW, 785 nm 80 mW)	Dr. S. Manivannan 0431-2503616
40.	DIODE LASER	Carbon Nanomaterials Laboratory-(CNM-Lab)	Model: VORTRAN LASER TECHNOLOGY, INC.  (637 nm- 140 mW, 660 nm 100 mW, 785 nm 80 mW)	Dr. S. Manivannan 0431-2503616