RESEARCH FACILITIES

SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

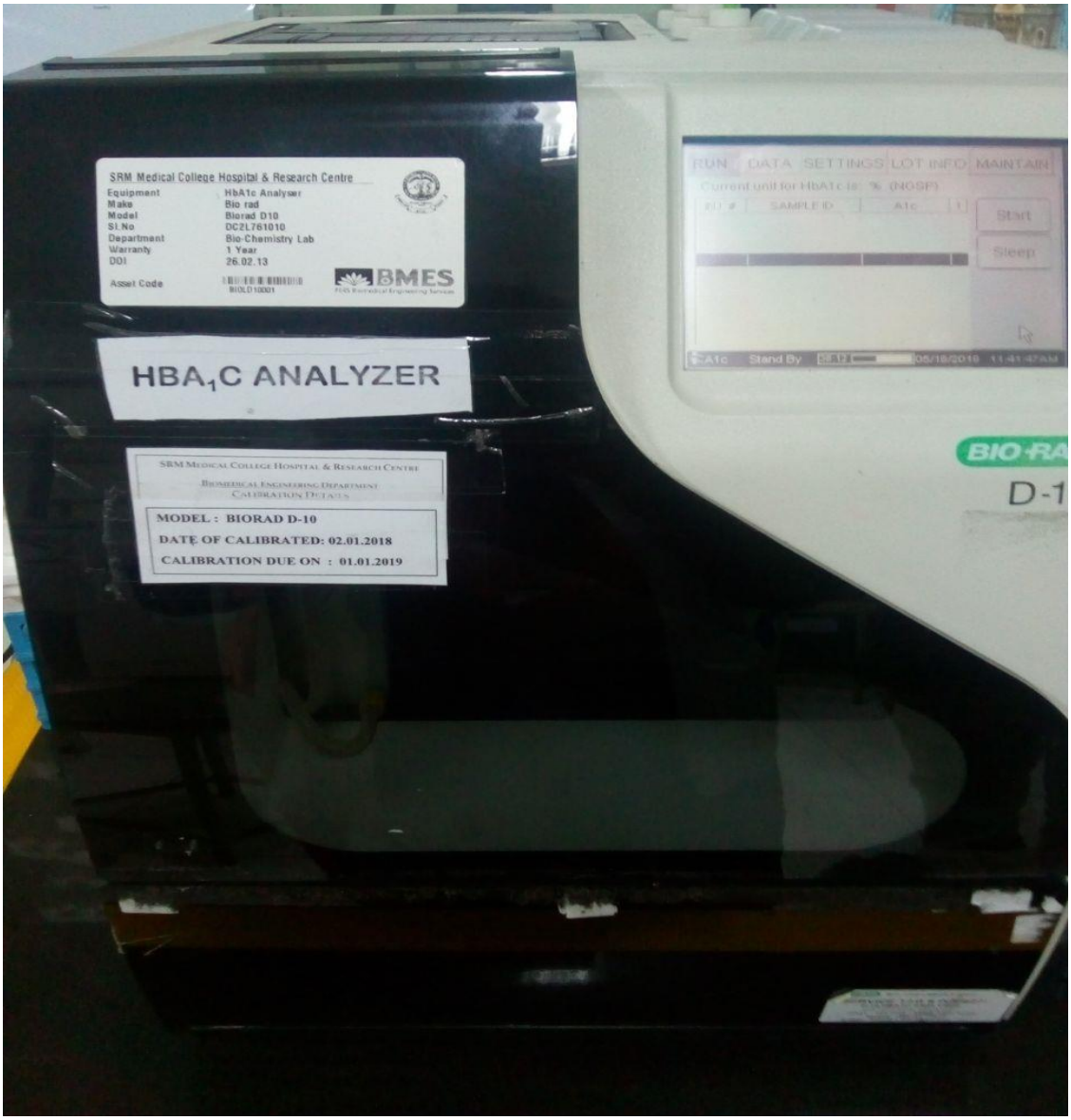
KATTANKULATHUR

SRM
INSTITUTE OF SCIENCE & TECHNOLOGY
(Deemed to be University u/s 3 of UGC Act, 1956)

RESEARCH FACILITIES

DEPARTMENT OF BIOCHEMISTRY

Name of the equipment and make	: Bio-Rad D -10 analyzer
Year of Installation	: 26.10.2013
Broad Specification	: HbA1C
Faculty member in charge / Looking after the equipment	: Dr. B. Jyothirmayi, MD.,



Name of the equipment and make : VITROUS **ECi**

Year of Installation : 26.10.2017

Broad Specification : Automated Immunoassay System

Faculty member in charge /

Looking after the equipment : Dr. B. Jyothirmayi, MD.,

DEPARTMENT OF BIOMEDICAL ENGINEERING

Name of the equipment and make	: Body Composition Analyzer (HSCODE 9031) (MC980M020A), TANITA
Year of installation	: 2013
Broad specifications	: The ultimate tool in providing in-depth information for truly personalizated consultations.
Faculty member in charge / looking after the equipment	: HOD-BME

Name of the equipment and make	: DXL Heel Bone Densitometer (EXA-3000), OsteoTech
Year of installation	: 2013
Broad specifications	: Portable Multi-Site peripheral DXA (Dual Energy X-ray Absorptiometry) Bone Densitometer.
Faculty member in charge	
Looking after the equipment	: HOD-BME

Picture of the equipment

Name of the equipment and make	: FLIR-SC305 Thermal Imaging System, FLIR
Year of installation	: 2014
Broad specifications	: VASCULAR Related Studies & for general screening tests.
Faculty member in charge /	
Looking after the equipment	: HOD-BME

Picture of the equipment

DEPARTMENT OF BIOTECHNOLOGY

Name of the equipment and make : AKTA Prime plus (FPLC), GE Health Care

Year of installation : 2006

Broad specifications : AKTA Prime GE Health Care

Faculty member in charge /

Looking after the equipment : HOD

Picture of the equipment

Name of the equipment and make : AKTA PURIFIER (FPLC), GE HEALTH CARE.

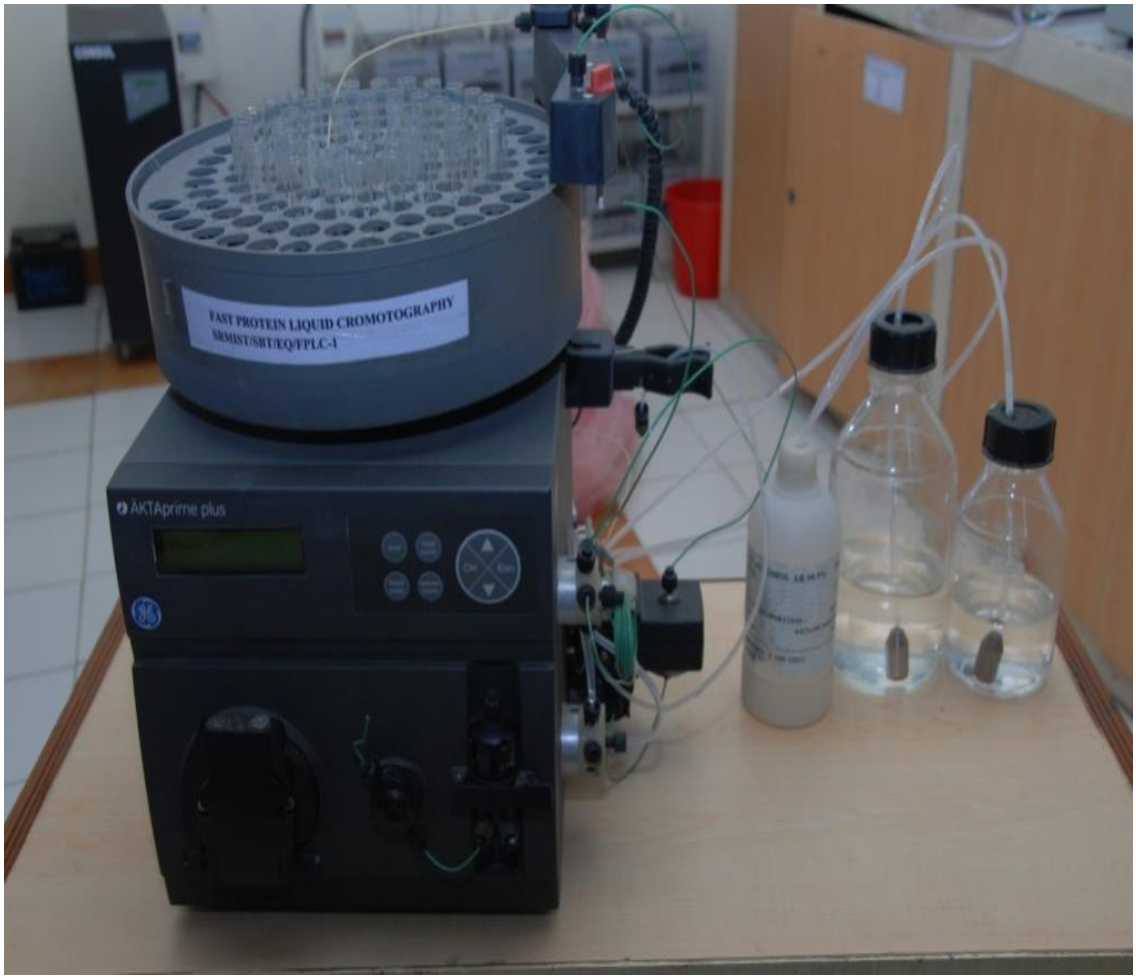
Year of installation : 2006

Broad specifications : AKTA PRIME GE HEALTH CARE

Faculty member in charge /

Looking after the equipment : HOD

Picture of the equipment :



Name of the equipment and make : CHEM DOC XRS AND IMAGE, BIORAD Laboratories

Year of installation : 2014

Broad specifications : BIORAD LABORATORIES

Faculty member in charge /

Looking after the equipment : HOD

Picture of the equipment

Name of the equipment and make : CFX TOUCH SYSTEM (RT- PCR), BIORADLABORATORIES

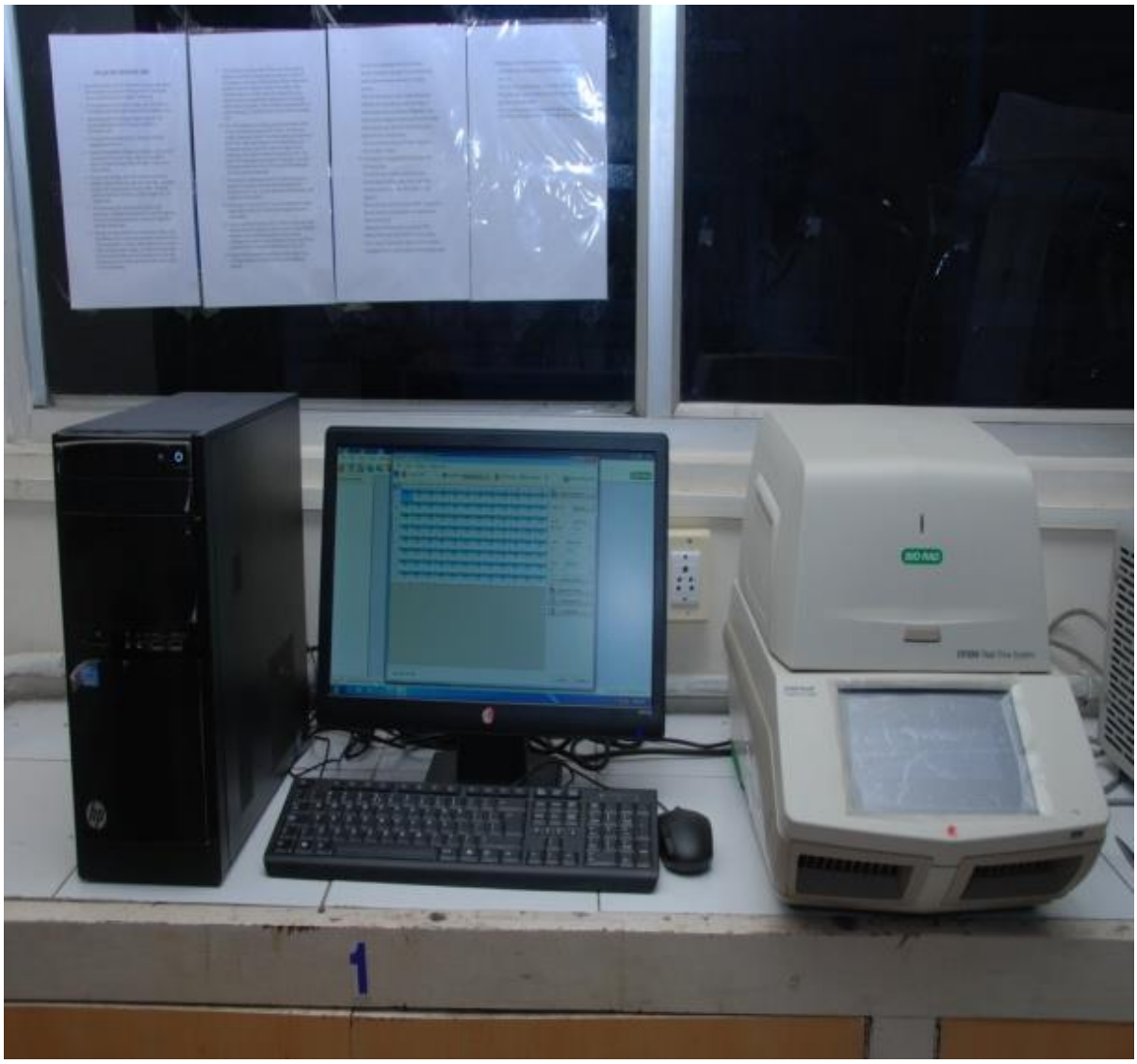
Year of installation : 2014

Broad specifications : BIORAD LABORATORIES

Faculty member in charge /

Looking after the equipment : HOD

Picture of the equipment



Name of the equipment and make : DEEP FREEZER, SOUTHERN INDIA

Year of installation : 2012

Broad specifications : THERMO SCIENTIFIC

Faculty member in charge /

Looking after the equipment : HOD

Picture of the equipment

Name of the equipment and make : FERMENTOR, SCIGENIC LTD

Year of installation : 2005

Broad specifications : BIOFERM LS2

Faculty member in charge /

Looking after the equipment : HOD

Picture of the equipment :

Name of the equipment and make : FLUORESCENT MICROSCOPE

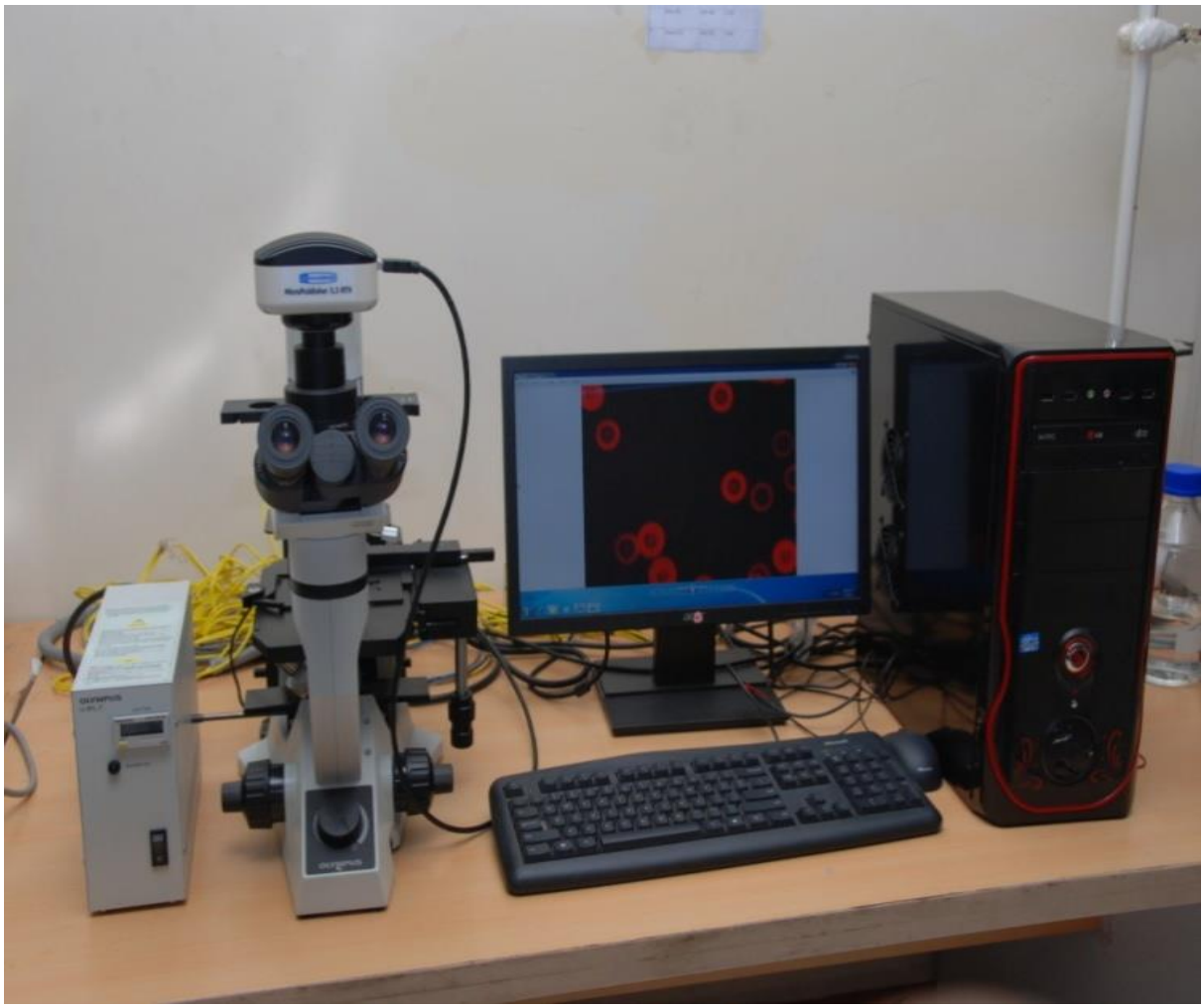
Year of installation : 2009

Broad specifications : FLUROSCENCE STUDIES

Faculty member in charge /

Looking after the equipment : HOD

Picture of the equipment



Name of the equipment and make : FLUROMETER AND LUMINOMETER, SISCON

Year of installation : 2014

Broad specifications : AGILENT TECHNOLOGIES.

Faculty member in charge /

Looking after the equipment : HOD

Picture of the equipment

Name of the equipment and make : FTIR, AGILENT TECHNOLOGIES.

Year of installation : 2014

Broad specifications : AGILENT TECHNOLOGIES.

Faculty member in charge /

Looking after the equipment : HOD

Picture of the equipment

Name of the equipment and make : GCMS, AGILENT TECHNOLOGIES.

Year of installation : 2014

Broad specifications : AGILENT TECHNOLOGIES.

Faculty member in charge /

Looking after the equipment : HOD

Picture of the equipment

Name of the equipment and make : HIGH SPEED CENTRIFUGE, SOUTHERN INDIA

Year of installation : 2012

Broad specifications : REMI (R24)

Faculty member in charge /

Looking after the equipment : HOD

Picture of the equipment

Name of the equipment and make : HIGH SPEED CENTRIFUGE WITH 3 ROTORS, KUBOTA

Year of installation : 2005

Broad specifications : KUBOTA

Faculty member in charge /

Looking after the equipment : HOD

Picture of the equipment

Name of the equipment and make : HIGH PERFORMANCE LIQUID CHROMOTOGRAPHY, AGILENT TECHNOLOGIES.

Year of installation : 2013

Broad specifications : AGILENT TECHNOLOGIES.

Faculty member in charge /

Looking after the equipment : HOD

Picture of the equipment

Name of the equipment and make : INVERTED MICROSCOPE, LAB INDIA

Year of installation : 2005

Broad specifications : LEICA

Faculty member in charge /

Looking after the equipment : HOD

Picture of the equipment

Name of the equipment and make : LCMS 2020, SPINCOTECH PVT LTD

Year of installation : 2005

Broad specifications : SHIMADZU

Faculty member in charge /

looking after the equipment : HOD

Picture of the equipment

Name of the equipment and make : MERK MILLIPORE, MILLIPORE (INDIA) PVT LIMITED

Year of installation : 2012

Broad specifications : MILLIPORE WATER UPTO 10 LITER CAPACITY

Faculty member in charge / looking after the equipment : HOD

Picture of the equipment

Name of the equipment and make : PHASE CONTRAST MICROSCOPE, SISCON

Year of installation : 2009

Broad specifications : OLYMPUS

Faculty member in charge / looking after the equipment : HOD

Picture of the equipment

Name of the equipment and make : ULTRA SONICATOR, SISCON

Year of installation : 2014

Broad specifications : BRANSON

Faculty member in charge / looking after the equipment : HOD

Picture of the equipment

Name of the equipment and make : UV-VIS MICROPLATE SPECTROPHOTOMETER, SISCON

Year of installation : 2014

Broad specifications : AGILENT TECHNOLOGIES

Faculty member in charge / looking after the equipment : HOD

Picture of the equipment

Name of the equipment and make : UV-VIS SPECTROPHOTOMETER,

AGILENT TECHNOLOGIES

Year of installation : 2014

Broad specifications : AGILENT TECHNOLOGIES

Faculty member in charge / looking after : HOD

the equipment

Picture of the equipment

Name of the equipment and make : UV-TRANSILLUMINATOR,

AMERSHAM BIOSCIENCE

Year of installation : 2005

Broad specifications : AMERSHAM BIOSCIENCE

Faculty member in charge / looking after : HOD

the equipment

Picture of the equipment

SRM MEDICAL COLLEGE HOSPITAL AND RESEARCH CENTRE
DEPARTMENT OF CARDIOLOGY

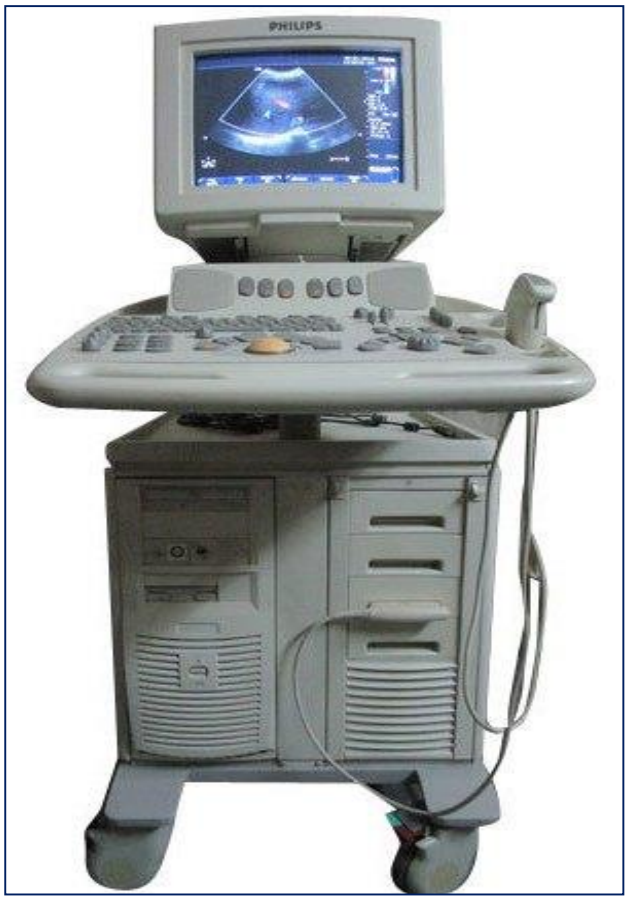
Name of the equipment and make : TEE (Transesophageal Echocardiogram), Envisor, Philips

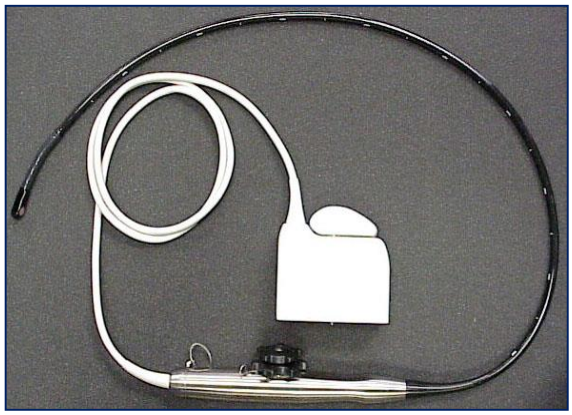
Year of Installation : 10.12.2008

Broad Specification:

Echomachine, Fusion Signal Processing, Microfine Focusing, Tissue Harmonic Imaging (THI), Pulse Inversion Harmonic Imaging, Intelligent Doppler, Doppler Trace, Adaptive Doppler technology, Adaptive Color Doppler, Stress Echo, Digital storage and review, iSCAN Intelligent Optimization

Faculty member in charge : Dr. V.E.Dhandapani, MD, DM.
Professor & Head, Cardiology





CENTRE FOR ENVIRONMENTAL AND NUCLEAR RESEARC

Name and Make	5 x 5 Well TypeNAI Gamma Spectrometer Electronics Enterprises India Pvt. Ltd, Mumbai
Year of installation	April, 2010
Specifications	Shield : Lead High Voltage: 0 to +1200 V dc, 0.5 mA Spectroscopy Amplifier: 1 µ sec Semi Gaussian Shaping with internal PZ adjustment ADC: Output: 0-6V unipolar semi Gaussian, connected internally to ADC input, 1K Channel Willkinson type, 48 MHz clock frequency
In-charge	Dr. Sathesh Kumar Annamalai
Application	Analysis of Radionuclides (Uranium (^{238}U), Thorium (^{232}Th), Potassium (^{40}K), Caesium (^{137}Cs) and Cobalt (^{60}Co)) in Sediment, Soil, Fish and Biota

Instrument Photo

5 x 5 NaI Gamma Spectrometer

Name& Make	Ultra Low Background Beta Counter.	
	MPC -1000 (Protean Instrument Corporation, Lenoir City, TN, USA)	
Installation Year	Jan. 2014	
Specifications	Type	
	Sample Changer	: Manual
	Number of Detectors	: 1 + guard
	Counter	: Ultra Low Background
	Sample Size	: 5.1 cm (2 in.) diameter
	Interface	: Touch Screen
	Detector	
	Size	: 5.7 cm (2.23 in.) Diameter
	Type	: Hemispherical Style Gas Flow Proportional
	Window	: Aluminized, 80 µg/cm2
	Guard Detector	: Large Area Gas Flow Proportional
	Counting Gas	: P-10, 60 cc/min @ 10 psi
	Gas-PRO Protection	: Yes
	Shielding	: 10.2 cm (4 in.) thick
	Sample	
	Size	: 5.1 cm (2.0 in.) Diameter Planchets
	Capacity	: 1
	Depth	: 1/8, 1/4, 5/16 inch
	Data Export	: USB Flash Drive, RS-232
	Physical	
	Dimensions	: 58.4 W x 61 D cm (23 W x 24 D in.)
	Weight	: 172 kg (380 lb) installed

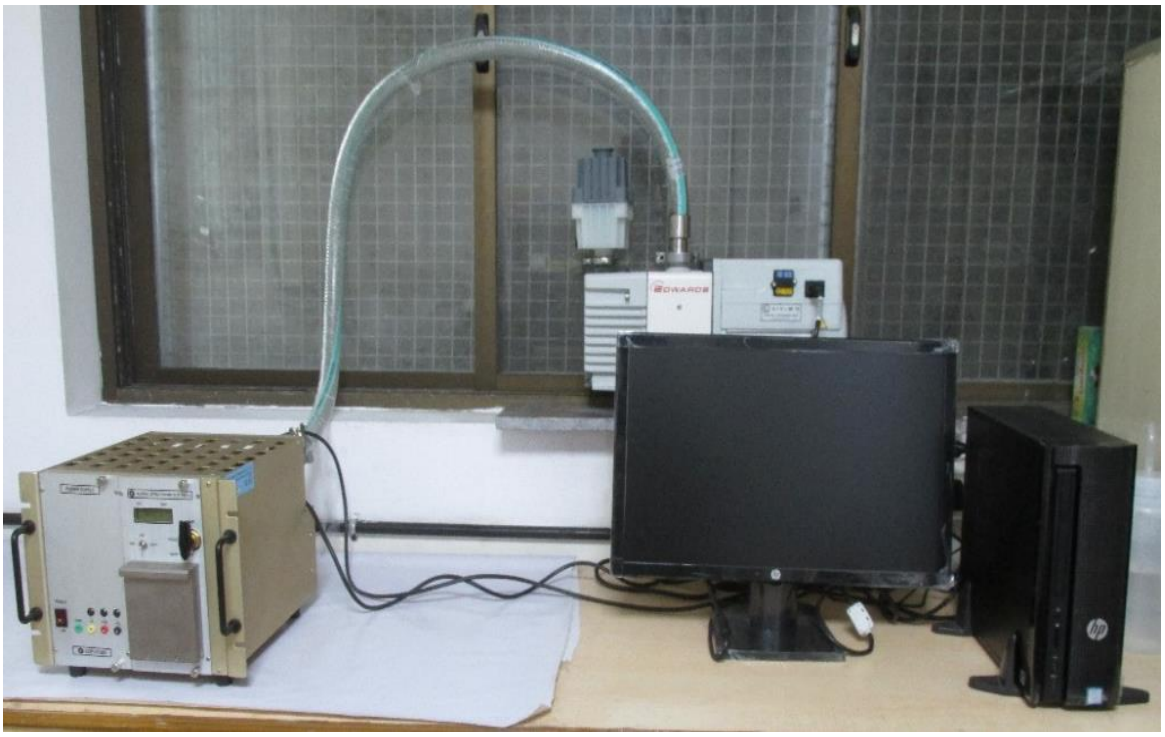
In-charge	Dr. Sathesh Kumar Annamalai
Usage	Analysis of Radionuclides (Lead(^{210}Pb), Radium(^{228}Ra), Caesium (^{137}Cs), Strontium(^{89}Sr, ^{90}Sr)) in Water, Sediment, Soil, Fish and Biota

Instrument Photo

Ultra Low Background Alpha & BETA Counter

Name & Make	Alpha Spectrometer System Electronics Enterprises India Pvt. Ltd, Mumbai
Installation Year	Jan. 2018
Specifications	Energy Range : 3 to 10 MeV with resolution of 5 keV per channel PC/Laptop Interface: via 8 Port Ethernet Switch module to Ethernet Communication Port of PC/Laptop, TCP/IP protocol Operating Parameter Control : Software Programmable HV, Gain, LLD, ULD by PC/Laptop Vacuum Connection: 4 way Vacuum Manifold connected to Vacuum Pump Chamber Vacuum: Digital Display < 1 mTorr to > 100 Torr on the module LCD and on PC /Laptop Screen Electrical: 230 V, 50 Hz AC Mains Operation
In-charge	Dr. Sathesh Kumar Annamalai
Application	Analysis of Radionuclides (Uranium (^{238}U), Thorium (^{232}Th), Potassium (^{40}K), Caesium (^{137}Cs) and Cobalt (^{60}Co))in Water, Sediment, Soil, Fish and Biota

Instrument Photo:



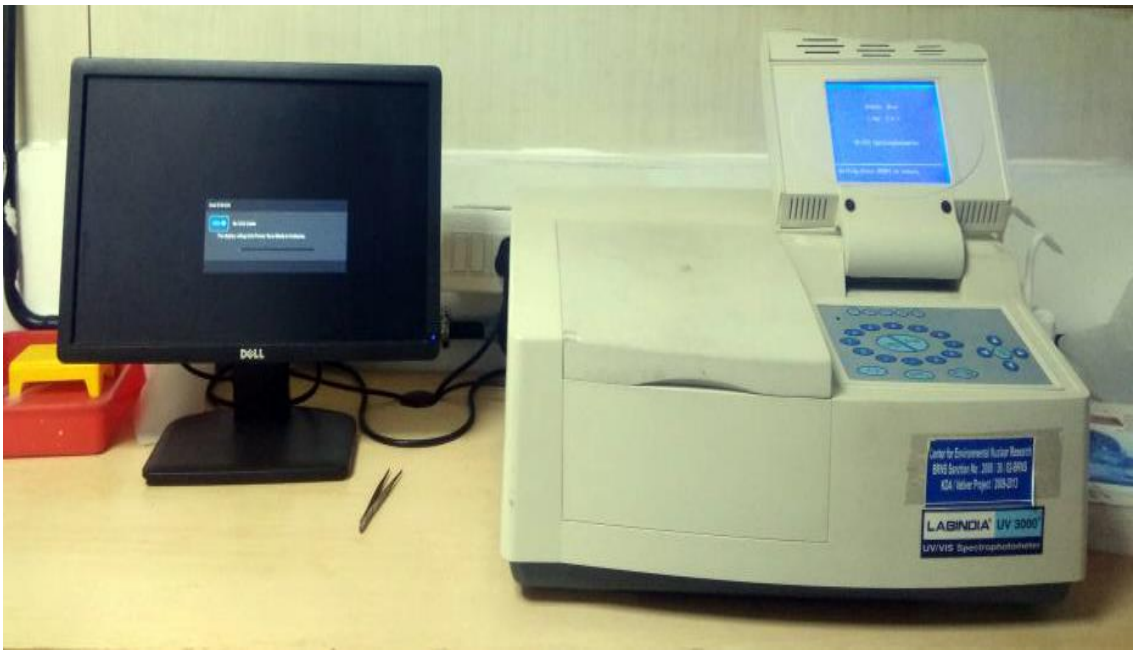
Alpha SpectroMeter

Name& Make	Alpha Counter -2 Nos. Electronics Enterprises India Pvt. Ltd, Mumbai
Installation Year	April, 2010
Specifications	Alpha Scintillation ZnS(Ag), integral assembly with voltage divider on 2” diameter PMT, High voltage adjustable 0 to 1500 V, Display function 999999 counts.
In-charge	Mr. Prince Solomon
Application	Analysis of Radionuclides (Polonium(^{210}Po), Radium(^{226}Ra) and Gross Alpha Radionuclides) in Water, Sediment, Soil, Fish and Biota

Instrument Photo:

Name &Make	Uv-Vis Spectrophotometer	
Installation Year	Jan, 2010	
Specifications	Optical system	: Double-beam monitoring system
	Detector	: Photodiode
	Light source	: Deuterium lamp and tungsten halogen lamp
	Spectral bandwidth	: 2nm (fixed slit)
	Working mode	: MPU Mode/PC Mode
	Software support	: MPU Software Platform/Spec UV software workstation
	Wavelength range	: 190-1100nm
	Wavelength accuracy	: ±0.3nm (Automatic Wavelength Correction)
	Wavelength repeatability: 0.2nm	
	Stray light : <0.12%T 220nm,NaI;340nm,NaNO2), ≥2.0Abs (KCI,200nm)	
	Photometric mode	: Transmittance, Absorbance, Energy
In-charge	Ms. Pamela Sinha	
Application	Spectrophotometer can analyse for photometric measurement, quantitative measurement, spectrum scan, DNA/Protein analysis.	

Instrument Photo:



UV – Visible Spectrometer 3000+

Name &Make	Automated Elisa Reader and Washer, Thermo Fisher Scientific Inc., MA USA
Installation Year	Jan, 2014
Specifications	
In-Charge	Ms. Pamela Sinha
Application	Enzyme assays

Photo of the equipment

Elisa Reader with Washer

Name &Make	Lyophilizer, Alpha 1- 2 LD Plus (Martin Christ, Germany)
Installation year	Feb, 2010
Specifications	Ice condenser
	Max. Capacity: max. 2.5 kg
	Performance: max. 2 kg/24 h
	Temperature: approx. –55 °C
	Chamber volume: approx. 3.5 l
	Refrigeration system: 0.43 kW
	Vacuum pump:
	Suction capacity: 2.3 m^3/h
	Final vacuum: 2 x 10^{-3} mbar (hPa)
	Power supply: 230 V/50 Hz
	(other voltages on request): 230 V/60 Hz
In-charge	Dr. Sathesh Kumar Annamalai
Application	Freeze Drying (Lyophilization)

Instrument Photo:

Lyophilizer

Name & Make	Mobile Clean Room – Class 100, Bioclean Air devices Pvt. Ltd., Chennai
Installation	Jul, 2012
Specifications	Clean Zone 100
In-charge	Prof. Kantha Deivi Arunachalam
Application	To process the samples like food and plants without external contamination in a clean environment

Instrument Photo:

Class 100 Mobile - Clean room

Name &Make	GM Counter, PNC-1G (Electronics Enterprises India Pvt. Ltd, Mumbai)		
Installation Year	Jun, 2011		
Specifications	Electronics	:	All solid state, Micro-Controller based design
	Preset Time		Time settable between 1 and 9999 seconds in Step of 1 second or in HH:MM:SS format
	No. of Runs	:	Settable between 1 to 1000
	Display Counts	:	Counts: 999999 Time : 9999 or in HH:MM:SS format Runs : 1000
	HV Supply	:	Adjustable to 1500V (±5V), settable through feather touch keypad on front panel.
	Data Storage	:	Store and recall facility for counts data up to 1000 readings and for the plateau readings
	User Interface	:	4 keys keypad with 16x2 line LCD for displaying Key function
	Data Transfer	:	To PC USB Port
In-charge	Mr. Prince Solomon		
Application	Gross Beta Counting and High Active Beta Radionuclides		

Instrument Photo:

Name &Make	Fluorescent Microscope with Live Imaging System. Labomed LX400 (Labomed, Inc.CA, U.S.A)	
Installation Year	Jan 2014	
Specifications	Stand	Single mold sturdy stand with anti rust materials. Extended base for better stability
	Viewing Bodies	Trinocular head, 30° inclined, 360° rotatable, Inter-pupillary distance 48 – 75mm
	Eyepiece	Focusable widefield eyepiece 10x/20mm with foldable eye guard. Accepts 26mm reticle.
	Nosepiece	Reverse angle quadruple nosepiece (Ball bearing type) with click stops and rubber grip
	Objectives	RP series infinity corrected DIN Plan Achromatic objectives 4x, 10x, 40x (spring loaded), 100x (spring loaded, oil), anti fungus
	Mechanical stage	Rackless X axis, double plate stage size 200 x 160mm, X/Y travel range 78mm x 54mm. Low drive right hand movement controls. Hard coated surface for scratch resistance. Double specimen holder
	Condenser	Sub stage Abbe condenser NA 1.25 with aspheric lens. Iris diaphragm with blue day light filter. Rack and pinion movements on stainless steel guides
	Focusing	Feather touch tension adjustment free co-axial coarse and fine focusing for ultra smooth movement. Fine focus 0.3mm per rotation.

	Illumination	Halogen 6V 20W illumination with variable illumination control. Up to 2,000 hours of Halogen bulb life.
	Electrical	Universal input 100V – 240V AC, 50/60Hz
	EPI Fluorescent Attachment	Epi-illumination is through a 50 Watt High pressure Mercury Bulb in a Bulb House attached to the Fluorescence Filter Block.
	B-Excitation Block	Excitation: 450-480nm Barrier: 515nm Dichroic: 500nm
	G-Excitation Block	Excitation: 510-550nm Barrier: 590nm Dichroic: 570nm
In-charge	Ms. Pamela Sinha	
Application	To study the Fluorescent Images for Comet Assay and Apoptosis Assay	

Instrument Photo:

Fluroscent Microscope with Camera

Name &Make	High Cooling Centrifuge, Dynamica Velocity 18R (Dynamica Scientific Ltd., United Kingdom)	
Installation Year	Feb, 2010	
Specifications	Speed	: 18000 RPM
	Maximum RCF	: 27070 x g
	Maximum Capacity	: 1000 mL
	Temperature Range	: -20 C - +40 C
	Timer	: 1 min – 99 hrs 59 mins plus gold function
In-charge	Mr. Suriyaprakash	
Application	• Isolation and separation of enzymes at low temperature using high speed. • Radiochemical analysis, Molecular Biology, Biochemistry and Microbiology	

Instrument Photo:

Hi-Speed Cooling Centrifuge

Name &Make	Co_2 Incubator, PCD E 3000 (Lark Innovative Pvt. Ltd., Chennai)
Installation Year	Dec. 2013
Specifications	•Microprocessor controlled 46 Ltr direct heat stackable CO2 Incubator temperature control from 4°C above ambient to 50°C, with control accuracy ±0.1°C. with high Tem. •It is six-sided direct heating with fanless, gentle convection circulation to provide stable temperature control, excellent uniformity and rapid recovery with no over shoot. •It has CO2 control range from 0.2 to 20% with control accuracy and uniformity of ±0.1% and should have rapid recovery of at least 0.7% per minutes. •It have Infra-red (IR) CO2 sensor It should come with minimum 4 adjustable height shelves & humidity reservoir (removable) to achieve at least 95% RH. •It is independent door heater eliminate condensation on inner door surface. •HEPA filter on CO2 inlet, It should have 25mm access port.
In-charge	Ms. Sherin John
Application	Culturing of live cells and various Cell lines

Instrument Photo:

Co_2 Incubator

Name & Make	Automated HaematologyAnalyser, (Animal) LabServ PACE 3 CT Hematology Analyzer (Thermo Fisher Scientific Inc., MA USA)
Installation year	Jan 2014
Specifications	27 parameters with 3 histogram 35000 Patient memories C Floating discriminator Low sample volume Direct connectivity with dot matrix printer Extensive QC statistics Auto. Manual & Whole blood calibration Volume and time-based counting technology Large LCD screen Cyanide-free Lysing reagent Automatic reagent dispensing for sample pre-dilution
In-charge	Dr. Sathesh Kumar Annamalai
Application	Analysis of Red Blood Cells (RBC), White Blood Cells (WBC), Lymphocytes (LYM), Minimum Inhibitory Dilution (MID), Granulocytes (GRA), Platelets (PLT), Mean Corpuscular Volume (MCV), Mean Corpuscular Hemoglobin(MCH)

Instrument Photo:

Automated Haematology Analyser

Name & Make	Bioreactor, SS5L (Lark Innovative Pvt. Ltd., Chennai)
Installation	June 2014
	Autoclavable Glass 3lit reactor
	Airlift Reactor (Only with lark in India)
	Batch, Fed batch & continuous reactor
	Microbial & Cell Culture Design
	100% Contamination Free
	Unique Stirrer Assembly Design
	Imported pH& DO Sensors
Specifications	Imported Temp, pH, DO & Foam Control
	Agitation, Temp, pH, DO & Foam Control
	Temp, pH, DO & Foam Sensor
	Agitation 20 – 1000rpm
	Temp: Ambient +5°C to 80°c
	pH: 2-12& DO – 0-100% or mg / lit
	Three Pumps & additional pumps on demand
	Marine Impeller Ring Sparger
In-charge	Mr. SuriyaPrakash
Application	Large scale processing of cultures, Enzyme Production

Instrument Photo:

Bioreactor

Name &Make	Muffle Furnace, Royal Testing Equipment's, Chennai
Installation Year	May, 2010
Specifications	-
In-charge	Mr. SuriyaPrakash
Application	Ashing of Samples at very high temperatures

Instrument Photo:

Muffle Furnace

Name &Make	Autoclave, AA Auto – 30 Kw (Royal Testing Equipment, Chennai
Installation Year	Jan 2010
Specifications	Chamber Size: 350 X 630mm Capacity: 40 Liter Chamber Type: Round Vertical Temperature Controller: Digital PID Controller Temperature Range: Ambient to 132C Operating Pressure: 1.2 kg/cm2 at 121C Timer: 99 min. Digital Timer Pressure Gauge: Mechanical Type 0 to 3 kg/cm2 Air Exhaust: Adjustable Handle Valve Safety Device: Over Heat Protector, Over Pressure Protector, Alarm
In-charge	Mr. SuriyaPrakash
Application	Sterilization of Media, glaswares and instruments for Tissue culture work and microbial culturing

Autoclave

Name &Make	SDS Page, Gel Electrophoresis, 2D Electrophoresis, Western and Northern Blotting and Gel Rocker. MX 1251-01 (Medox Biotech India Pvt Ltd , Chennai)
Installation year	Feb. 2010
Specifications	-
In-charge	Ms. Pamela Sinha
Application	For Proteins and DNA

Instrument Photo:

Electrophoresis Units

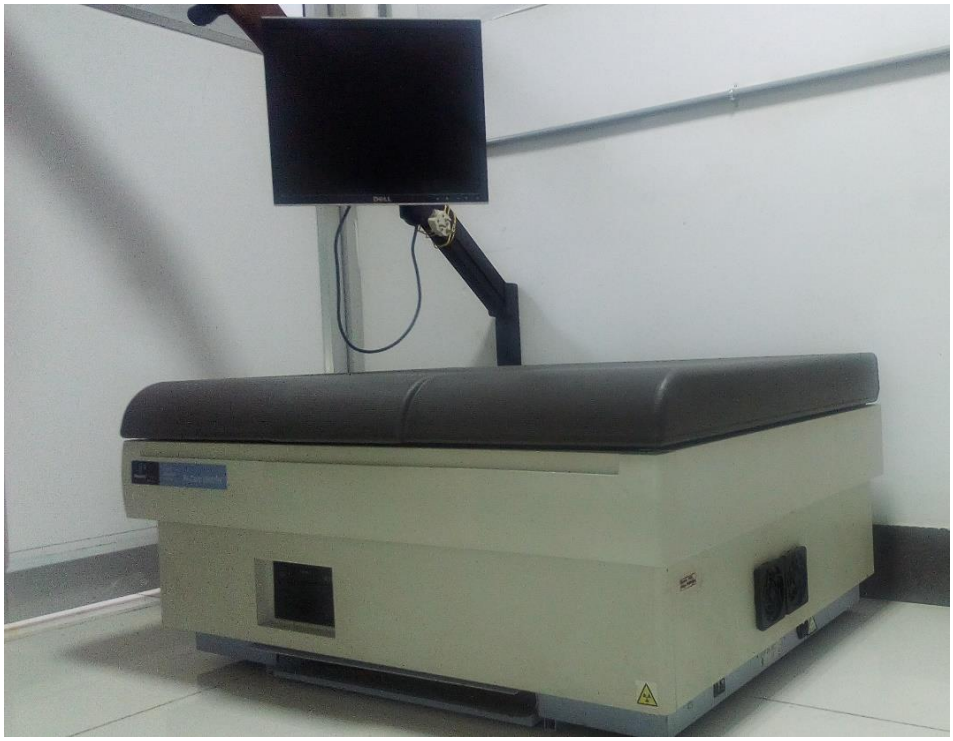
Department	Centre for Environmental and Nuclear Research
Name &Make	GPS and Survey Meter, Juno SB 100 (Trimble Inc, USA)
Installation	Jan 2010
Specifications	-
In-charge	Dr. Sathesh Kumar Annamalai
Application	Monitoring and Survey of Terrestrial Gamma Emitting Radionuclides To mark the longitude and latitude and to position the places

Instrument Photo:

GPS and Survey Meter

Name & Make	Liquid Scintillation Counter, Perkin and Elmar
Installation	2009
Broad Specifications	Tri-Carb 2800TR liquid scintillation counter It is a computer-controlled benchtop liquid scintillation analyzer for detecting small amounts of alpha, beta and gamma radioactivity. Includes computer with proloaded software. Specifications: Phosphor Screen Mode Red/Blue Fluorescence Chemifluorescence Dimensions (HxWxD): 18.5" x 40.5" x 32" Power Consumption: <900 VA; 1,150 VA with temperature control option, Energy Range: 0–2,000 keV
In-charge	Prof. Kantha Deivi Arunachalam
Application	To quantify the radioactivity of low energy radioisotopes, mostly beta-emitting and alpha-emitting isotopes

Instrument Photo: Liquid Scintillation Counter



Name& Make	Phosphor Imager Storm 820 Phosphor Imager and Image Eraser
Installation Year	2009
Specifications	Large format imaging systems for filmless imaging Direct fluorescence for rapid and accurate quantification Includes ImageQuant software for data analysis
In-charge	Dr. Sathesh Kumar Annamalai
Application	Phosphorimager is used to scan a phosphor screen that has been exposed with a radioactive sample. Storage phosphor screens capture latent images produced by ionizing radiation (X-rays, b, and g emissions from isotopes such as 14C, 3H, 125I, 131I, 32P, 33P, 35S, etc.). The Image Eraser is used to erase latent images on phosphor storage screens to allow screen re-use.

Instrument Photo:

Phosphor Imager

Image Eraser

DEPARTMENT OF CHEMICAL ENGINEERING

Name of the equipment and make : ATOMIC ABSORPTION SPECTROPHOTOMETER, ELECTRONIC CORPORATION OF INDIA LIMITED

Year of installation : 2008

Broad specifications : Lamps: Sn, Co, Zn, Cu, Cr, Ni, Cd, Mn, Ti

Faculty member in charge / looking after the equipment : HOD

Picture of the equipment

Name of the equipment and make : FOURIER TRANSFORM INFRARED SPECTROSCOPE (FTIR), AGILENT TECHNOLOGIES

Year of installation : 2015

Broad specifications : 13 mm pellet die, 25 x 4mm kbr windowpress on demountablcellholder - 25mm

Faculty member in charge / looking after the equipment : Dr. S. Thenesh Kumar

Picture of the equipment

Name of the equipment and make : GAS CHROMATOGRAPH, AGILENT TECHNOLOGIES

Year of installation : 2015

Broad specifications : Capillary column: DB-5 30m, 0.2mm, 0.25µm

Faculty member in charge / looking after the equipment : Dr. S. Thenesh Kumar

Picture of the equipment

Name of the equipment and make : HIGH PERFORMANCE LIQUID CHROMATOGRAPHY, AGILENT TECHNOLOGIES

Year of installation : 2015

Broad specifications:

Infinity LC gradient system VL includes gradient pump with degasser (max pressure 400 bar) manual injector and variable wavelength detector. Eclipse AAA 4.6 x 150mm, 5 µm, Eclipse plus C18 Grd, 4.6xs12.5mm, 5 µm, 4pk, Chemstation.

Faculty member in charge / looking after the equipment : Dr. S. Thenesh Kumar

Picture of the equipment

DEPARTMENT OF CHEMISTRY

Name of the equipment and make : Gel documentation System - Gelstan (Mediccare)

Year of Installation : September 2016

Broad Specifications:

Gel documentation, Gel Stan 1312 Advances, electrophoresis bio-world, and dry bath.

Location:

Department of Chemistry, Instruments Room II (MCA Block)

Faculty member In charge/ looking after the equipment : Dr. M. Ganesh Pandian

Picture of the equipment

Name of the equipment and make : RV – 10 digital V, Rotary Evaporator,

Make: IKA, Germany

Year of Installation : August 2016

Broad Specifications:

Rotary evaporator with KNF Vacuum pump, and Indigenous Chiller.

Location:

Department of Chemistry, Research Laboratory 2 (MCA Block)

Faculty member In charge/ looking after the equipment : Dr. Baburaj Baskar

Picture of the equipment

Name of the equipment and make : Glove Box- Aero Glove Box

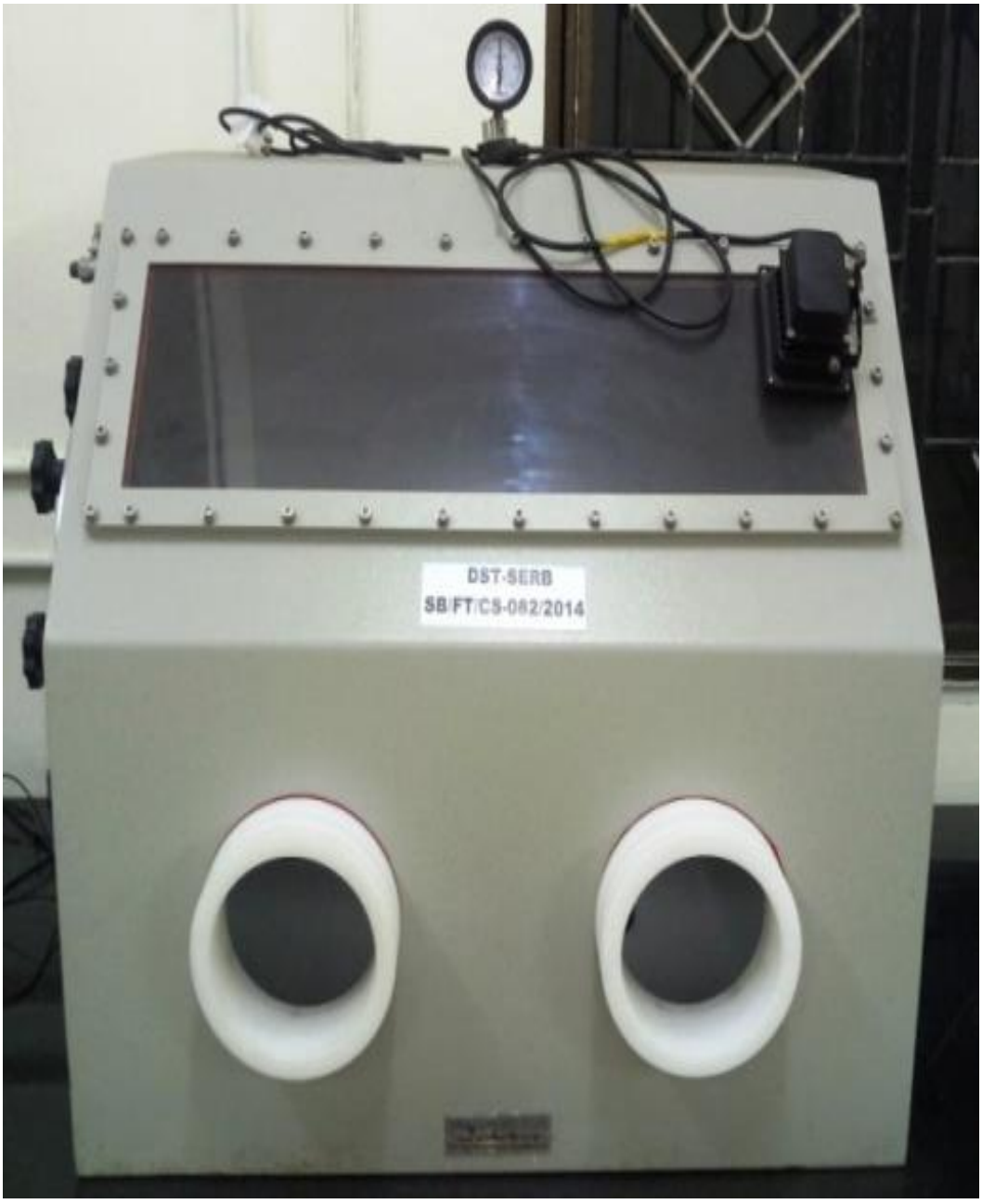
Year of Installation : August 2016

Broad Specifications : Glove box with single user.

Location: Department of Chemistry, Research Laboratory 3 (MCA Block)

Faculty member In charge/ looking after the equipment : Dr. Baburaj Baskar

Picture of the equipment



Name of the equipment and make : Lovibond-Spectrodirect with Thermoreactor, RD 125.

Year of Installation : September 2015

Broad Specifications:

Spectrodirect Wavelength range from 330 to 900 nm, The RD 125 reactor is fitted with 24 holes for 16mm diameter vials. With the voltage switch on the back 220 V and 110 V are selectable.

Location: Department of Chemistry, Instruments Room II (MCA Block)

Faculty member In charge/ looking after the equipment: Dr. M. Sasidharan

Picture of the equipment

Name of the equipment and make : Electrochemical work station, Bio Logic SP-300

Year of Installation : January-2015

Broad Specifications:

2 channels, Compliance: ±12 V up to ±49 V with booster, Control voltage: ±10 V upto±48 V with booster Potential resolution: 1 μV, EIS measurement: 10 μHz – 3 MHz (1%, 1°), 10 μHz – 7 MHz (3%, 3°)

Location : Department of Chemistry, Instruments Room II (MCA Block)

Faculty member In charge/ looking after the equipment : Dr. M. Sasidharan.

Picture of the equipment:

Name of the equipment and make : Super fit Rotary evaporator, SuperVac

Year of Installation : April-2016

Broad Specifications:

Rotaryevaporator with high efficient vaccum pump and digital rpm display, bath with digital temperature controller.

Location : Department of Chemistry, Research Laboratory 2 (MCA Block)

Faculty member In charge/ looking after the equipment : Dr. S. Ganesan

Picture of the equipment

Name of the equipment and make : Thermo Gravimetric Analyzer, Netzsch-STA 2500 Regulus.

Year of Installation : March 2015

Broad Specifications:

Maximum sample temperature:1600°C, Furnace : RT to 1600°C (heating rate 0.001 to 50 K/min) Temp precision: 0.3K Thermocouple: Type S, Atmosphere: Vaccum- tight 10-4 m bar

Location : Department of Chemistry, Instruments Room II (MCA Block)

Faculty member In charge/ looking after the equipment : Dr. SoumyajitGhosh

Picture of the equipment

Name of the equipment and make : Double beam UV-Vis Absorption Spectrometer, Labman, 1900S

Year of Installation : February 2015

Broad Specifications:

Optical SystemDouble Beam, Grating 1200 lines / mm, WavelengthRange190 - 1100nm, Scanning SpeedFast, Medium & Low. Photometric Accuracy+0.3%T, Photometric Repeatability+ 0.2%TPhotometric Range -0.3-3A,0-200%.

Location : Department of Chemistry, Instruments Room II (MCA Block)

Faculty member In charge/ looking after the equipment : Dr. M. Mariappan

Picture of the equipment

Name of the equipment and make : High Vacuum Pump, Delvac

Year of Installation : 2017

Broad Specifications : Highly Efficient Vacuum Pump

Location : Department of Chemistry, Research Laboratory 2 (MCA Block)

Faculty member In charge/ looking after the equipment : Dr. M. Mariappan

Picture of the equipment:

Name of the equipment and make : Hydrogenator- Shakthi Instruments

Year of Installation : August 2017

Broad Specifications : Hydrogenatorwith oscillator and heating controller (0-100° C)

Location : IIISM-SRM- IST-II floor

Faculty member In charge/ looking after the equipment : Dr. Baburaj Baskar

Picture of the equipment:

Name of the equipment and make : Potentiostat-galvanostat- Biologic SP-300

Year of Installation : April 2017

Broad Specifications:

Upto2 channels, Compliance: ±12 V up to ±49 V with booster, Control voltage: ±10 V upto±48 V with booster Potential resolution: 1 μV, EIS measurement: 10 μHz – 3 MHz (1%, 1°), 10 μHz – 7 MHz (3%, 3°)

Location : UB 13th floor, R-36

Faculty member In charge/ looking after the equipment : Dr. T. Maiyalagan

Picture of the equipment:

Name of the equipment and make : Electrochemical Work Station, Autolab

Year of Installation : November 2017

Broad Specifications:

Electrode connections 2, 3 and 4. Potential range +/- 10 V Compliance voltage +/- 10 V. Maximum current +/- 100 mA, Current ranges 10 mA to 10 nA Potential accuracy +/- 0.2 % Potential resolution 3 µV Current accuracy +/- 0.2 % Current resolution0.0003 % (of current range)Input impedance > 100 GOhm Potentiostat bandwidth 1 MHz Computer interface USB-Control software NOVA

Location : UB 13th floor, R-36

Faculty member In charge / looking after the equipment : Dr. T. Maiyalagan

Picture of the equipment

Name of the equipment and make : Muffle Furnace-Hasthas scientific

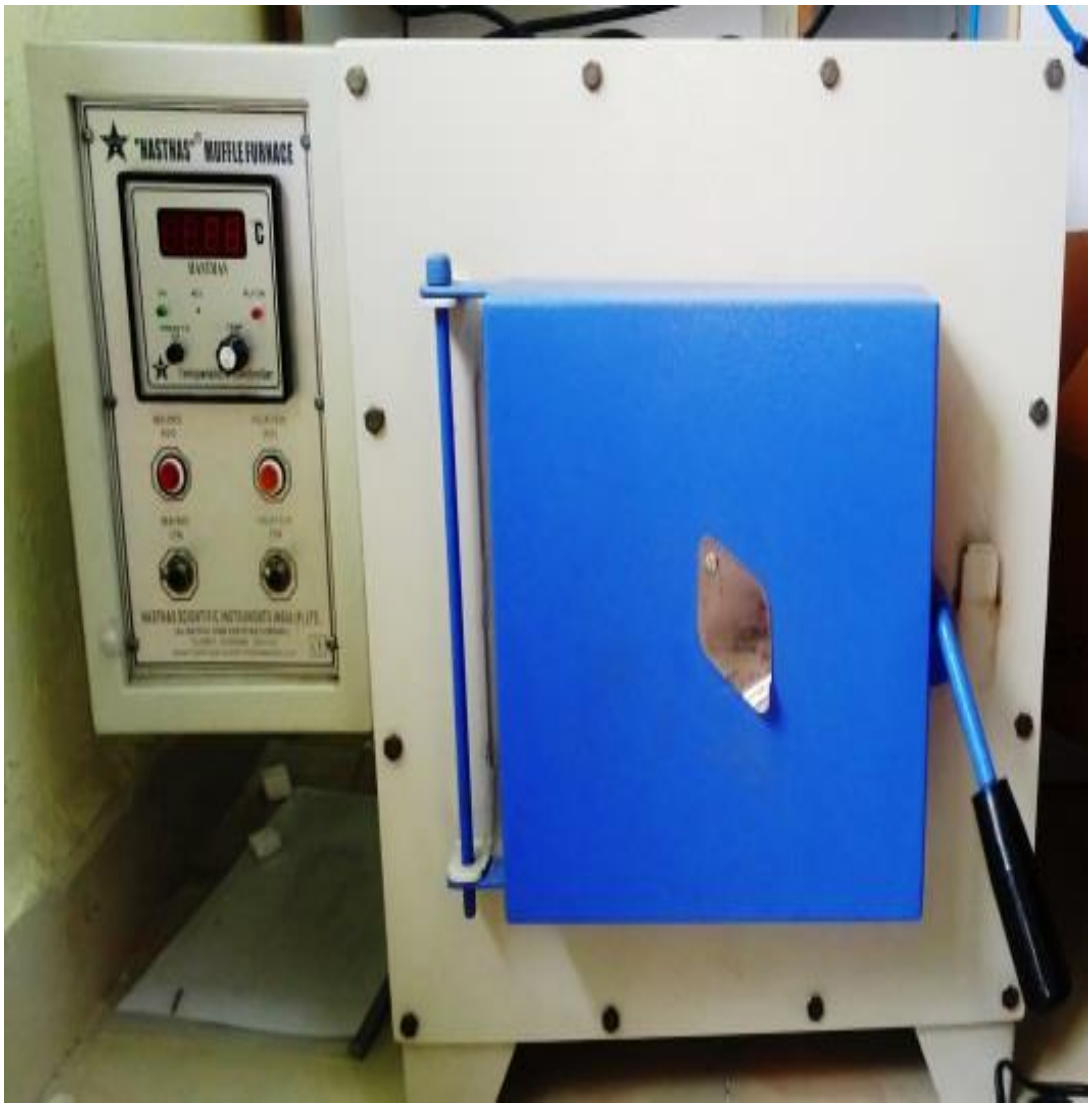
Year of Installation : March 2017

Broad Specifications : Heating temperature upto Max-1000°c

Location : New research building RB 2nd floor

Faculty member In charge/ looking after the equipment : Dr. T. Maiyalagan

Picture of the equipment



Name of the equipment and make : Tubular furnace-Ants Innovations.Pvt.Ltd.

Year of Installation : August 2017

Broad Specifications : Heating temperature Max-1000°c

Location : New research building RB 2nd floor

Faculty member In charge/ looking after the equipment : Dr. T. Maiyalagan

Picture of the equipment

Name of the equipment and make : Digital ultrasonic cleaner with lid timer & heater

Year of Installation : March 2017

Broad Specifications : Heating from ambient to 80° C with digital timer.

Location : New research building RB 2nd floor

Faculty member In charge/ looking after the equipment : Dr. T. Maiyalagan

Picture of the equipment

Name of the equipment and make : AC System Source Meter, Tektronix

Year of Installation : July 2017

Broad Specifications:

TEKTRONIX AC System Source Meter - Dual ChannelModel: 2612B IManual Triple Channel DC Power SupplyModel : 2231A-30-3.

Location : New research building RB 101

Faculty member In charge/ looking after the equipment : Dr. Ashok K. Sundramoorthy

Picture of the equipment

Name of the equipment and make : Furnace, Model: ANTS Lab SplitTube Furnace

Year of Installation : May 2017

Broad Specifications : High Temperature split tube furnace upto 1200° C

Location : New research building RB 101

Faculty member In charge/ looking after the equipment : Dr. Ashok K. Sundramoorthy

Picture of the equipment

Name of the equipment and make : Probe Station- Keithley and Hydro PNEO Vac Technologies.

Year of Installation : July 2017

Broad Specifications:

Probe Station: X, Y, Z movement of at least 7mm with a precision of 0.5mm per turn with Tungsten probe to measure DC Current with magnetic Base, Probe station-X, Y, Z movement of at least 7mm with a precision of 0.5mm per turn with Tungsten probe to measure DC Current with magnetic Base.

Location : New research building RB 101

Faculty member In charge / looking after the equipment : Dr. Ashok K. Sundramoorthy

Picture of the equipment

Name of the equipment and make : Electrochemical Analyzer & RRDE-CHI608E-3A

Year of Installation : 2018

Broad Specifications:

Size 190 x (Base: 230, Body: 120) x 400 mm Weight 6 kg Rotational range 100 to 8,000 rpm Rotation stability Error, < 1% at 100 to 1,000 rpm < 0.5% at > 2,000 rpm Ring/Disk insulation resistance> 10 M ohm Electrode to lead pin contact resistance 5 ohm Rotator shaft Stainless steel Motor 12 V, ironless core, low inertial DC servo Power 100-240 VAC, 50/60 Hz Operating temperature 10 to 50°C Relative humidity ≤ 80% Inlet gas pressure 5 psi (34 KPa) maximum Remote control One volt corresponds to 1,000 rpm Motor ON/OFF TTL or relay input to back panel connection Purge TTL or relay input to back panel connection

Location : New research building, RB 101

Faculty member In charge/ looking after the equipment : Dr. Ashok K. Sundramoorthy

Picture of the equipment:

Name of the equipment and make : Cyclic VoltammetryK Lyte

Year of Installation : August 2017

Broad Specifications:

Linear Sweep Voltammetry, Cyclic Voltammetry Chronoamperometry Pulsed Voltammetry (SCP, NPV, DPV & SWV) OCP Measurement Tafel Analysis Linear Polarization

Location : New research building, RB 101

Faculty member In charge/ looking after the equipment : Dr. Ashok K. Sundramoorthy

Picture of the equipment

Name of the equipment and make : X86 Server,Tyrone – Camarero- DS30OTR-28R

Year of Installation : August 2017

Broad Specifications:

Intel Broadwell Microarchitecture, Processor – Intel – Xeon - E5-2697 V4 Core – 18, Processor Speed – 2.3GHz 64 bit, Chipset Type – Intel C612 Processor Main Features – Hyper –Threading Technology, Intel QuickPath Interconnect, Intel Turbo Boost Technology 2, Cache Per Processor - 45MB Level 3, DDR4 SDRAM Memory Speed – 2400MHz ,Memory – 512 GB, Max Memory Supported – 1536 GB,storage:2x4TB SAS 7200K RPM 3.5"

Location : HPCC, SRM IST.

Faculty member In charge/ looking after the equipment : Dr. M. Prakash

Picture of the equipment

Moon Server

Name of the equipment and make : Centrifuge- REMI-R24

Year of Installation : July 2017

Broad Specifications:

Stepless speed regulator with zero start interlock, Digital speed indicator Dynamic brake, 0-99 minutes digital count down timer, Imbalance detector with cutoff, Safety lid interlock to prevent cover opening during centrifugation.

Location : UB 13th floor, 1301 Lab-4

Faculty member In charge/ looking after the equipment : Dr. Swami Anita Subhash

Picture of the equipment:

Name of the equipment and make : Bath Sonicator, Labman

Year of Installation : July 2017

Broad Specifications:

Capacity6.5 L, Temp. Range RT to 70^{o} c, Dimensions 320*260*100 Power 150 watts Time Range 0-90 min Rated supply 170 to 27 vac

Location : UB 13th floor, 1301 Lab-4

Faculty member In charge/ looking after the equipment : Dr. Swami Anita Subhash

Picture of the equipment:

Name of the equipment and make : Electrochemical Analyzer & RRDE-CHI608E-3A

Year of Installation : July 2017

Broad Specifications:

Electrochemical Workstation with Potentiostat / Galvanostat Latest Windows Based Acquisition s/w also includes power supply 220V/50HzInterface Cable for USB Port, Cell Cable, Manuals & Installation Licensed & Full version of software for Electrochemistry & all the techniques Rotating Ring Disk Electrode Apparatus with purge & stir facility Integration of control unit and rotator and Compact size and easy operation Both remote and manual operations of rotating and purging system Various kinds of working electrodes and easy replacing procedure

Location : UB 13th floor, 1301 Lab-4

Faculty member In charge/ looking after the equipment : Dr. Swami Anita Subhash

Picture of the equipment:

Name of the equipment and make : Powder X-ray Diffractometer, PANalytical, Xpert^3

Year of Installation : September 2017

Broad Specifications:

PANalytical, Xpert^{3}powder, X-ray Diffractometer enabled with CRISP technology, pneumatic shutters and beam attenuators, 2nd generation PreFIX technology.

Location : Department of Chemistry, Instruments Room 1 (MCA Block)

Faculty member In charge/ looking after the equipment : Prof. Dr. M. Sasidharan.

Picture of the equipment:

Name of the equipment and make : UV Reactor, LUZCHEM- LZC-4V

Year of Installation : 2017

Broad Specifications:

Dimensions-External: 18" wide, 21" deep (with exhaust), 16.5" high (46 x 53 x 42 cm) Internal: 12" wide, 12" deep and 8.5" high (30 x 30 x 22 cm) Power Rating: 110 VAC/220 VAC, 50/60 Hz cycle, 3 Amps Ships with North American-style power cable Ambient Temperature: Must be between 10ºC and 35ºC Humidity: 0% and 95% (non-condensing) Chamber Temperature: Maintained to 4-5ºC above room temperature

Location : Department of Chemistry, Research Laboratory 4 (MCA Block)

Faculty member In charge/ looking after the equipment : Dr. Soumyajit Ghosh

Picture of the equipment

Name of the equipment and make : Mixer Mill, MM 400, RETSCH

Year of Installation : 2017

Broad Specifications:

Reproducible, efficient grinding, mixing and homogenization in seconds powerful grinding by impact and friction, up to 30 Hz for up to 20 samples per run 3 different grinding modes (dry, wet or cryogenic) screw-top grinding jars for leak-proof grinding 9 SOPs can be stored wide range of accessories including various jar and ball sizes, adapter racks for single use vials and tubes, grinding tool materials

Location : Department of Chemistry, Research Laboratory 4 (MCA Block)

Faculty member In charge/ looking after the equipment : Dr. Soumyajit Ghosh

Picture of the equipment:

Name of the equipment and make : Melting Point Apparatus, Veego

Year of Installation : 2017

Broad Specifications:

MODEL:VMP-PM Specifications: Incorporated with magnifying lens permitting clear view of sample under test. Validation Program for Standard samples.8 Operator names can be stored. Graphic LCD Display to display all test parameters & test instructions. Memory to store around 100 test records. Facility for testing UNKNOWN sample. Temperature range: Room temperature +2 °C - 300 °C. Temperature resolution: 0.1 C. Heating rate: 1 °C/minute (Starts from set temperature – 10 °C). Input: Tactile Keyboard + PS - 2 keyboard.

Location : Department of Chemistry, Research Laboratory 4 (MCA Block)

Faculty member In charge/ looking after the equipment : Dr. Soumyajit Ghosh

Picture of the equipment:

Name of the equipment and make : Microscope Camera MC170 HD, Leica.

Year of Installation : 2017

Broad Specifications:

5 MP HD Microscope Camera Leica MC170 HD. HD Digital microscope camera with c-mount interface that provides a full high definition live image with up to 30fps and a standard capture resolution of 5Mpixels. It produces full-color still images for all microscopic applications. The camera can be used standalone without PC or Connected via USB cable. In PC mode the camera offers full compatibility with LAS and its many add-on modules like interactive measurement or extended focus.

Location : Department of Chemistry, Research Laboratory 4 (MCA Block)

Faculty member In charge/ looking after the equipment: Dr. Soumyajit Ghosh

Picture of the equipment:

Name of the equipment and make : Polarizing Microscope, BA310 POL, Motic

Year of Installation : 2017

Broad Specifications:

Widefield high eyepoint, N-WF10X/20mm, diopter adjustment on both eyepieces, Intermediate tube with rotatable analyzer 360º and Bertrand lens, focusable Quartz wedge, full λ and 1/4λ retardation plates Reversed quadruple nosepiece with click stops for precise magnification changes, individually centrable with one reference position CCIS EC Plan Strain-free objectives EC PL 4X/0.10, 10X/0.25, 40X/0.65-Spring, 60X/0.80-Spring Coaxial coarse and fine focusing system with 2 micron minimum increment with tension adjustment Vertical travel range 20mm 360º circular rotating stage with a diameter of 160mm, lockable position Focusable Rotatable polarizer, fixed on condenser carrier

Location : Department of Chemistry, Research Laboratory 4 (MCA Block)

Faculty member In charge/ looking after the equipment: Dr. Soumyajit Ghosh

Picture of the equipment

Name of the equipment and make : FT-IR, SHIMADZU IR TRACER-100

Year of Installation : 2018

Broad Specifications:

IR REGION 400-12500CM^{-1}, STANDARD KBr MODE, ATR MODE, SRM, DRS.

Location : New research building Ground floor, RB 004

Faculty member In charge/ looking after the equipment : Dr. L. Sivachandiran

Picture of the equipment

Name of the equipment and make : Gas Chromatograph, Claraus 580 & Perkin Elmer

Year of Installation : 2018

Broad Specifications:

The Gas Chromatography instrument is equipped with FID, TCD with online injection system

Location : Department of Chemistry, Instruments Room II (MCA Block)

Faculty member In charge/ looking after the equipment : Dr. L. Sivachandiran

Picture of the equipment:

Name of the equipment and make : High voltage probe- ZMHVP-ACDC &Zeal manufacturing and calibration services limited from Pune India

Year of Installation : 2018

Broad Specifications : The probe can measure AC/DC voltage from 0-40 kV

Location : Department of Chemistry, Instruments Room II (MCA Block)

Faculty member In charge/ looking after the equipment : Dr. L. Sivachandiran

Picture of the equipment:

Name of the equipment and make : Online NO and NO2 Gas analyzer OMGA -20170062 & Vasthi Instruments PVT.LTD

Year of Installation : 2018

Broad Specifications:

The NO/NO_2 can be detected in real-time using online analyzer

Location : Department of Chemistry, Instruments Room II (MCA Block)

Faculty member In charge / looking after the equipment : Dr. L. Sivachandiran

Picture of the equipment:

Name of the equipment and make : Tubular furnace, Jothi Industrial Instrument

Year of Installation : 2018

Broad Specifications : Maximum heating temperature 1000 °C

Heating zone 300 °C

Location: Department of Chemistry, Instruments Room II(MCA Block)

Faculty member In charge/ looking after the equipment : Dr. L. Sivachandiran

Picture of the equipment

Name of the equipment and make : High Voltage Power source, Jayanti transformers

Year of Installation : 2018

Broad Specifications:

AC High voltage power source with fixed operating frequency of 50Hz. Maximum voltage of 40 kV can be generated.

Location : Department of Chemistry, Instruments Room II (MCA Block)

Faculty member In charge/ looking after the equipment : Dr. L. Sivachandiran

Picture of the equipment

Name of the equipment and make : Oscilloscope DSOX2002A &Keysight Technology

Year of Installation : 2018

Broad Specifications: Device used to display and analyze the waveform of electronic signals

Location : Department of Chemistry, Instruments Room II (MCA Block)

Faculty member In charge/ looking after the equipment : Dr. L. Sivachandiran

Picture of the equipment

Name of the equipment and make : Mass Flow Controller, MC5SLM MFC & Alicat scientific Inc

Year of Installation : 2018

Broad Specifications:

For Non-Corrosive gas Maximum 2.0 LPM flow rate,an accuracy of ±0.8% at STP

Location : Department of Chemistry, Instruments Room II (MCA Block)

Faculty member In charge/ looking after the equipment : Dr. L. Sivachandiran

Picture of the equipment:

Name of the equipment and make : Mass Flow Controller, KOFLOC (MFC) DF-300

Year of Installation : 2018

Broad Specifications:

For Specific gas O2, NO, H2, CO2, CH4, N2 Maximum 0.100 -2.0 LPM flow rate respectively.

Location : Department of Chemistry, Instruments Room II (MCA Block)

Faculty member In charge/ looking after the equipment : Dr. L. Sivachandiran

Picture of the equipment:

Name of the equipment and make : Precision disc cutterfor CR2032 (Xiamen Tmax)

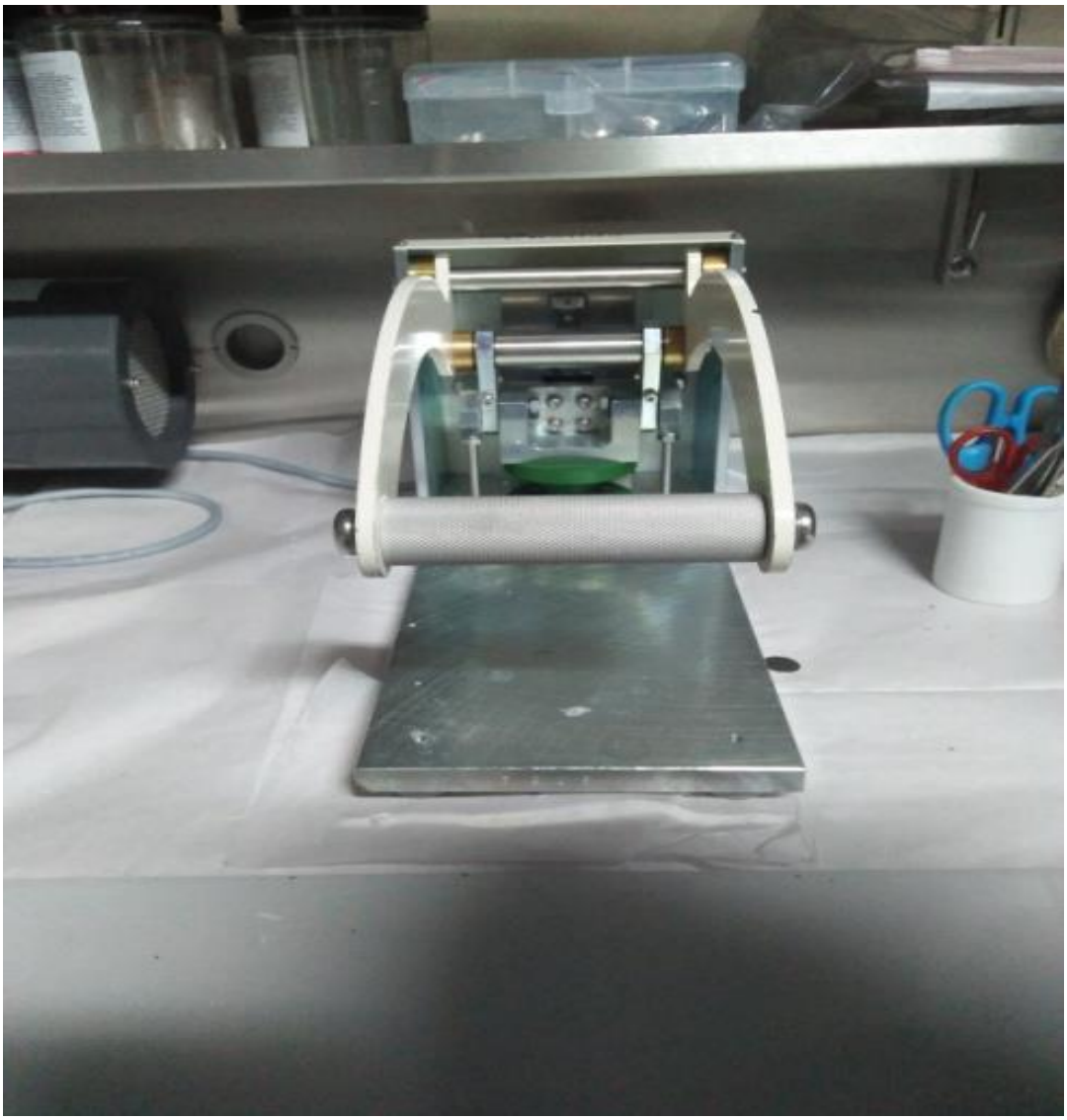
Year of Installation : 2018

Broad Specifications : Precision coin cell battery disc cutter machine

Location : New research building Ground floor, RB 004

Faculty member In charge/ looking after the equipment : Dr. R.M.Gnanamuthu

Picture of the equipment:



Name of the equipment and make : Ball Mill- Rajdhani Make.

Year of Installation : 2018

Broad Specifications : BALL MILL- RAJDHANI MAKE-

UPTO (1KG SS JAR)

Location : New research building RB 101

Faculty member In charge/ looking after the equipment : Dr. R.M.Gnanamuthu

Picture of the equipment:

Name of the equipment and make : Multi-Channel Battery Cycler System- WonA Tech battery cycler.

Year of Installation : 2018

Broad Specifications:

Multi-Channel Battery Cycler System WBCS3000K8 with Impedance Analyzer

Location : New research building RB 101

Faculty member In charge/ looking after the equipment : Dr. R.M.Gnanamuthu

Picture of the equipment:

Name of the equipment and make : Vaccum Pump- Technico

Year of Installation : 2018

Broad Specifications : HIGH EFFICENT VACCUM PUMP.

Location : Department of Chemistry, Research Laboratory3 (MCA Block)

Faculty member In charge/ looking after the equipment : Dr. S. Shanmugan

Picture of the equipment

Name of the equipment and make : Tubular Furnace –SuppuSusee Technologies.

Year of Installation : 2018

Broad Specifications : Tubular Furnace with temperature controller and heating upto1200°C

Location : Department of Chemistry, Research Laboratory 7 (MCA Block)

Faculty member In charge/ looking after the equipment : Dr. V. Kumaran

Picture of the equipment

DEPARTMENT OF CLINICAL PHARMACOLOGY

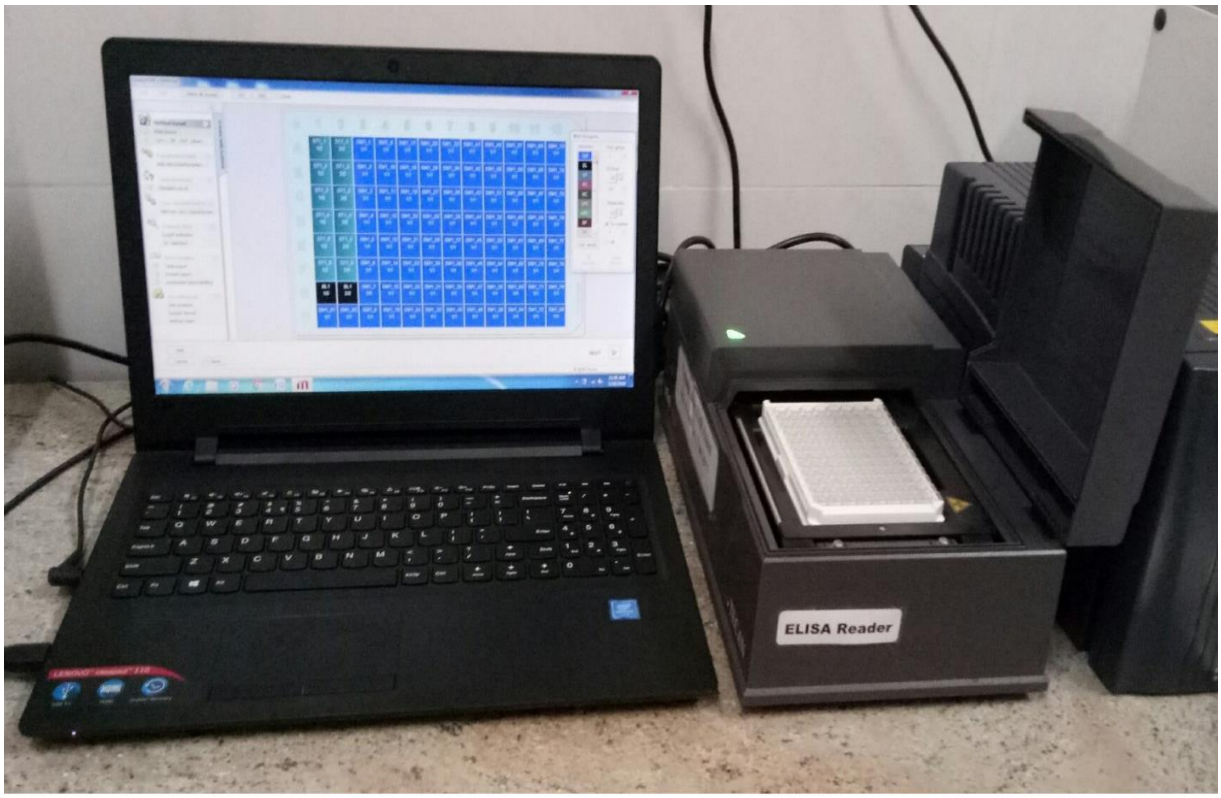
Name of the equipment and make : Infinite F50 ELISA Reader System (TECAN)

Year of Installation : 2017

Broad specifications : Plasma and serum samples for colorimetric assays and ELISA

Faculty member In charge/ looking after the equipment: Dr. Melvin George

Picture of the equipment



ELISA Reader

Name of the equipment and make : Labserv Washer (Thermo Fischer Scientific)

Year of Installation : 2017

Broad specifications : 96 well plate washer

Faculty member In charge/ looking after the equipment: Dr. Melvin George

Picture of the equipment

Microplate Washer

DEPARTMENT OF ELECTRONICS AND COMMUNICATION

Name of the equipment and make	: Advanced Design System (Software) / Agilent Technologies
Year of installation	: 2013
Broad specifications	: ADS – 2009, 5 user license

Faculty member in charge / looking after the equipment: J.Manjula

Picture of the equipment: NIL

Name of the equipment and make : PCB PROTOTYPING MACHINE,

Model No: SCIENTCH71

Broad specifications:

Work area: 200 mm x 150 mm, Min. drill hole size: 0.3 mm, Spindle speed: 25000 rpm, Min. cutting trace/space: 50 mm/s, Milling depth sensing: Micrometer, x/y driver: Stepper motor, Tool change: Manual, Tool holder: 1/8 inch, Power requirement: 230 V/ 50 Hz

Faculty member in charge / looking after the equipment : Dr.P.ESWARAN

Picture of the equipment

Name of the equipment and make : Software -Cadence EDA Tools

Broad specifications : Analog and Digital Custom IC design Tools,

Ver. 6.1.5,

i) IC-615 virtuoso

ii) MMSIM (Spectre)

iii) Assura

iv) Incisive

v) Encounter

Faculty member in charge / looking after the equipment: Mrs.J.Manjula

Picture of the equipment: NIL

Name of the equipment and make : Two number of Vector signal generator 5673 and vector signal analyzer 5663; National Instruments

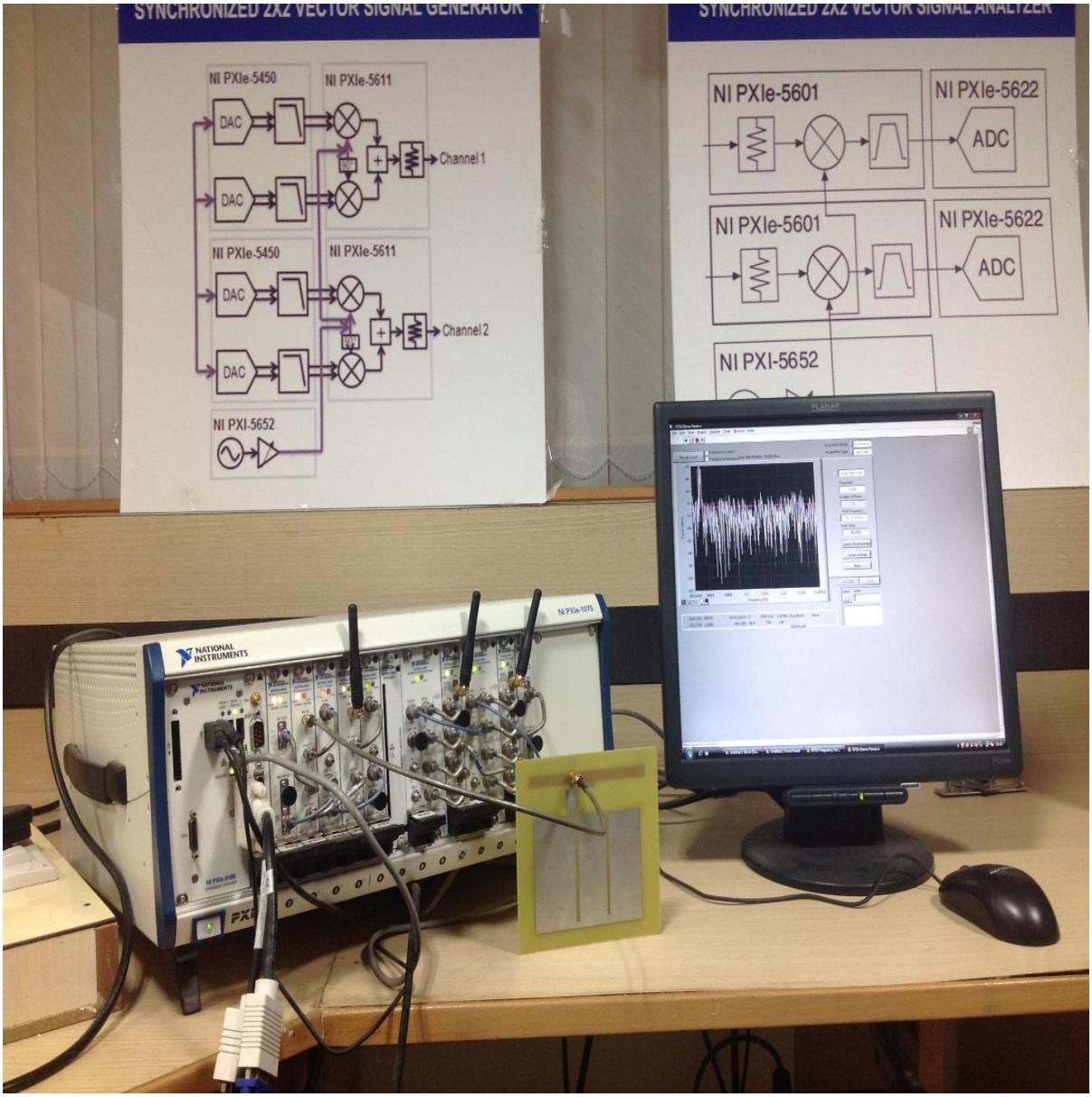
Broad specifications:

NI PXIe-1075 -18-Slot PXI Express Chassis system specification

SUBSYTEM	MODULES	SPECIFICATION
RF VECTROR SIGNAL GERATOR- NI PXIe-5673-2 units	NI PXie-5652-RF signal generator-1 unit NI PXie-5611 -I/Q Vector signal modulator-2 units NI PXie-5450 -400 MS/S -I/Q signal generator-2 units	wide-bandwidth 6.6 GHz RF vector signal generator (VSG) 85 MHz to 6.6 GHz frequency range More than 100 MHz of RF bandwidth Up to +10 dBm RF power -112 dBc/Hz phase noise at 10 kHz (1 GHz) Resolution 16 bits Output impedance 50 Ohms
RF VECTROR SIGNAL ANALYZER- NI PXIe-5663-2 units	NI PXie-5622-16 bit IF digitizer-2 units NI PXie-5652-RF signal generator-1 unit NI PXie-5601-RF signal down converter-2 units	Single stage heterodyne down converter 10 MHz to 6.6 GHz 50 MHz Instantaneous BW (3 dB) 112 dBc phase noise (10 kHz) at 1 GHz 79 dB SFDR List mode capability for 250 user tuning 16 bit ADC ±0.65 dB typical amplitude accuracy
SOFTWARE INSTALLED	Lab View 2010	Modulation tool Kit GPS signal generator and analyzer WLAN Signal generator and analyzer Fixed WMAX Signal generator and analyzer LTE Signal generator and analyzer
FPGA Module	NI FlexRIO7965R	FPGA - Virtex-5 SX95T FPGA Slices- 14,720 FPGA DSP Slices- 640 FPGA Memory (Block RAM)- 8,784 kbit Onboard Memory (DRAM)- 512 MB

Faculty member in charge / looking after the equipment: VIJAYAKUMAR.P

Picture of the equipment



Name of the equipment and make : Logic AnalyzerWavesurfer 3024- 200 Mhz Oscilloscope, 16 channel - Teledyne LeCroy Make

Year of installation : 2014

Broad specifications:

Vertical - Analog Channels	
Analog Bandwidth (Max)	200 MHz
Analog Bandwidth @ 50 Ω (-3 dB) (ProBus Input)	200 MHz (≥2.35 mV/div)
Analog Bandwidth @ 1 MΩ (-3 dB) (ProBus Input)	200 MHz (typical)
Rise Time (10-90%, 50 Ω)	1.75 ns (Typical)
Input Channels	4
Vertical Resolution	8 bits; up to 11 bits with enhanced resolution (ERES)
Sensitivity	1 MΩ: 1 mV/div - 10 V/div, fully variable; 50 Ω: 1 mV/div - 1 V/div, fully variable
DC Vertical Gain Accuracy (Gain Component of DC Accuracy)	±(1.5%) Full Scale, offset at 0 V > 5mV; ±(2.5%) < 5mV
Channel-Channel Isolation	40 dB from DC - 100 MHz 33 dB > 100 MHz (For any two ProBus input channels, same v/div settings, typical)
Offset Range	50Ω ±2V: 1mV/div-19.8mV/div ±5V: 20mV/div-100mV/div ±20V: 102mV/div-198mV/div ±50V: 200mV/div-1V/div 1MΩ ±2V: 1mV/div-19.8mV/div ±5V: 20mV/div-100mV/div ±20V: 102mV/div-198mV/div ±50V: 200mV/div-1V/div ±200V: 1.02V/div-1.98V/div ±400V: 2V/div-10V/div
Maximum Input Voltage	1 MΩ: 400 V max (DC + Peak AC ≤ 10 KHz), 50 Ω: 5 VRMS
Input Coupling	AC, DC, GND
Input Impedance	1 MΩ ± 2.0% || 16 pF, 50 Ω ± 2.0%
Bandwidth Limiters	20 MHz
Measurement Functionality	Display up to 6 measurement parameters together with statistics, including mean, minimum, maximum, standard deviation, and total number. Each occurrence of each parameter is measured and added to the statistics table. Histicons provide a fast, dynamic view of parameters and waveshape characteristics. Parameter gates define the location for measurement on the source waveform.
Measurement Parameters - Horizontal + Jitter	Delay (from trigger, 50%), Duty Cycle, Edges , Fall Time (90-10, 80-20), Frequency, Period, Δ Period, Phase, Rise Time (10-90, 20-80), Skew, Width+, Width-

Measurement Parameters - Vertical	Amplitude, Base, Maximum, Mean, Minimum, Peak-to-Peak, RMS, Std. Deviation, Top.
Measurement Parameters - Pulse	Area, Base, Fall Time (90-10, 80-20), Overshoot (positive, negative), Rise Time (10-90, 80-20), Top, Width+, Width-
Math Tools	
Math Functionality	Display up to 2 math functions traces (F1-F2). The easy-to-use graphical interface simplifies setup of up to two operations on each function trace, and function traces can be chained together to perform math-on-math.
Math Operators - Basic Math	Average (summed), Average (continuous), Difference (-), Envelope, Exp (base e, base 10), Floor, Invert (negate), Log (base e, base 10), Product (x), Ratio (/), Reciprocal, Rescale (with units), Roof, Sum (+).
Math Operators - Filters	Enhanced resolution (to 11 bits vertical)
Math Operators - Frequency Analysis	FFT (power spectrum, magnitude), up to full record length. Select from Rectangular, VonHann, Hamming, FlatTop and Blackman Harris windows.
Math Operators - Functions	Derivative, Integral, Invert (negate), Rescale (with units), Square, Square root, Zoom (identity).

Faculty member in charge / looking after the equipment: Dr.J.Selvakumar

Picture of the equipment

Name of the equipment and make : RF Vector Network analyzer- N9926A FieldFox Handheld Microwave Vector Network Analyzer, 14 GHz

Key Features and Functions

- 14 GHz max frequency
- Carry the world's most integrated handheld T/R VNA analyzer
- Expand your measurement flexibility with optional 2-port VNA, time-domain, vector voltmeter, cable and antenna analyzer and more
- Save time by simultaneously measuring all four S-parameters with a single connection
- Perform accurate testing with QuickCal, full 2-port unknown thru Cal, TRL
- Easily measure average and pulse power with a USB power sensor
- Lightest handheld VNA at only 6.6 lb. (3.0 kg)

Broad Specifications

Maximum Frequency	14 GHz
CAT/VNA Start Frequency	30 kHz
Dynamic Range	91 dB
Output Power	-4 dBm
Trace Noise	0.004 dBrms
Number of Built-In Ports	2 ports
Best Speed at 201 Point, 1 Sweep	210 ms

Instrument Type	Vector Network Analyzer
Cable and Antenna Analzyer	Yes - Standard
Spectrum Analyzer	No
Vector Network Analyzer	Yes - Optional
Applications	• S-Parameters • Distance-To-Fault • Cable Trimming • Return Loss • Insertion Loss/Gain • Power Measurements
Components	• Cables • Antennas • Amplifiers • Filters • 75 Ohm CATV Devices
Additional CAT/VNA Based Features	• QuickCal (Subset) • Vector Voltmeter • Mixed-Mode S-Parameters • TDR Cable Measurements
Additional SA Based Features	Built-In Power Meter
System Features	• Built-In DC Source • GPS Receiver - Internal Only
Handheld / Modular	Yes

Faculty member in charge / looking after the equipment: Prof.B.Ramchandran

DEPARTMENT OF DIVISION OF FISHERIES BIOTECHNOLOGY AND MOLECULAR BIOLOGY

Name of the equipment and make : 2D Gel Electrophoresis, SCIE-PLAS, UK

Year of Installation : 2016

Broad Specifications : To separate the protein based on IEF and molecular weight

Faculty member In charge/ looking after the equipment : Dr. A. JesuArockiaraj PhD

Picture of the equipment

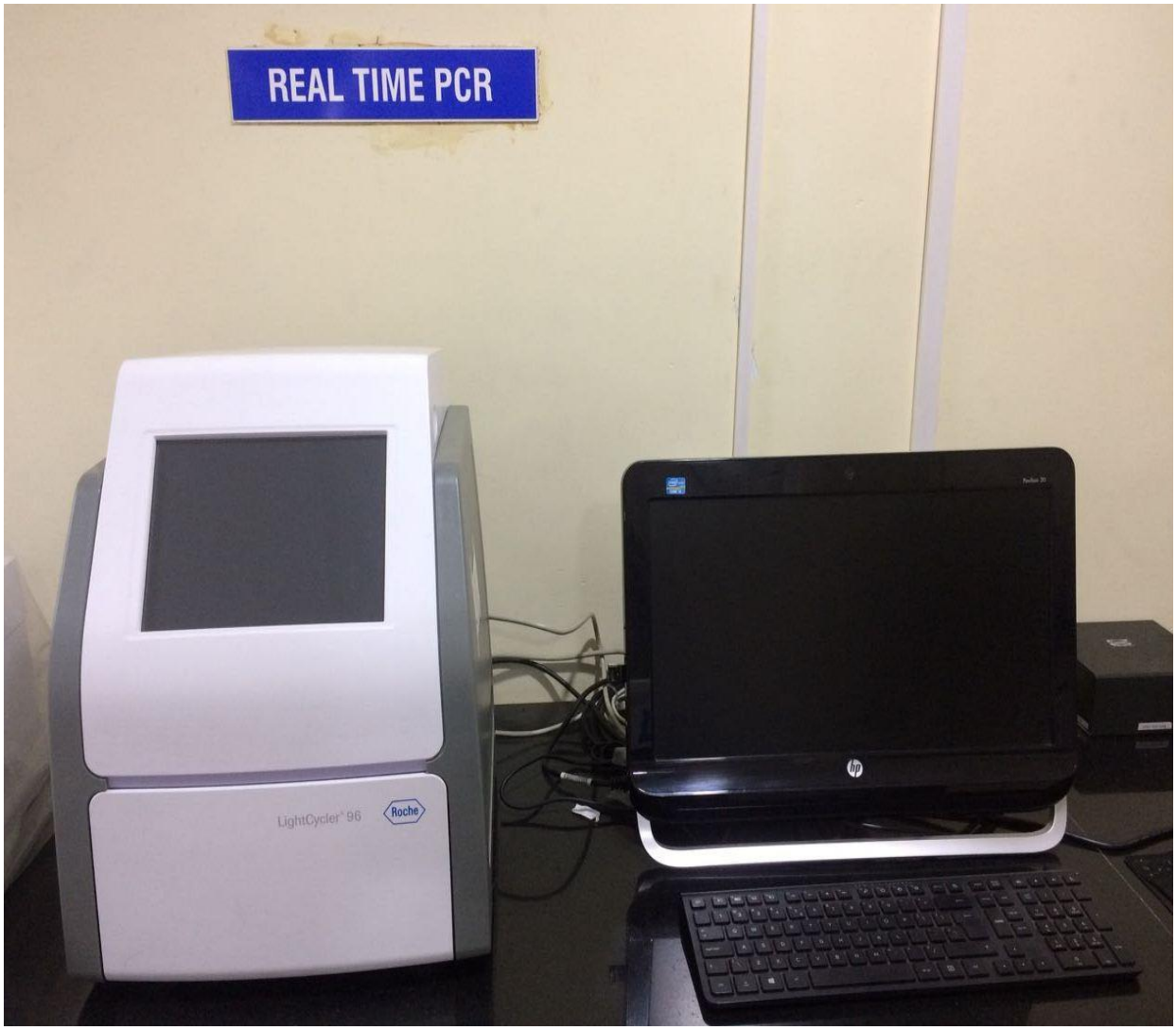
Name of the equipment and make : Quantitative Real Time PCR-Thermo Cycler 96, Roche, Switzerland

Year of Installation : 2014

Broad Specifications: Relative Quantification of mRNA Expression, DNA Amplification

Faculty member In charge/ looking after the equipment: Dr. A. JesuArockiaraj PhD

Picture of the equipment



Name of the equipment and make : CO_2, Heal Force, China

Year of Installation : 2017

Broad Specifications : To grow and maintain microbiological cultures or cell cultures.

Faculty member In charge/ looking after the equipment : Dr. A. JesuArockiaraj PhD

Picture of the equipment

Name of the equipment and make : Inverter Microscope, Cosco Lab, India

Year of Installation : 2017

Broad Specifications : For Microscopic Examination

Faculty member In charge/ looking after the equipment : Dr. A. JesuArockiaraj PhD

Picture of the equipment

Name of the equipment and make : UV Spectrophotometer UV-1800, Shimadzu, Germany

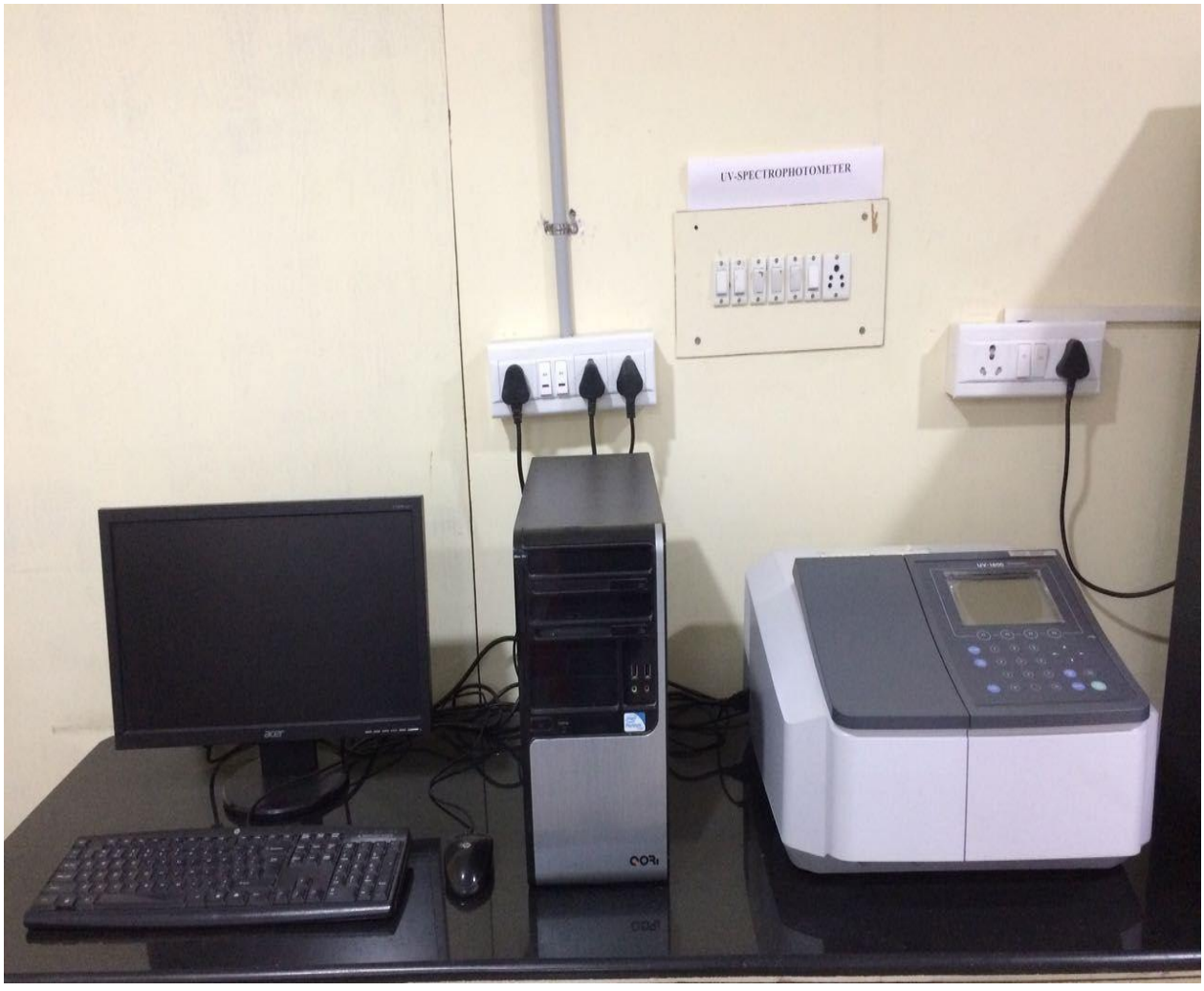
Year of Installation : 2015

Broad Specifications:

For the quantitative determination of different analytes, such as transition metal ions, highly conjugated organic compounds, and biological macromolecules

Faculty member In charge/ looking after the equipment : Dr. A. JesuArockiaraj PhD

Picture of the equipment



DEPARTMENT OF FOOD PROCESS ENGINEERING

Name of the equipment and make : COLORISPECTROPHOTOMETER
Hunter associates Laboratory

IR Technology service pvt.ltd, Bangalore,India.

Year of installation : 2009

Broad specifications:

1. CQXE/SAV-2: Color quest XE Sensor, 220 V, 14,w/SAV option
2. EZMQC-INS: Easy Match Qc Software (Purchased/w/Inst)
3. EZMQC-key-parallel-INSEZMQC security key, parallel w/INS
4. B02-1005-172 Reflectance shelf assembly
5. C02-1005-481 Assembly, transmission cell holder
6. 04-4592-00 optical cell 20MM
7. 13-8573- 40 optical cell 10MM

   1 carton 29x21x22inches, 1 carton 18x12x7 inches

Faculty member in charge / looking after the equipment: Mrs.V.Nithyalakshmi / P.Nishanthi

Picture of the equipment:

Name of the equipment and make : Super critical Fluid Extractor SFE100ml (Tharsfc), Inexus biotech Pvt.Ltd., T.Nagar, Chennai, Tamilnadu.

Year of installation : 2010

Broad specifications: System, SFE 100ml w/10ml co-solv 220v Bath, 10L, 230v, 50hz, refrig & heated

Faculty member in charge / looking after the equipment: Dr. N.Manimehalai / P.Nishanth

Picture of the equipment

Name of the equipment and make : Tall Type Spray Dryer SM Scientech,Kolkata

Year of installation : 2010

Broad specifications:

1. inlet air filter
2. The main chamber is made of stainless steel AISI -304 having nominal diameter 300mm and nominal length 1000mm, with conical bottom.
3. The main chamber with air disperser at eh ceiling which induces circular motion of droplets hot air flow mixture facilitating spherical shape formation
4. The cyclone is also made of stainless steel AISI-304

Faculty member in charge / looking after the equipment: Dr. R.Preetha / P.Nishanthi

Picture of the equipment:

DEPARTMENT OF GENETIC ENGINEERING

Name of the equipment and make : ABI 3130 XL Genetic Analyzer & Applied Bio systems, CA, USA.

Year of installation : 2007

Broad specifications:

The 3130xl uses a 16 capillary array which has a 24 hr throughput of 384 samples. It uses Performance Optimized Polymer (POP) that saves set-up time, actual polymer usage and prevents accidents with expensive arrays. All in all, it makes running various modules on the one machine more user-friendly.

- Capillary Electrophoresis
- Automated Polymer Delivery System
- Enhanced Thermal Control
- High-Performance Capillaries and Electro-osmotic Flow Suppression (EOF) Polymers
- Detection Method Designed for Sensitivity
- Spectral Array Detection
- Complete System Optimized for Multiple Applications
- One Polymer, One Array, Maximum Performance
- System Software Suite included for running and analysis

Faculty member In charge / looking after the equipment: Dr. M. Parani

Picture of the equipment

Name of the equipment and make : PHOSPHOR Imager &GE Health Care, USA

Year of installation : 2008

Broad specifications : Strom – 820WO – 1343790, 117739

Faculty member in charge / looking after the equipment: Dr. Rexarunraj

Picture of the equipment

Name of the equipment and make : Liquid Scintillation Counter &Perkin Elmer, USA

Year of installation : 2008

Broad specifications : TRI CARB 2800 TR – DG05083937

PERKIN ELMER

Faculty member In charge / looking after the equipment: Dr. D. Rex Arunraj

Picture of the equipment

Name of the equipment and make : Green House&Saveer Biotech Ltd, India

Year of installation : 2009

Broad specifications : 5 m height, Thermostat controlled fan, Cooling pad, Trinkle Spray Relative humidity 60-80%

Faculty member In charge / looking after the equipment: Dr. B.Usha

Picture of the equipment

Name of the equipment and make : TissueLyser II &Qiagen, Germany.

Broad specifications:

- Tissue lysis using High-speed shaking of samples in 1.2 ml collection tubes or 2 ml microcentrifuge tubes with stainless steel or glass beads
- Convenient and secure disruption process. Adapter sets optimized for high-throughput disruption. Wide range of accessories available (e.g. Grinding jar set to process large samples). Reproducible results with difficult-to-lyse tissues. Front-end solution for QIAGEN automation.
- Variable speeds from 3 to 30 Hz (180–1800 oscillations/minute)

Faculty member in charge / looking after the equipment: Dr. M. Parani

Picture of the equipment

Name of the equipment and make : Gene Gun &PDS 1000 - He system, BioRad , USA

Broad specifications : 1 and 1.6 uM gold carrier
900 and 1100 psi rupture disc

Faculty member in charge / looking after the equipment: Dr.M.Parani

Picture of the equipment

Name of the equipment and make : Asis Karyotyping System and Olympus Microscope & Applied Spectral Imaging (ASI), Japan

Broad specifications:

Gen ASIs is the powerful solution for G/R/C/Q-banding analysis. Gen ASIs Band View allows to quickly and efficiently analyze chromosome pattern of patient samples.

Faculty member in charge / looking after the equipment: Dr. M Parani

Picture of the equipment

Name of the equipment and make : Synergy Htx Multimode Microplate Reader (SILFTA) & Biotech Instruments Inc, USA

Broad specifications:

- Detection mode: Fluorescence, time resolved fluorescence, luminescence, UV visible absorbance
- Absorbance range 200- 999nm
- Excitation filter 530/25 NM, 590/20 NM, 590/35 NM, 645/40 NM
- Gen 5 software
- TAKE 3 – multi volume plate, upto 16 2 µl samples, cuvette provided
- Biocell patented 1cm quartz cuvette
- ELISA Washer volume ranging from 25- 3000 µl/ well

Faculty member in charge / looking after the equipment: Dr. M. Parani

Picture of the equipment

Name of the equipment and make : Protein Chromotography & Bio-Rad Laboratories, Inc. USA

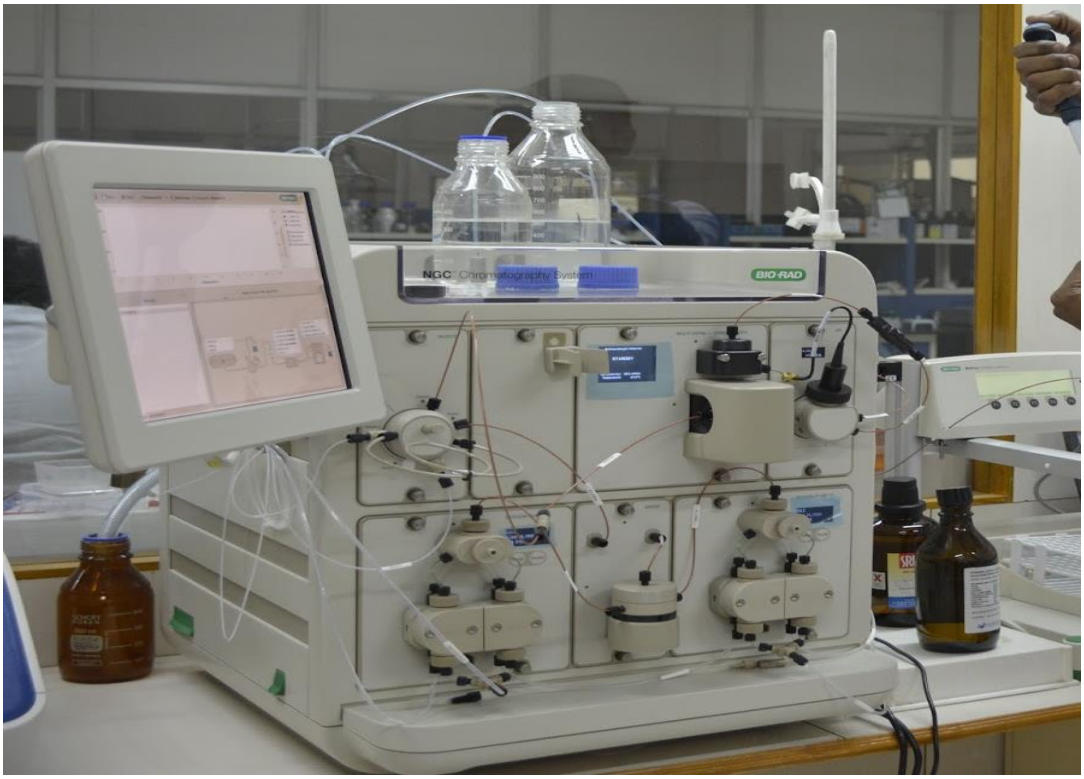
Year of installation : 2014

Broad specifications:

- NGC Quest Plus – all-purpose purification of biomolecules
- Flow rate 0.001- 10ml/min at 3650 psi (25.2 MPa)
- Multi wavelength detector 190-800nm
- Simultaneous multi wavelength detection upto four wavelengths
- pH valve module
- Fraction Collector
- 96 well plates to 20 mm tubes
- NGC fitting kit
- Bioresin media, biorex media, DEAE media
- Column 50 and 100 cm height
- Flow adapters of 1.0, 1.5, 2.0 cm

Faculty member in charge / looking after the equipment: Dr. M. Parani

Picture of the equipment



Name of the equipment and make : Semi Preparative HPLC System with Accessories & Waters, Austria

Broad specifications:

- 515 Binary Pump System
- Temperature Control Module
- Pump control Module
- Column Cabin
- Photo diode Array 2998 (190nm to 900nm)
- Fraction Collector III

Faculty member in charge / looking after the equipment: Dr. M. Parani

Picture of the equipment

DEPARTMENT OF INTERDISCIPLINARY INSTITUTE OF INDIAN SYSTEM OF MEDICINE

Name of the equipment and make : Atomic Absorption Spectrometer (Lab India)

Year of Installation : 2012

Broad Specifications : Flame, Graphite and Hydride furnace

Faculty member In charge/ looking after the equipment: Mr.Pandiyan & Mrs. Nandhini

Picture of the equipment:

Name of the equipment and make : Automated Biochemical Analyzer (Transasia, India).
Year of Installation : 2011

Broad Specifications : Clinical Chemistry analyzer- EM360.

Faculty member In charge/ looking after the equipment: Dr.K.Vasanth Kumar

Picture of the equipment:

Name of the equipment and make : Computerised Brain Mapping (Medicaid India)

Year of Installation : 2011

Broad Specifications : NeuroMax- 32 Channels EEG Monitoring.

Faculty member in charge/ looking after the equipment: Ms. Srikalyani

Picture of the equipment

Name of the equipment and make : Computerized Neuron Density, (Medicaid, India)

Year of Installation : 2011

Broad Specifications : P300.

Faculty member In charge/ looking after the equipment: Mrs.Nandhini

Picture of the equipment

Name of the equipment and make : Confocal Microscope (Carl Zeiss)

Year of Installation : 2012

Broad Specification : 4 solid state laser, pinhole aperture

Faculty member in charge/ looking after the equipment: Dr.M.R.Ganesh, Ph.D

Picture of the equipment

Name of the equipment and make : EMG (Medicaid, India)

Year of Installation : 2011

Broad Specifications : Neuroperfect plus- EMG/NCV/EP system.

Faculty member In charge/ looking after the equipment: Mr.Pandiyan

Picture of the equipment

Name of the equipment and make : Fluorescence Microscope (Carl Zeiss)

Year of Installation : 2012

Broad Specifications : 3 filters and bright field option

Faculty member In charge/ looking after the equipment: Dr.M.R.Ganesh PhD

Picture of the equipment

Fluorescence microscope

Name of the equipment and make : Flow cytometer (BD Bio sciences)

Year of Installation : 2012

Broad Specifications : 2 lasers and cell sorting capabilities

Faculty member In charge/ looking after the equipment: Dr.M.R.Ganesh, Ph.D

Picture of the equipment

Flow Cytometer

Name of the equipment and make	: Fourier Transform Infra-red spectroscopy (Bruker Alpha-T)
Year of Installation	: 2012
Broad Specifications	: Attenuated Total Reflectance (ATR) for liquid samples

Faculty member in charge/ looking after the equipment: Ms.Srikalyani

Picture of the equipment

Name of the equipment and make : Gel Doc (Alpha Imager)

Year of Installation : 2012

Broad Specifications:

Fully automated, application-versatile imaging platform with AlphaView analysis software and chemiluminescent expansion capability

Faculty member In charge/ looking after the equipment: Dr.SenthilkumarUmapathy,PhD

Picture of the equipment

Geldoc

Name of the equipment and make : Gas Chromatography, (Bruker GC)

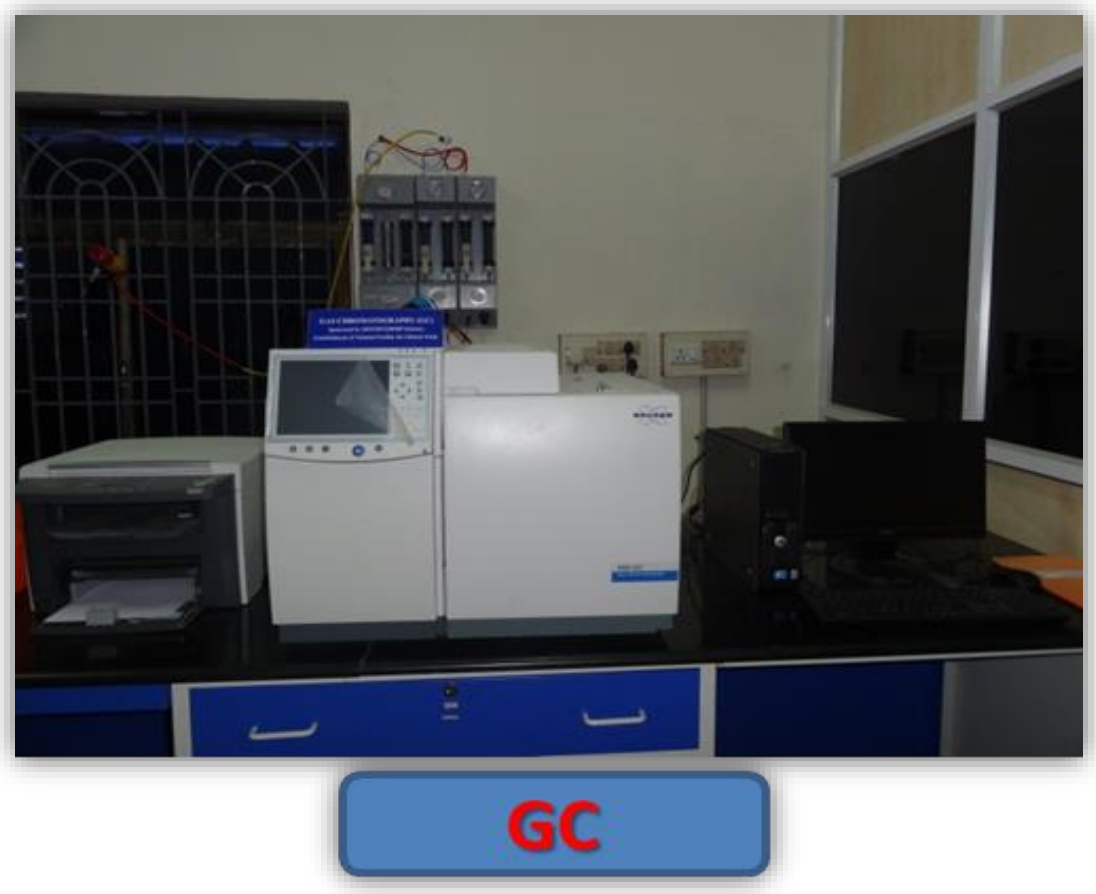
Year of Installation : 2012

Broad Specifications:

High sample throughput with dual and duplicate modes of injection automatically access two injectors with a single tower Minimize method development time with preprogrammed modes of injection

Faculty member In charge/ looking after the equipment: Dr.Kesavan, PhD

Picture of the equipment:



Name of the equipment and make : High Performance Thin Layer Chromatography (HPTLC)

Year of Installation : 2012

Broad Specifications :Camag, Linomet V with AMD developing chamber setup

Faculty member In charge/ looking after the equipment :Mrs. Nandhini

Picture of the equipment:

Name of the equipment and make : Preparative HPLC (Shimadzu LC 20AP)

Year of Installation : 2012

Broad Specifications : Large Scale solvent delivery unit
Automated fraction collector

Faculty member in charge/ looking after the equipment: Dr.R.Mohan Kumar PhD

Picture of the equipment:

HPLC

Name of the equipment and make : LC/MS (Shimadzu LC2020)

Year of Installation : 2012

Broad Specifications : PDA, Flouroscence, RID, ECD detectors with ESI and APCI probe

Faculty member In charge/ looking after the equipment: Dr.R.Mohan Kumar PhD

Picture of the equipment:

Name of the equipment and make : Nuclear Magnetic Resonance (NMR)
(Bruker 500 MHz)

Year of Installation : 2012

Broad Specifications:

- High-speed RF generation and data acquisition with minimum event time of 25 ns
- Scalable transmitters and multiple receiver channels
- High-dynamic range and digital resolution
- Large-bandwith digital filtering

Faculty member in charge/ looking after the equipment : Dr. Kesavan, PhD

Picture of the equipment

Name of the equipment and make : Polysomnography (Medicaid, India)

Year of Installation : 2011

Broad Specifications : Sleep Care- 21 channel system (SC21)

Faculty member In charge/ looking after the equipment: Mrs.Nandhini & Ms. Srikalyani

Picture of the equipment

Name of the equipment and make : RT PCR (Roche)

Year of Installation : 2012

Broad Specifications : Rapid, high-throughput, plate-based real-time PCR amplification and detection instrument.

Faculty member In charge/ looking after the equipment: Dr. Senthilkumar Umapathy, PhD

Picture of the equipment

Name of the equipment and make : UV-Spectrophotometer (Lab India)

Year of Installation : 2012

Broad Specifications : 8 cell cuvette, double beam spectroscopy

Faculty member in charge/ looking after the equipment: Ms. Srikalyani

Picture of the equipment

Name of the equipment and make : Video EEG Analyzer (Medicaid, India)

Year of Installation : 2011

Broad Specifications : 32 channel portable video EEG analyser.

Faculty member In charge/ looking after the equipment: Mr.Pandiyan

Picture of the equipment:

DEPARTMENT OF MECHANICAL ENGINEERING

Name of the equipment and make : Six axis spine testing machine

Year of installation : 2015

Broad specifications:

Bionix Servo hydraulic Test System with MTS 370.02 Axial-Torsional Load Frame, Flex Test 60 Controller MTS 505.07 HPU and MTS 608.33 Spine Kinematics Subsystems and Accessories.

Faculty member in charge / looking after the equipment: P.SusaiManickam

Picture of the equipment

Load frame Gimbal HPU

Controller

Sl.No	Description	Quantity in No
1	MTS Model 370 Load Frame 370.02 Servohydraulic Load Frame	1
2	Extended Vertical Test Space (min / max) 475 / 1412 mm(18.7 /55.6 in)	1
3	Load Frame Column Spacing 460 mm(18.1 in)	1
4	Load Frame Column Diameter 76.2 mm(3 in)	1
5	Cylinder-centric Actuator	1
6	Actuator Integral to Crosshead	1
7	15 kN Force Rating / 150 mm Dynamic Stroke (3.3 Kip / 4 in)	1
8	MTS-proprietary Annular Step Bearings	1
9	Simultaneous Torsional Actuator	1
10	100 N-m Torque Rating (1000 in-lbs)	1
11	MTS Model 662 Load Cell 15 kN / 150 N-m Force Rating (494 Compatible)	1
12	Crosshead Positioning and Locks , Hydraulic Powered Adjustment and Automated Locks	1
13	Axial-torsional Close-coupled Hydraulic Service Manifold	1
14	0.5 liter Accumlator	1
15	19 lpm (5 gpm) 5-port Axial Servovalve MTS Model 252.23G-04	1
16	4 lpm (1 gpm) 5-port Torsional Servovalve MTS Model 252.21G-04	1
17	MTS FlexTest Electronic Control System	1
18	FlexTest 60 Controller 2 Channel, 1 Station	1
19	793 Software	1
20	TestSuiteMultipurpose Elite Software Key	1
21	MTS Model 505 Hydraulic Power Unit	1
22	Model 505.07 Hydraulic Power Unit	1
23		1
24	MTS Bionix Spine Kinematics Sub-systems	1
25	MTS Model 608.33 Spine Kinematics Subsystems	1
26	CombinedMotion Subsystem with 6 DOF Force Transducer	1
27	Controlled (powered) XY Translation Subsystem	1

Name of the equipment and make : Flexible Manufacturing System (FMS)

Year of installation : 12th September 2008

Broad Specifications:

1. CNC TURNING CENTER

MODEL: MTAB-XL TURN:

Swing over bed	150 mm
Swing over cross slide	50 mm
Distance between center	210 mm
No. of Axis	2
Maximum turning diameter	Ø32 mm
Maximum turning length	120 mm
SPINDLE	
Motor capacity	1hp
Speed range	100-3000 rpm
Nose taper	MT3
Bore through spindle	Ø 20 mm
Chuck size	Ø 100 mm
SLIDE	
Z -Axis stroke (longitudinal travel)	180 mm
X-Axis stroke (Cross travel)	80 mm
Rapid traverse rate Z-axis	1.2 m/min
Rapid traverse rate X-axis	1.2 m/min
Feed rate	0-1000 mm/min
TAIL STOCK	
Quill diameter	Ø 26 mm
Quill stroke	40 mm
Quill taper	MT2
Tailstock Base stroke	150 mm
TURRET	
No of stations	8
Maximum boring bar diameter	Ø16mm
Tool cross section	12 mm x12 mm
DIMENSIONS	
Length	880 mm
Width	575 mm
Height	615 mm
Weight	150 kg

2. CNC MILLING CENTER

MODEL: MTAB-XL MILL

SPECIFICATION

Travels	
Table Size	360 mm x 132 mm
Travel X axis	225 mm
Travel Y axis	150 mm
Travel Z axis	115 mm
Spindle nose to table distance	70 mm to 185 mm
Spindle column	110 mm
Spindle Nose Taper	BT 30
ATC	6 Stations
ATC-Maximum tool diameter	16 mm
ATC-Maximum tool length	40 mm
ATC Direction	Bi Direction
Programmable Spindle Speed	150-4000 rpm
Feed Rate	
X and Y axis	0-500 mm/min
Z Axis	0-500 mm/min
Repeatability	0.01 mm
Positioning	±0.005
CNC controller	PC Based 3 axis continuous path
Rapid rate(X ,Y and Z axis)	1.2 m/min
Axis Motors(Stepper motor)	200 steps/rev
Dimensions	
Machine Weight	170 kg
Machine Dimensions(L x W x H)	1000 mm x 575 mm x 650 mm

3. ROBOT

MODEL: ARISTO XT

SPECIFICATION

Number of axis	6
Axis-1(Waist)	340°
Axis-1(Shoulder)	45°
Axis-1(Elbow)	45° (Dependent on shoulder)
Axis-1(Wrist)	340°
Axis-1(Pitch)	180°
Axis-1(Roll)	340°

Vertical Height		522 mm
Joint Actuators		Servo Motor(with Encoders)
Transmission		Belt drives, Ball screws for shoulder, Elbow and Gear drive for base
Joints		Ball Bearings
Gripper		Angular jaws type(Detachable)
Gripper Actuators		Pneumatic
Control software		Specially developed Robot Programming language
Path Type		Point-to-point , Continuous path, linear and circular
Communication		PC Parallel Port
Power supply		230V AC,50/60Hz and 5A
Pay load (including gripper)		3 kg
Repeatability		± 0.3 mm
Horizontal reach		654 mm
Tip speed		0.2 m/s
Position feedback		Optical encoder(HP 2 phase 500 PPR)
Operating temperature		18°c to 40°c
Mounting method		Floor
Controller		PC based parallel port
Applications		Pick and Place applications Palletizing kit, stacking
weight	Body	35 Kg
	Control box	35 Kg

4. MANUFACTURING AUTOMATION

SPECIFICATION

AUTOMATIC STORAGE AND RETRIVAL SYSTEM(ASRS)	
Platform	The platform is traversed in X and Y axes by belt & AC servo motors and controlled by PIC
Guides	LM Guide ways
No. of storage Cells	18 (6 rows x 3 columns)
Transfer Station	Transfer station is provided to accept the pallet from ASRS platform.
Controller	PIC Control
Dimensions	
Width X Depth X Height	1300 mm x 530 mm x 1500 mm
Load carrying	2 Kg
Pallet size	160 mm x160 mm x20 mm

LOADING/UNLOADING DEVICE	
LATHE ARM FOR XL TURN	
No. of axes	2
Type	Pneumatic actuator manipulator with gripper
Handling capacity	100 gms
Control	Cell controller,PLC based HMI or SCADA

Faculty member in charge / looking after the equipment : J. SANTHAKUMAR

Picture of the equipment:

Name of the equipment and make : CNC EDM Wirecut (Model-Ezzecut Plus), Rathnaparki Electronics

Broad specifications:

X, Y Travel-300 x 400 mm

Max work piece size-300 x 600 mm

Max Z height- 360 / 480 mm

Max work piece weight -300 kg

Wire dia.-0.12 to 0.25 mm

Max cutting speed- 60 mm/ min

Faculty member in charge / looking after the equipment : Prof. M.Gopal

Picture of the equipment

Name of the equipment and make : 3 Axis VMC (Model-LV45), LMW

Broad specifications:

Max Travel:

X – Axis	-	450 mm
Y – Axis	-	350 mm
Z – Axis	-	350 mm
Table Size	-	600 x 350 mm
Spindle Bore	-	BT 40
Spindle speed	-	80 – 8000 RPM
Position Accuracy	-	0.01 mm
Repetability	-	0.005 mm
CNC Controller	-	Fanuc Oi MATE MC

Faculty incharge /looking after the after the equipment: Prof. M.Gopal

Picture of the equipment

Name of the equipment and make : 3 Axis VMC Model - Gaurav – BMV35 T12, BFW

Broad specifications:

Max Travel

X – Axis	-	450 mm
Y – Axis	-	350 mm
Z - Axis	-	350 mm
Table Size	-	350 X 600 mm
Spindle Bore	-	BT40
Spindle speed	-	8000 RPM
Position Accuracy	-	+/- 0.005 mm
Repetability	-	+/- 0.003 mm
CNC Controller	-	Sinumaric 828D

Faculty member in charge / looking after the equipment: Prof. M.Gopal

Picture of the equipment

Name of the equipment and make : 5 Axis VMC Model -Vayu – BMV51 TC24, BFW

Broad specifications:

Max Travel

X – Axis	-	800 mm
Y – Axis	-	510 mm
Z - Axis	-	510 mm
Table Size	-	510 X 1000 mm
Rotary Table Dia	-	200mm(NIKKEN)
Spindle Bore	-	BT40
Spindle speed	-	8000 RPM
Position Accuracy	-	+/- 0.005 mm
Repetability	-	+/- 0.003 mm
CNC Controller	-	Sinumaric 828D

Faculty member in charge / looking after the equipment: Prof. M.Gopal

Picture of the equipment

Name of the equipment and make : CNC Turning Center model UNITURN 300, GEDEE WEILER

Broad specifications:

Swing over bed - 425 mm

Swing over cross slide - 225 mm

Max Turning dia& length (without chuck) -225 x 300 mm

Chuck size - 200 mm

Travel : X- Axis - 155 mm

Z- Axis - 340 mm

Feed Rate:

Rapid X-Axis - 20 mts/min

Rapid Z-Axis - 25 mts/min

Feed rate - 6000 mm/min

CNC Controller - Sinumaric 828

Faculty member in charge / looking after the equipment: Prof. M.Gopal

Picture of the equipment

Name of the equipment and make : CONTURA G2, Carl Zeiss

Broad specifications:

Measuring ranges	:	X – axis	700 mm
		Y – axis	700 mm
		Z – axis	600 mm
Max work piece weight	: 560 Kg		
Work volume	: 920mm X 1041mm X 665 mm		
Sensor	: Passive scanning and single point		
Measuring rate	: 2.5 seconds per point		
Probe size	: 1.5X30, 3X33, 3X50, 5X50 and 5X75		
Length measuring error	: (1.8 + L/300) microns		
Probing error	: 1.8 microns		
Form measuring error	: 1.8 microns		
Travel speeds	: set-up mode	0-70 mm/s	
	Measurement mode 250 mm/s		
Acceleration	: 1000 mm/s^2		

Faculty member in charge / looking after the equipment: J.Daniel Glad Stephen

Picture of the equipment

Name of the equipment and make : Micro Vickers Hardness Tester (model DHV3000), Chroma systems

Broad specifications : Minimum applied load =10 g f
Maximum applied load = 2000 gf

Faculty member in charge / looking after the equipment: R.AMBIGAI

Picture of the equipment

Name of the equipment and make : Horizontal path Computerized Profile Projector, Mitutoyo South Asia Pvt Ltd, New Delhi

Broad specifications:

Model PH-3515F, Protractor screen Effective diameter: 14” / 353mm Screen material: Fine ground glass, Reference line: Cross hair line, Screen rotation: ±360°, fine feed and clamp, Angle display (LED) : Resolution: 1’ or 0.01°(switchable), Range: ±370°, Functions: Absolute/incremental mode switching, Zero set, Projection lens Standard accessory: 10x (172-184), Optional accessories: 5X, 20X, 50X, 100X, Magnification accuracy

Contour illumination: ±0.1% or less

Surface illumination: ±0.15% or less

Contour Illumination Light source: Halogen bulb (24V 150W)

Optical system: Telecentric system

Functions: 2-step brightness switch, Heat-absorbing filter, cooling fan

Light source: Halogen bulb (24V 150W)

Functions: Adjustable condenser lens. Heat-absorbing filter, cooling fan

XY StageTable travel: (X-axis) 10” / 254mm Table size: (X, Z) 17.7”x5.7” / 450x146mm Vertical travel: (Y-axis) 6” / 152mm Resolution: 0.001mm/.0001”

Measuring Unit: Built in Linear scale

Max. Work piece load: 100lbs / 45kgPower supply120V AC, 50/60HzMass333lbs/150kgStandardaccessories10x projection lens set, work stage, power cord, halogen bulb, tube fuse, grounding wire, allen key, Vinyl cover

Faculty member in charge for the equipment: Mrs.A.Vijaya

Picture of the equipment

Name of the equipment and make : Computerized surface roughness tester, Tokyo Seimtsu Co. Ltd/Carl Zeiss India Private Limited, Bangalore

Broad specifications

Measuring Range	
Travel Range (X axis)	±400μm
Drive axis	X-axis 50mm
Analysis items	
Standards	Complies with JIS-2001,JIS-1994,JIS-1982,ISO-1997,DIN-1990,ASME-1995,CNOMO
Parameters	(JIS-2001) Ra,Pa,Pq,Pt,Rz,Rz.J,Rzmax,Rq,Rp,Rt,R3z,RSm,Pc,AVH,Hmax, Hmin,Pmr,Rmr,R k,Rpk,Rvk,Mr1,Mr2,VO,K
Evaluation curves	Section profile curve, roughness curve, ISO13565 special curve,roughness motif curve, waviness motif curve, envelope waviness curve, Filterd waviness profile,Waviness profile
Characteristics graphs	Bearing area curve, Amplitude distribution(ADF)curve
Filter type	
Cut-off	Gaussian filter , 2RC filter(phase correct type) , 2RC filter(non phase correct type)
Cut-off values	λc:0.08,0.25,0.8,2.5,8,25mm, λs:0.25,0.8,2.5,8,25μm
Evaluation length	0.1 -50mm(unit:0.1mm)
Drive speed	0.15 - 1.5mm/s
Pickup	
Sensing method	Differential transducer
Measuring force	0.75mN or less
Stylus	60 cone, 2μmR, Diamond

Faculty member In charge for the equipment: Mrs.A.Vijaya

Picture of the equipment

Name of the equipment and make : IRB360 Flexi picker robot with vision system, ABB Ltd, Bangalore,

Broad specifications:

Robot supplier	- ABB, Bangalore
Robot version	- IRB 360 Flexi picker robot
Robot Controller	- IRC5
Handling capacity	- 3 kg
Reach	- 1.13 m
No of Axis	- 4

Faculty member in charge / looking after the equipment: Dr.S.Prabhu

Picture of the equipment

Name of the equipment and make : IRB1410, Industrial robot, ABB ltd, Bangalore,

Year of installation : 2007

Broad specifications:

Robot supplier - ABB, China

Robot version - IRB 1410

Robot Controller - IRC5

Handling capacity - 5 kg

Reach - 1.45m

Manipulator weight - 225kg

No of Axis - 6

Types of motion

Axis 1- Rotation motion

Axis 2 – Arm motion

Axis 3 – Arm motion

Axis 4 – Wrist motion

Axis 5 – Bend motion

Axis 6 – Turn motion

Faculty member in charge / looking after the equipment: Dr.S.Prabhu

Picture of the equipment

Name of the equipment and make : Fortus 360mc, Fused DepositionModeling (FDM) Stratasys, USA,

Year of installation : 2010

Broad specifications:

Material Options: 3 Materials (PC, ABS and PC ABS)

Build Volume: (10 inch X 10 inch X 14 inch)

Support Material: Water Soluble and BASS

Faculty member in charge / looking after the equipment: Dr.S. KARUPPUDAIYAN

Picture of the equipment

SRM MEDICAL COLLEGE HOSPITAL AND RESEARCH CENTRE

DEPARTMENT OF MEDICAL RESEARCH

Name of the equipment and make : Gelstan 4X Chemiluminesence (Medicare, INDIA)

Year of Installation : 30.03.2015

Broad Specification : Camera (scientific grade CCD sensor), 4.2. Mega pixels, Peltier, PC interface USB 2.0, UV Transiluminator.

Faculty member in charge : Dr. P.Venkataraman, PhD.

Picture of the equipment

Name of the equipment and make : Agilent Cary 60 Spectrophotometer (Agilent Technologies)

Year of Installation : February 2012

Broad Specification : UV Spectrophotometer

Faculty member in charge: Dr. S.Sundaresan, PhD.

Picture of the equipment

Name of the equipment and make : REMI Cooling centrifuge CPR 24 Plus

Year of Installation : 2013

Broad Specification:

Angle head (with polypropylene tubes) with capacity of 8*25ml. Max. speed 18000 rpm, Mx. RCF (g′) 31150 g'. Lowest temp. -8° C. No. of programs (99)

Faculty member in charge: Dr. P.Venkataraman, PhD &Dr.S.Sundaresan, PhD.

Picture of the equipment

Name of the equipment and make : Rotor-Gene Q 2plex Platform

Year of Installation : May 2018

Broad Specification:

Real-time PCR cycler with 2 channels (Green, Yellow), laptop computer, software.

Altitude: Up to 2000 m (6500 ft.).

Dimensions: Width, 37 cm (14.6 in.); Height, 28.6 cm (11.3 in.); Depth (without cables), 42 cm (16.5 in.); Depth (door open), 53.8 cm (21.2 in.).

Heat dissipation/thermal load: Average, 0.183 kW (632 BTU/hour); Peak, 0.458 kW (1578 BTU/hour).

Operating temperature: 18-30ºC (64-86ºF).

Software: Rotor-Gene Q software.

Protocols/main applications: Gene expression analysis, microRNA detection, Virus detection, SNP genotyping, SNP genotyping, High Resolution Melt analysis (HRM).

Typical run time: 40 cycles in 45 min with the QIAGEN RG Kits (assay dependent)

Faculty member in charge: Dr.S.Sundaresan, PhD & Dr. P.Venkataraman, PhD.

Picture of the equipment

DEPARTMENT OF MICROBIOLOGY

Name of the equipment and make : Truelab Uno Dx Real Time Micro PCR Analyzer, Molbio Diagnostics Pvt.Ltd. (India)

Year of Installation : 2018

Broad Specifications : Real Time PCR

Faculty Member In Charge/ looking after the equipment: Dr. V. MANGAYARKARASI

Picture of the equipment:

Truelab Uno Dx, Portable TruenatReal Time PCR device

Name of the equipment and make : EPPENDORF AG (Hamburg, Germany)

Year of Installation : 2012

Broad Specifications : Conventional PCR

Faculty Member In Charge/ looking after the equipment: Dr. V. MANGAYARKARASI

Picture of the equipment:

Conventional PCR

DEPARTMENT OF NANOTECHNOLOGY RESEARCH CENTER

Name of the equipment and make	:	Gas Chromatography Mass Spectrometry Shimadzu, Japan
Year of installation	:	2009
Broad specifications	:	Shimadzu's QP-2010 Plus wit EI, PCI, NCI with 374 1/sec Turbo Molecular Pump with Direct Insertion Probe and RTx-624 capillary column (1024 mass detection)
Faculty member in charge / looking after the equipment	:	Dr.C.Gopalakrishnan

Picture of the equipment

Name of the equipment and make	:	E-Beam Evaporation System (Smart Coat 3.0) Hind Hivac, Bangalore, India
Year of installation	:	2007 (Instrument replaced and installed in 2017)
Broad specifications	:	Physical Vapor Deposition System with 4-Source E Beam evaporator, thermal evaporator, in-situ Argon Ion Etching and Annealing
Faculty member in charge / looking after the equipment	:	Dr.C.Gopalakrishnan

Picture of the equipment

Name of the equipment and make	:	RF/DC Sputtering (Smart Coat) Hind Hivac, Bangalore, India
Year of installation	:	2007 (Instrument replaced and installed in 2017)
Broad specifications	:	2 HHV + 1 flexible sputter source with water controller switch (2'' inch)
Faculty member in charge / looking after the equipment	:	Dr.C.Gopalakrishnan

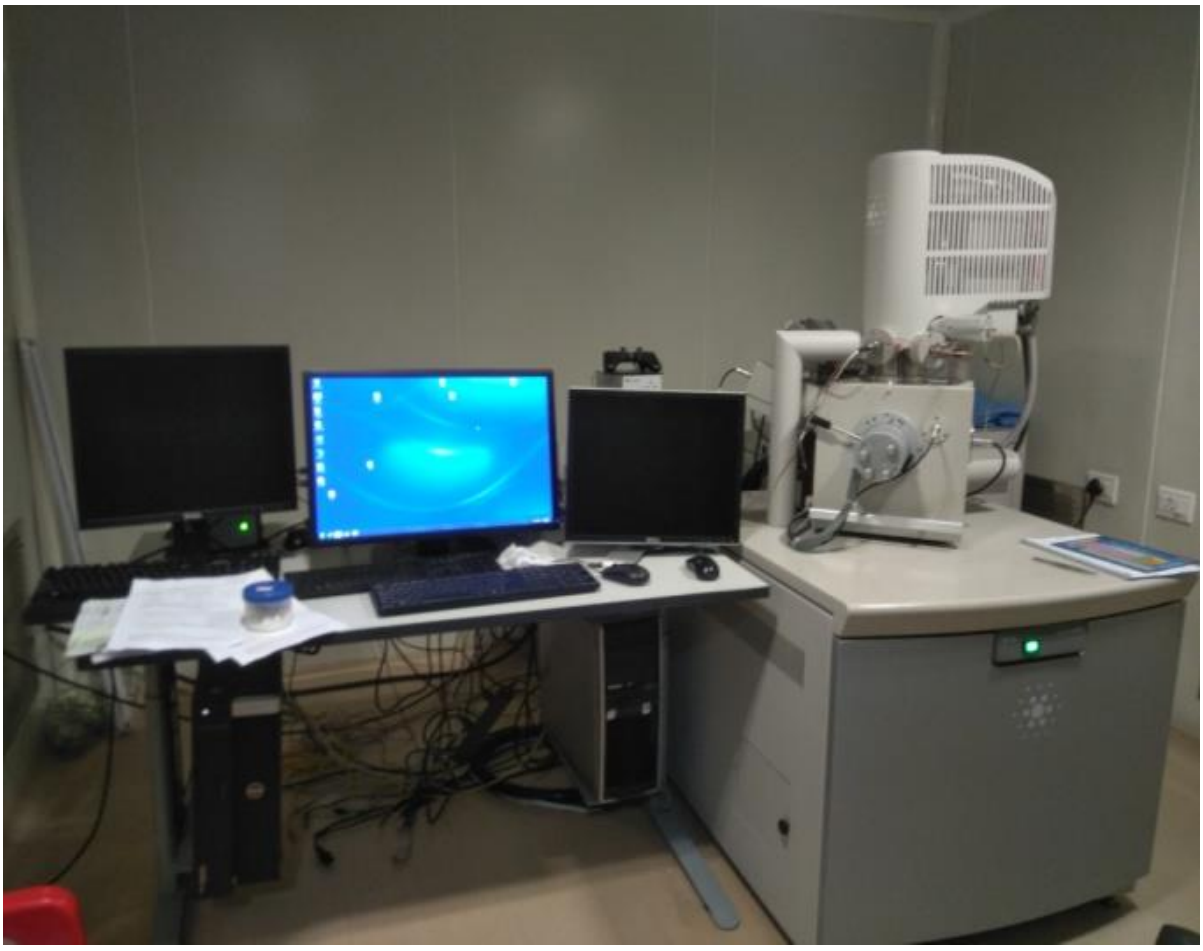
Picture of the equipment

Name of the equipment and make	:	Scanning Probe Microscope, Agilent Technologies,USA
Year of installation	:	2007
Broad specifications	:	PicoScan LE (AFM, STM, MFM)
Faculty member in charge / looking after the equipment	:	Dr.C.Gopalakrishnan

Picture of the equipment

Name of the equipment and make	:	Scanning Electron Microscope FEI Company, Netherlands
Year of installation	:	2009
Broad specifications	:	FEG-200 (2 nm resolution)ESEM option, variable pressure, low vac SEM
Faculty member in charge / looking after the equipment	:	Mr.G.Murali (Scientific Officer) [Dr.C.Gopalakrishnan]

Picture of the equipment



Name of the equipment and make	:	X ray Diffraction, PANalytical, Netherlands
Year of installation	:	2008
Broad specifications	:	XPERT PRO (Powder mode and grazing angle incidence mode)
Faculty member in charge / looking after the equipment	:	Dr.C.Gopalakrishnan

Picture of the equipment

Name of the equipment and make	:	Aeries XRD (Desktop Version), PANalytical, Netherlands
Year of installation	:	2018
Broad specifications	:	Aeries (Dedicated Powder XRD with 1D pixel Detector, rotating sample holder)
Faculty member in charge / looking after the equipment	:	Dr.C.Gopalakrishnan

Picture of the equipment

Name of the equipment and make	:	Ultra High Vacuum Pulsed Laser Deposition System, Laser Source – Coherent, USA, Chamber – VT Vacuum Technologies
Year of installation	:	2018
Broad specifications	:	Base pressure 5 x 10-11 mbar
Faculty member in charge / looking after the equipment	:	Dr.C.Gopalakrishnan

Picture of the equipment

Name of the equipment and make	:	The Variable Temperature Vibrating Sample Magnetometer System, Lake Shore, USA
Year of installation	:	2018
Broad specifications	:	To characterize the magnetic properties of materials as a function of magnetic field (0T - 3T), temperature (15K – 1000K), and time
Faculty member in charge / looking after the equipment	:	Dr.C.Gopalakrishnan

Picture of the equipment

Name of the equipment and make	:	Magnetic Hyperthermia System, MSI Automation Inc., USA
Year of installation	:	2018
Broad specifications	:	With Variable Heating Coils
Faculty member in charge / looking after the equipment	:	Dr.C.Gopalakrishnan

Picture of the equipment

Name of the equipment and make	:	ARC Melting Furnace, Hind High Vacuum, Bangalore
Year of installation	:	2017
Broad specifications	:	For Alloys
Faculty member in charge / looking after the equipment	:	Dr.C.Gopalakrishnan

Picture of the equipment

Name of the equipment and make	:	Battery Cycler, Bio-logic Science Instruments, India
Year of installation	:	2016
Broad specifications	:	8 Channels
Faculty member in charge / looking after the equipment	:	Dr. Helen Annal Therese

Picture of the equipment

Name of the equipment and make	:	Glove Box, Bio-logic Science Instruments,India
Year of installation	:	2016
Broad specifications	:	Less than 0.1 ppm of Oxygen
Faculty member in charge / looking after the equipment	:	Dr. Helen Annal Therese

Picture of the equipment

SRM MEDICAL COLLEGE HOSPITAL AND RESEARCH CENTRE

DEPARTMENT OF PHARMACOLOGY

Name of the equipment and make : UV/ Vis Spectrophotometer (UV 3000, Lab India)
Year of Installation : 06.04.2010

Broad Specification : Double Beam Optical System with Automatic 8-Cell Changer - Model 3200

Faculty member in charge : Dr. Sangeetha Raja, MD.

Assistant Professor, Pharmacology

DEPARTMENT OF PHYSICS AND NANOTECHNOLOGY

Name of the Laboratory: Advanced Materials Research Laboratory

Name of the equipment and make :1200^{o}C Horizontal Tubular Furnace (Ants Ceramics)

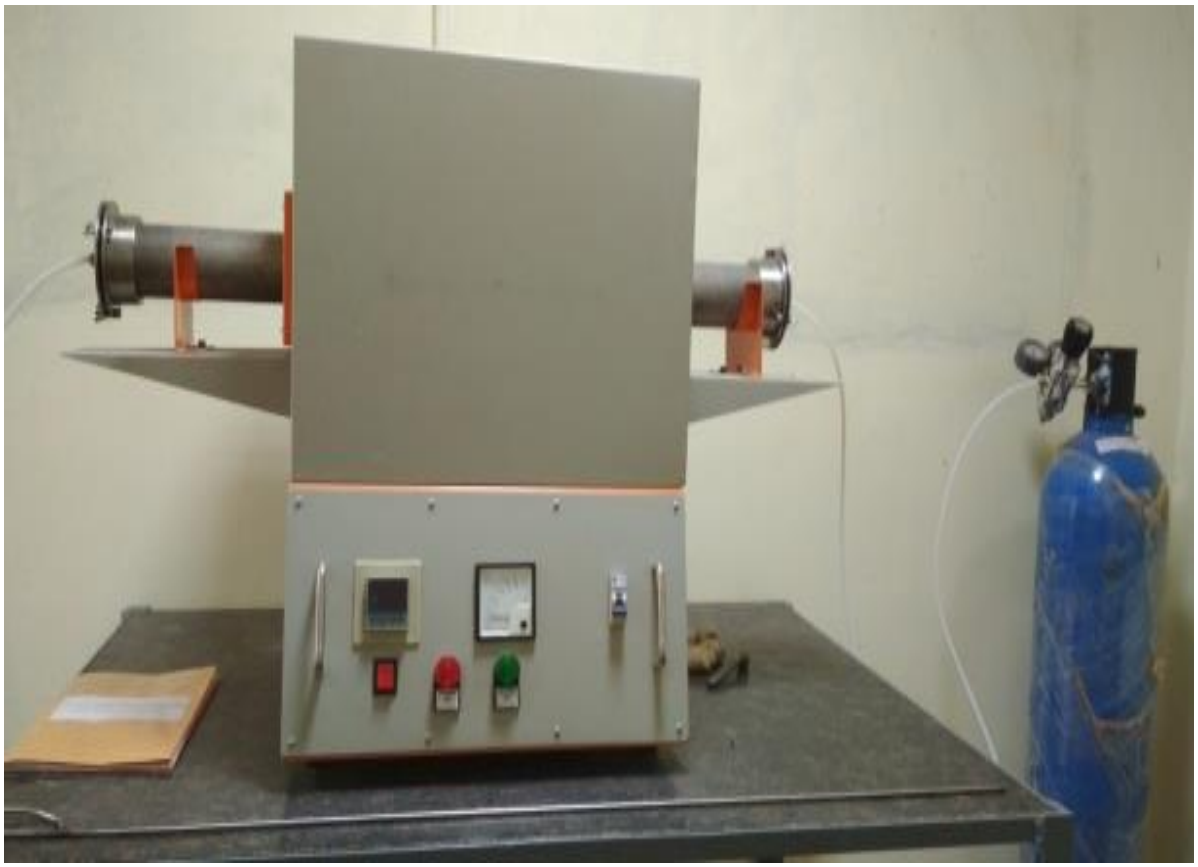
Year of Installation : 2017

Broad Specifications:

Maximum operating temperature up to 1200^{o}C, Seamless Inconel tube with 76 mm outer diameter, PID temperature controller with 30 ramp soak steps, Inert gas purging facility

Faculty member In charge/ looking after the equipment : Dr.Sheela Singh PhD

Picture of the equipment:



Name of the equipment and make : Dilatometer(NETZSCH Germany)

Year of Installation : 2017

Broad Specifications:

Pushrod dilatometer from room temperature to 1600^{o}C, 0.0001 to 50kj/min heating rate,

Sample diameter : 8mm, Automatic sample length determination

Faculty member In charge/ looking after the equipment :Dr.Sheela Singh PhD

Picture of the equipment:

Name of the equipment and make : High Temperature Muffle Furnace (Sigma scientific products, India)

Year of Installation : 2017

Broad Specifications:

Maximum operating temperature up to 1300^{o}C, Kanthal APM heating coil

Faculty member In charge/ looking after the equipment : Dr.Sheela Singh PhD

Picture of the equipment:

Name of the equipment and make : Contact Angle Meter (HOLMARC opto-mechatronics pvt. Ltd., India)

Year of Installation : 2018

Broad Specifications:

Sessile drop measuring method, High performance aberration corrected imaging lens with precise manual focus adjustment, 360-degree rotation for the sample Holder

Faculty member In charge/ looking after the equipment : Dr.Sheela Singh PhD

Picture of the equipment:

Name of the Laboratory: Nano biotechnology Research Laboratory

Trinocular microscope

ACCU-SCOPE

EXI-310 Trinocular with Epi-Fluorescence Attachment

Trinocular viewing head, inclined 45°, light distribution binocular 100% or trinocular tube 100% WF10x/22mm eyepieces with

roll down eyeguards Side facing quintuple nosepiece, Fixed plain stage, 160 x 250mm with metal & glass insert plates,ELWD

condenser, N.A. 0.3, Working Distance = 72mm Variable 5 watt LED illuminator ø 45mm LBD filter, 550nm green interference

filter and ground glass filter Dust cover, power cord, Universal power supply 100 - 240v Fluorescence attachment with field

iris, filter slider, with 4 position filter slider 3 filter positions, 1 BF position, UV protection plate

Year of installation: 2017

FUNDED BY: SRMIST

Faculty member In charge/ looking after the equipment: Dr. G. DevanandVenkatasubbu

GEL DOCUMENTATION SYSTEM

Name of the equipment and make : Uvitec Gel Documentation (GeNei TM)

Year of Installation : 2017

Broad Specification : Colony Counting, 0.5 megapixels, advanced UVI-Band

Year of installation: 2014

FUNDED BY: SRMIST

Faculty member In charge/ looking after the equipment: Dr. G. DevanandVenkatasubbu

Name of the Laboratory: Thin film and Instrumentation Research Laboratory

DESKTOP Mini-SEM with EDS
(SNE- 3200M, SEC)

Specifications:

- Max. 30,000x Magnification
- BSE Detector (Solid State Type – 4 Channel)

Resolution (SE): ~ 15.0nm @30kV

Resolution (BSE): ~ 20.0nm @30kV

- 5kV to 30kV Variable Accelerating Voltage
- Multi-Vacuum Mode – Standard / Charge Up Reduction
- Image Observation Ready within 3 min.
- 3-axis Strokes – X, Y, R (Option - X, Y, T)
- Options – EDX System, Cooling Stage

Year of installation: 2016

FUNDED BY: SRMIST

Faculty member In charge/ looking after the equipment: Dr. A. Karthigeyan

CLASSIC LINEPULVERISETTE 5

FRITSCH

Specifications:

Planetary Mill classic line PULVERISETTE 5

instrument without grinding bowls and balls, incl. Safe-Lock clamping system with 2 grinding bowl fasteners for 100-120/200-240 V/1~, 50-60 Hz, 250Watt Voltage, indicated by customer is set Hardmetal tungsten carbide, with steel casing Grinding bowls 80 ml volume Adapter for grinding bowl of 80 ml volume Hardmetal tungsten carbide 10 mm balls Replacement seal ring PTFE 90/75 mm dia. for all other bowls of 80 ml volume spare

Year of installation: 2016

FUNDED BY: SRMIST

Faculty member In charge/ looking after the equipment: Dr. Sheela Singh

KEITHLEY SYSTEM SOURCEMETER - DUAL CHANNEL

200V: LOW CURRENT Dual Channel

6-1/2 digits display

60 Watts

Current Max / Min: 10A pulse / 0.1fA

Voltage Max / Min: 200V / 100nV

GPIB, LAN (LXI), RS-232, USB, Digital I/O

Year of installation: 2016

FUNDED BY: SRMIST

Faculty member In charge/ looking after the equipment: Dr. A. Karthigeyan

OLYMPUS MODEL BX51 UPRIGHT METALLURGICAL MICROSCOPE

Microscope frame for reflected & transmitted light microscopy

Trinocular tube

Objective 50X

Incident brightfield/darkfield illumination tube with aperture 1 No. stop, field stop and filter slots Olympus High resolution 2.8MP Microscope digital camera system with USB 3.0 interface

Year of installation: 2016

FUNDED BY: SRMIST

Faculty member In charge/ looking after the equipment: Dr. A. Karthigeyan

Scanning Probe Microscope

Park Systems

System Specifications

XY Scanner

Scan range: 50µm x 50µm

10µm x 10µm

Motorized Z Stage

Direct On-Axis Optical Microscope

High Resolution Digital CCD Camera with Digital Zoom

Manual Focus Stage for On-Axis Optics

Motorized Z Stage

Software

XEP for data acquisition and optical view

XEI for image processing, analysis, and presentation

- Standard Imaging (AFM Modes):

True Non-Contact AFM

Basic Contact AFM

Lateral Force Microscopy (LFM)

Phase Imaging

Intermittent (tapping) AFM

- Scanning Tunneling Microscopy, Conductive AFM, Nanolithography
- Magnetic Force Microscopy, Nanoindentation
- Force Modulation Microscopy

Year of installation: 2015

FUNDED BY: SRMIST

Faculty member In charge/ looking after the equipment: Dr. A. Karthigeyan

Electrochemical Work Station, Biologic

Specifications

Model: SP-300 from BioLogic

Potentiostat/ Galvanostat measurements

Corrosion: Linear/cyclic polarization, corrosion, pitting, LPR, ZRA(noise), Rpvs Time

Impedance: potentio EIS, Galvano EIS, Staircase Potentio EIS, Galvano EIS

Current ranges: 1 A to 1 μA

Pulsed techniques

Year of installation: 2010

FUNDED BY: SRMIST

Faculty member In charge/ looking after the equipment: Dr. A. Karthigeyan

TD-NMR, BRUKER

Broad specifications

Frequency range: (Direct-digital generation)2-65 MHz with 1 Hz stepping and better than 1 ppm resolution Digital phase generation: 0°, 90°, 180°, and 270°, with phase resolution better than 0.2 Digital quadrature receiver with variable gain: 40- 119 dB Magnetic system: 20 MHz, 470 mTeslaminispec magnet system with 25 mm air gap and fully integrated and automated temperature Magnet Temperature Control: 35 °C to 45 °C Probe Assembly: Variable High & Low Temperature proton probe at 20 MHz suitable for ratio measurements for sample tubes with 10 mm diameter Glass Sample Tubes 10 mm diameter, 180 mm length, flat bottom Proton probe at 20 MHz suitable for absolute measurements (Total Fat, Spin Finish) for sample

Bath: Thermostat/Cryostat Bath -10 to +100 °C

Year of installation: 2011

FUNDED BY: SRMIST

Faculty member In charge/ looking after the equipment: Dr. A. Karthigeyan

X-ray FluorescenceSpectroscopy

Panalytical

Broad specifications

Model: Minipal 4 Benchtop XRF

Elemental range : Al…Y, Pd…U

Size : 300x550x450 mm^3

Fine focus X-ray tube with MO Target

Multilayer monochromator 17.5 Kev

Year of installation: 2010

FUNDED BY: SRMIST

Faculty member In charge/ looking after the equipment: Dr. A. Karthigeyan

X’ pert powder XRD system

Panalytical

Broad specifications

Model : X’ pert powder XRD system

System Specification :

Radiation : Co Kα

Goniometer Type : Vertical

Range of 2θ : 0-150°

Detector Type : High speed solid-state X’Celerator

Optics : Divergence and antiscattering slits.

Sample holders : Flat Silicon ZBH Cut parallel to Si (510), Back-fill holder

Year of installation: 2010

FUNDED BY: SRMIST

Faculty member In charge/ looking after the equipment: Dr. A. Karthigeyan

UV-Vsible Spectroscopy

Model:UV3000+ from LABINDIA

System Specification:

- Double beam optics (Czerny-Turner mounting)
- Wavelength range: 190 to 1100nm
- Spectral bandwidth: variable 0.5,1,2,5 nm
- Wavelength accuracy: ±0.3nm
- Photometric accuracy: ±0.002 Abs at 0.5 Abs
- Photometric repeatability: ±0.001 Abs at o.5 Abs
- Automatic 8 cell changer
- Tungsten and deuterium lamp
- Microprocessor based UV-VIS Spectrophotometer with high resolution LCD display and soft keypad for operation on 220V/50Hz

Year of installation: 19/08/2010

FUNDED BY: SRMIST

Faculty member In charge/ looking after the equipment: Dr. A. Karthigeyan

FTIR Spectroscopy

Model: ALPHA-T FT-IR Spectrometer

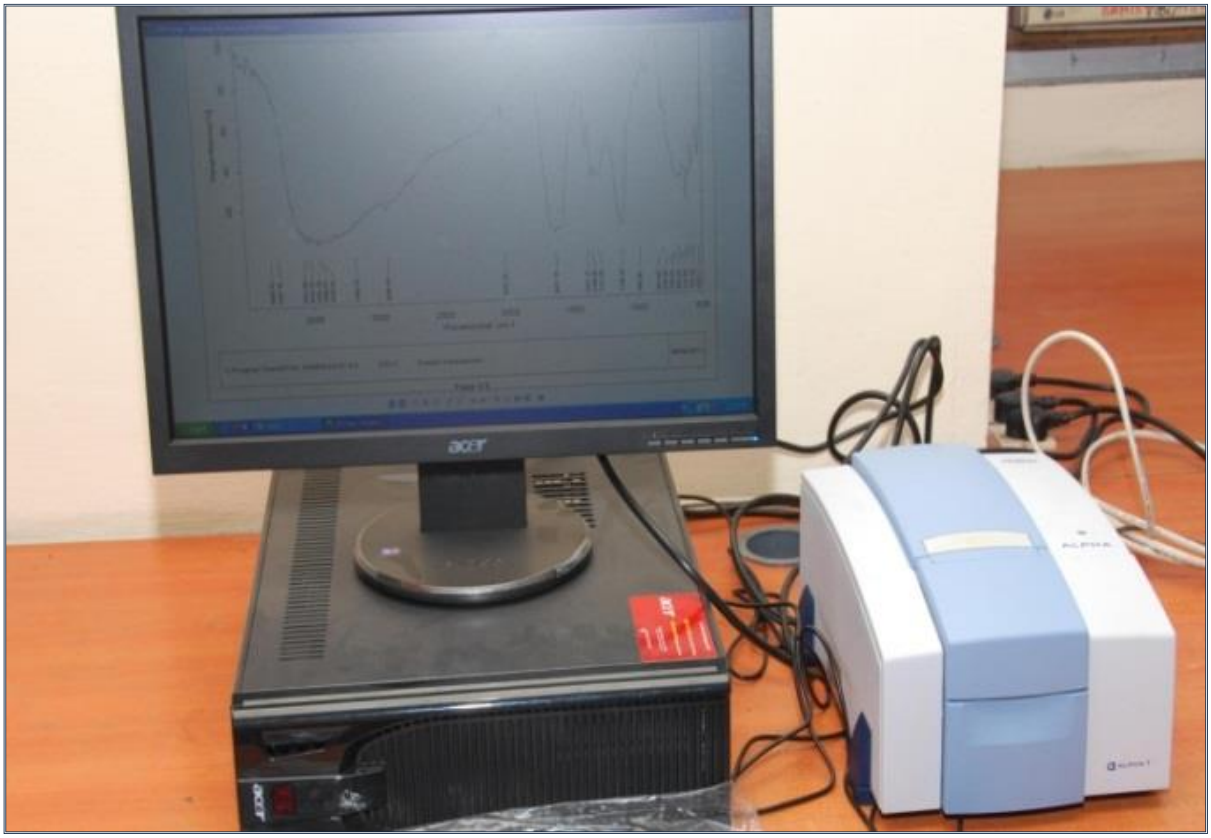
System Specification:

- Spectral range : 500-7500 cm-1
- Spectral resolution : Better than 2cm-1
- Wave number accuracy : Better than 0.01 cm^{-1}
- Detector : DTGS
- Source : SiCglobar, user replaceable
- Rock Solid interferometer : Gold mirrors (permanently aligned)
- Holder :2x3" standard sample mount & also for pellets
- Accessory required for ATR setup.

Year of installation: 13/08/2010

FUNDED BY: SRMIST

Faculty member In charge/ looking after the equipment: Dr. A. Karthigeyan



Atomic Absorption Spectrometer

Labindia

Specifications

Model:

AAS7000 Atomic Absorption Spectrophotometer Fully automatic double beam PC controlled high performance with window 2000/XP based wizard software for operation on 220V/50 Hz.

Monochromator:

Czereny-Turner type Wavelength range 190-900 nm Sealed, corrosive resistant and vibration free optical system Reciprocal linear dispersion less than 1.6 nm/mm. Detector: Photomultiplier tube 6 Lamp motorized turret Burner system: Air Acetylene type Hollow Cathode Lamps: 6

Sensitivity:

An absorbance of 0.9 or better, for 5ppm Cu solution.

Year of installation: 19/07/2010

FUNDED BY: SRMIST

Faculty member In charge/ looking after the equipment: Dr. A. Karthigeyan

Name of the Laboratory: Hydrogen Storage Material and sensors Laboratory

Name of the Laboratory: Hydrogen Storage Material and sensors Laboratory

Simultaneous Thermal analyzer (STA) STA7000

(DST-SERB Lab) Hitachi

Ambient to 1100°C

- Furnace heater material : Platinum II – Platinum and Rhodium alloy
- Furnace material: High-Purity alumina (more than 99%) with high corrosion resistant Top-loading

Horizontal differential type

TG/DTA.dual balance beam design

- Maximum sample weight: 200 mg
- TG RMS Noise: 0.1µg
- TG Sensitivity: 0.2 µg
- DTA measurement range: + 1000 µV
- DTA RMS Noise: 0.03 µV
- DTA RMS Sensitivity: 0.06 µV
- DSC signal: Derived

Year of installation: 2016

FUNDED BY: SERB-DST

Faculty member In charge/ looking after the equipment: Dr. A. Karthigeyan

Electron Beam Evaporation System with Imported Gun and Power supply
(DST-SERB Lab) HHV Make

Edwards make electron beam source

Evaporation source power supply

M/s SPELLMAN USA make electron beam power supply with 6kw power rating

Rotary vacuum pump

Diffusion pump

Year of installation: 2016

FUNDED BY: SRMIST

Faculty member In charge/ looking after the equipment: Dr. A. Karthigeyan

Name of the Laboratory: Centre for Materials Science and Nano devices Research Laboratory

High vacuum PVD & Glove box work station (DST-FIST LAB) VACCUM TECHNOLOGIES Pvt Ltd
Broad specifications

Rotary Pump: Make : Vacuum Techniques

Ultimate vacuum : $1x10^{-3}$mb

Turbo Pump with Controller : Make: Varian

Ultimate vacuum : 5×10^{-10} mbar

Substrate heater upto 400 degree C with PID

GLOVE BOX

Chamber Size : 1000x800x7000 mm, Ante-Chamber: 360x600mm

Pressure range : 10^{-2} m.bar range Trace oxygen analyzer and controller: in ppm level

Year of installation: 2012

FUNDED BY: DST-FIST

Faculty member In charge/ looking after the equipment: Dr. A. Karthigeyan

Name of the Laboratory: Hydrogen Storage Material and sensors Laboratory

BPL ECG Machine-Cardiart 6208 view

Specifications:

- Simulataneous 3 Channel ECG recording with 12 lead simulataneous acquisitions with auto summary
- Buit-in ECG Parameters measurement and interpretation.
- Wide screen LCD display of patient demographics and real time ECG data option

Date of Installation: 29-07-2016

Funded by: SRM-under Selective Excellence scheme

Faculty member In charge/ looking after the equipment: Dr. Naga Rajesh

Name of the Laboratory: Futuristic materials research centre for planetary science and exploration (fmrc-planex) research Laboratory

Funding Agency : Indian Space Research Organization, Department of Space, Government of India

Venue : H609, Hi-tech Block, Main Campus, KTR

1. SINTERING BOX FURNACE 1400°C

Specifications:

- Shell size and useful volume : 500 x 500 x 600 mm and 150 x 150 x 200 mm
- Shell Construction : Double Wall High quality fabrication of M. S. Body and M. S. Angle's structure with proper stiffeners and neat powder coat painting
- Heating elements : Silicon carbide

Date of Installation : 23-11-2016

Funded by: Indian Space Research Organization, Department of Space, Government of India

Faculty member In charge/ looking after the equipment: Dr. T. VijayaKumar

2. HYDRAULIC PRESS FOR PELLET COMPACTION (15 TONS)

Specifications:

- Capacity of the press : 10 tons
- Capacity of the cylinder : 15 Tons (Max) (hydraulic power unit)
- Usage : Powder pressing
- Size of the platen : 100mm dia
- Press frame : 2-pillar type
- Pressure gauge : Digital Pressure gauge
- Max Pressure : 300 bars (30Mpa)
- Pellet die : Hard die steel, 10mm, 50mm with Ejector

Date of Installation : 23-11-2016

Funded by: Indian Space Research Organization, Department of Space, Government of India

Faculty member In charge/ looking after the equipment: Dr. T. VijayaKumar

3. HOT PLATE WITH MICRO CONTROLLER – 250ºC - 1 No.

Specifications:

- Working size 12”(Width) X 12”(Depth).
- Temperature Range : Above Ambient to 250˚C with an accuracy of ±1˚C
- Heating Element - Round Heater.
- Sensor Type - J-Type Thermo Couple Sensors up to 250˚C

Date of Installation : 02-12-2016

Working Condition : Yes

Funded by: Indian Space Research Organization, Department of Space, Government of India

Faculty member In charge/ looking after the equipment: Dr. T. VijayaKumar

4. ELECTRONIC BALANCE – SHIMADZU MAKE (3 digit) - 1 No.

Specifications:

- Model - BL220H
- Capacity - 220 gm
- Pan Size - 100 x 100mm

Date of Installation : 19-01-2017

Working Condition : Yes

Funded by: Indian Space Research Organization, Department of Space, Government of India

Faculty member In charge/ looking after the equipment: Dr. T. VijayaKumar

5. DIGITAL ULTRSONIC CLENER (SONICATOR): LABMAN - 1 No.

Specifications:

- Model - LMUC-2
- Capacity - 1.8 Litres
- 40 KHz Frequency For Effective Cleaning With Low Noise

Date of Installation : 19-01-2017

Working Condition : Yes

Funded by: Indian Space Research Organization, Department of Space, Government of India

Faculty member In charge/ looking after the equipment: Dr. T. VijayaKumar

6. FUME EXHAUST HOOD TABLE TOP MODEL - 1 No.

Specifications:

- Size : Size: L 3ft x W2ft x H3ft
- M.O.C : M.S. With powder coated
- Working Area : P.P. (Poly propylene) sheet
- Blower details:
  - Volume : 1000 CFM
  - Pressure : 2.5” W.G
  - Motor : 1/2HP/ 3phase motor
  - RPM : 1440
  - Type : Centrifugal
  - Duty : Exhaust
  - Model : RASHMI 900FH
  - Balancing : Dynamically
  - Impeller : Radial straight type

Date of Installation : 19-01-2017

Working Condition : Yes

Funded by: Indian Space Research Organization, Department of Space, Government of India

Faculty member In charge/ looking after the equipment: Dr. T. VijayaKumar

7. SIGMA HOT AIR OVEN (DIGITAL TEMPERATURE CONTROL) - 1 No.

Specifications:

- Temperature Range: 5°c above ambient to 250°c.
- Inner Size - 18” x 18” x 18”
- Power – 1550 W
- Double Walled Chamber, Inner made of Stainless Steel and Outer made of cold rolled mild steel sheets duly finished in powder coating
- Heating is by Nichrome wire heaters evenly distributed on the three sides
- Digital Temperature controller

Date of Installation : 19-01-2017

Working Condition : Yes

Funded by: Indian Space Research Organization, Department of Space, Government of India

Faculty member In charge/ looking after the equipment: Dr. T. VijayaKumar

PlanarGROW-2M Thermal Chemical Vapor Deposition (CVD) System

Specifications:

- planarGROW-2M thermal CVD system is a benchtop horizontal quartz hot-wall reactor for graphenegrowth
- Equipped with 3 Mass Flow Controller (MFC) controlled gas lines [CH_4, Ar, and H_2] along with 10 Torr Capacitance Manometer and Mass Flow and PressureController
- Maximum temperature of the reactor is 1100°C

Date of nstallation : 23-01-2018

Funded by: DST-SERB & SRM

Faculty member In charge/ looking after the equipment :Dr.Chandramohan PhD

Name : E lectrospining Fund: DST-SERB

Dat e of installation : March 29

Work ingcondition : Waiting for finish the lab work

Model no. : Mini Pilot

Company : Inove so

Year : 2018

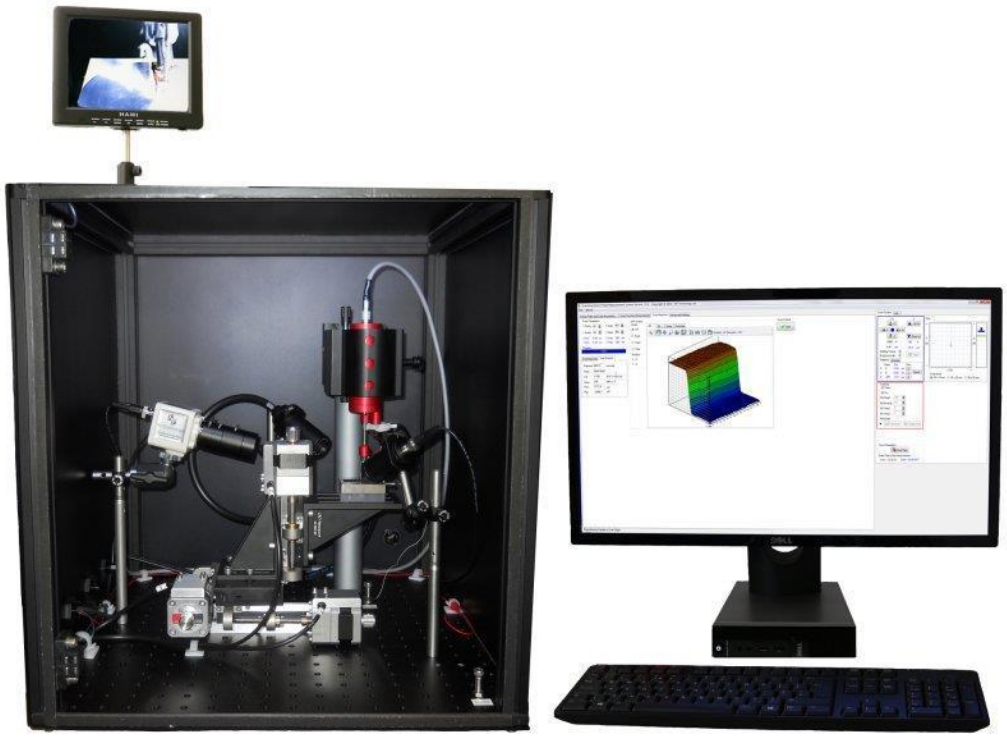
Faculty member In charge/ looking after the equipment :Dr.Debabratasargar PhD

Scanning Kelvin Probe System

Specifications:

Manufacturer	: KP Technology
Model No.	: SKP 5050
Tip diameter	: 50 µm
Work function resolution	: 1 mV
Surface photovoltage Add on	: Yes
Optical system	: Color camera with zoom lens and TFT display
Digital TFT Oscilloscope	: Yes
Date of Installation	: 29-08-2017
Funded by	: DST-SERB-ECRA

Faculty member In charge/ looking after the equipment :Dr.Yuvaraj PhD



34972A - LXI Compliant Data Acquisition unit

Specifications:

Model : 34972A-LXI

Manufacturer : Keysight Technologies

- Digits of resolution :digits (22 bits)
- Measurements include : DC Volts, AC Volts, Thermocouple, Thermistor, RTD Temperature, measurements, 2- and 4-wire resistance,
- AC Current, DC Current, Frequency
- Channels : 20
- IO interface (USB, LAN, GPIB): Yes

Date of Installation : 27-12-2017

Funded by : DST-SERB-ECRA

Faculty member In charge/ looking after the equipment :Dr.Yuvaraj PhD

3. Digital Precision Multi meter

Specifications:

Model: 34460 A

Manufacturer: Keysight Technologies

- Digits of resolution:
- DCV: 100 mV to 1000 V
- ACV(RMS): 100 mV to 750 V
- DCI: 100 µA to 10 A
- ACI: 100 µA to 10 A
- 2- and 4-wire resistance: 100 Ω to 100 MΩ
- Frequency, period: 3 Hz to 300 kHz
- Capacitance: 1.0 nF to 100.0 µF
- Temperature: RTD/PT100, Thermistor
- Display: Color, Graphical
- Statistical graphics: Histogram, bar chart, trend chart

Date of Installation : 27-12-2017

Funded by : DST-SERB-ECRA

Faculty member In charge/ looking after the equipment :Dr.Yuvaraj PhD

Semiconductor Parameter Analyzer

Specifications:

Model: Keithley 4200A-SCS

Manufacturer: Tektronix

Semiconductor Parameter Analyzer with following features

I-V Module

- Maximum voltage range and resolution (100 V and resolution in □V range)
- Step size (□V range)
- Maximum current range and resolution (1A with 100 nA resolution)
- Minimum current range and resolution (pA range with fA resolution)

C-V Module

- Capacitance measurement unit with frequency range (1Hz to 1MHz)
- Frequency resolution (1Hz resolution)
- Signal output level range (10 mV)
- Capacitance measurement accuracy (pF range)

Date of Installation : not yet installed

Funded by: SRM start-up grant for Newly joined research track faculty

Faculty member In charge/ looking after the equipment :Dr.Yuvaraj PhD

Name of the equipment and make : Aethalometer

Year of Installation :2011

Broad Specifications:

Measuring Black carbon mass concentration at wavelengths of 370nm, 470nm, 520nm, 590nm, 660nm, 880nm, 935nm.

Faculty member In charge/ looking after the equipment :Dr. T. V. Lakshmi Kumar

Picture of the equipment:

Name of the equipment and make :Sun photometer

Year of Installation :2011

Broad Specifications:

Measuring aerosol optical depth at wavelengths of 380nm,440nm,500nm, 675nm, 870nm.

Faculty member In charge/ looking after the equipment :Dr. T. V. Lakshmi Kumar

Picture of the equipment:

Name of the equipment and make :Multi Wavelength Radiometer

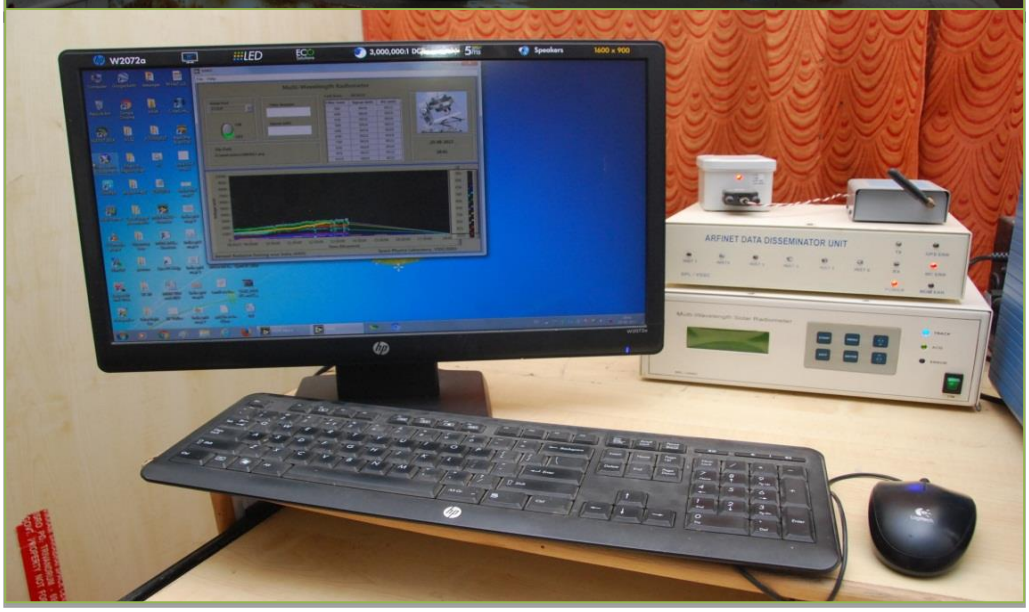
Year of Installation :2014

Broad Specifications:

Measuring aerosol optical depth at wavelengths of 380nm,400nm, 450nm, 500nm, 600nm, 650nm, 750nm, 850nm, and Total columnar watervapour at 935nm, 1025nm.

Faculty member In charge/ looking after the equipment :Dr. T. V. Lakshmi Kumar

Picture of the equipment:



Name of the equipment and make : CNR-4 Net Radiometer

Year of Installation :2014

Broad Specifications : Measuring short wave and long wave radiation

Faculty member In charge/ looking after the equipment :Dr. T. V. Lakshmi Kumar

Picture of the equipment:

Name of the equipment and make :High Volume Sampler

Year of Installation :2017

Broad Specifications : Collecting theParticulate Matter 10 (PM10)

Faculty member In charge/ looking after the equipment :Dr. T. V. Lakshmi Kumar

Picture of the equipment:

Name of the equipment and make :Lidar

Year of Installation :2016

Broad Specifications : Measuring the Atmospheric Boundary layer height.

Faculty member In charge/ looking after the equipment : Prof. D. NarayanaRao /
Dr. T. V. Lakshmi Kumar

Picture of the equipment:

Name of the equipment and make : Disdrometer

Year of Installation :2018

Broad Specifications : Measuring Raindrop size and rainfall intensity.

Faculty member In charge/ looking after the equipment : Dr. T. V. Lakshmi Kumar

Picture of the equipment:

Name of the equipment and make :Automatic Weather Station

Year of Installation :2018

Broad Specifications:

Giving Temperature, Pressure, Relative humidity and Wind speed & direction at 2m height.

Faculty member In charge/ looking after the equipment : Prof. D. NarayanaRao /
Dr. T. V. Lakshmi Kumar

Picture of the equipment:

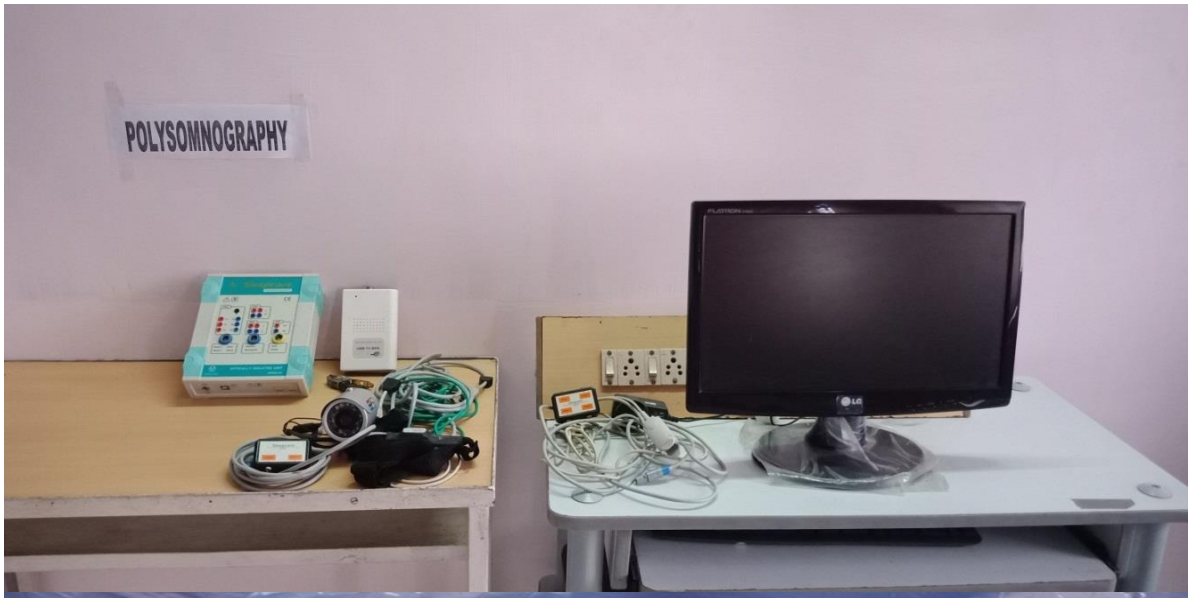
DEPARTMENT OF PHYSIOLOGY

Name of the Equipment and make : SleepcarePolysomnography PS-21 (MEDICAID)

Yearof Installation : 2012

Broadspecification : 21 channelpolysomnograph.

Faculty member In charge/looking after the equipment : Dr K Thamaraiselvi M.D. Professor Dept of Physiology.



Name of the equipment and make : Double Beem UV-VIS Spectrophotometer, Royal Testing

Year of installation : 2012

Broad specifications : ELICO

Faculty member in charge / looking after the equipment : - HOD

Picture of the equipment :

Name of the equipment and make : FERMENTOR,SCIGENIC LTD

Year of installation : 2005

Broad specifications : BIOFERM LS2

Faculty member in charge / looking after the equipment: - HOD

Picture of the equipment :

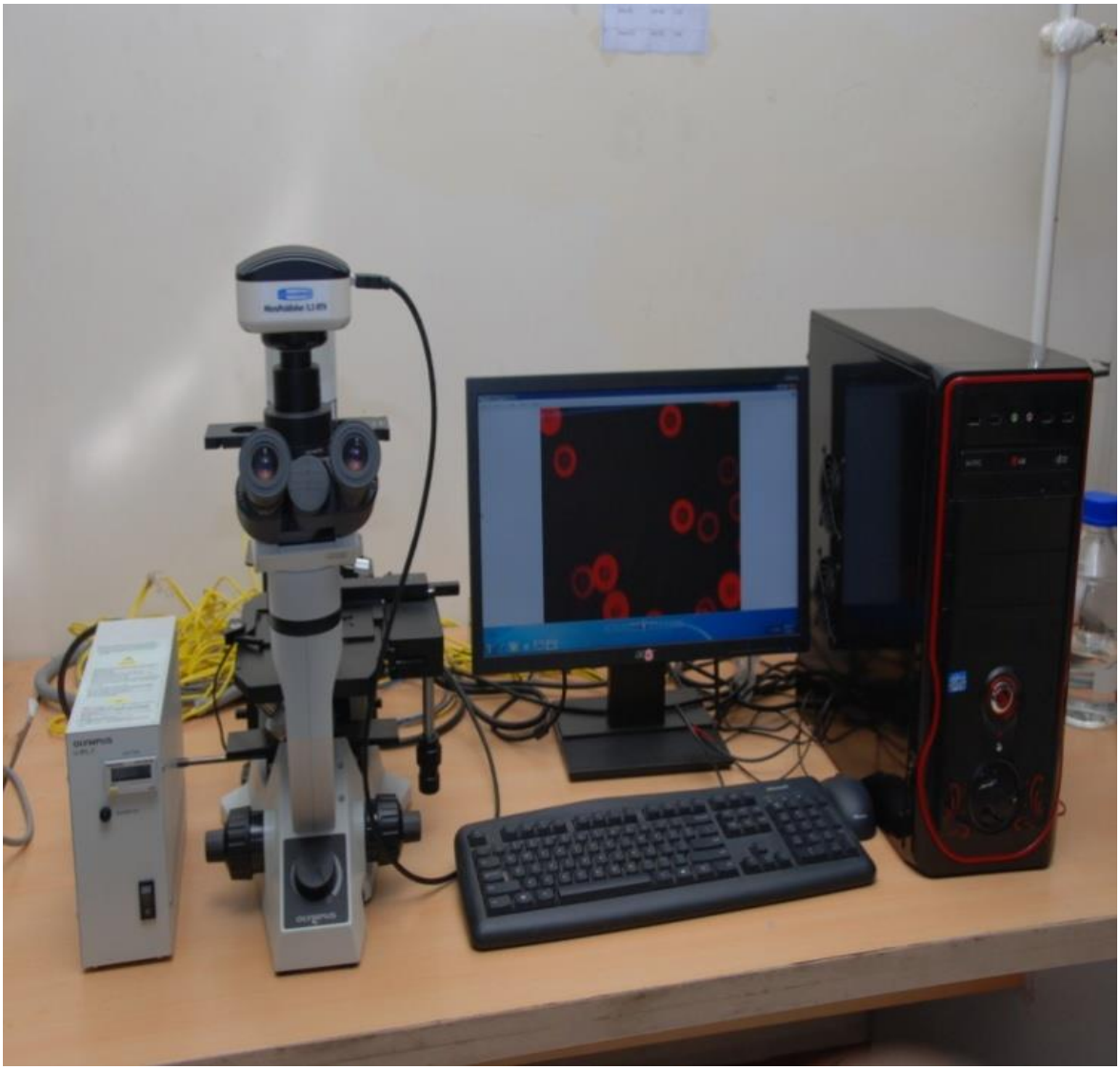
Name of the equipment and make : Fluorescent Microscope

Year of installation : 2009

Broad specifications : FLUROSCENCE STUDIES

Faculty member in charge / looking after the equipment : - HOD

Picture of the equipment :



Name of the equipment and make : Flurometer and Luminometer, Siscon

Year of installation : 2014

Broad specifications : AGILENT TECHNOLOGIES.

Faculty member in charge / looking after the equipment : - HOD

Picture of the equipment :

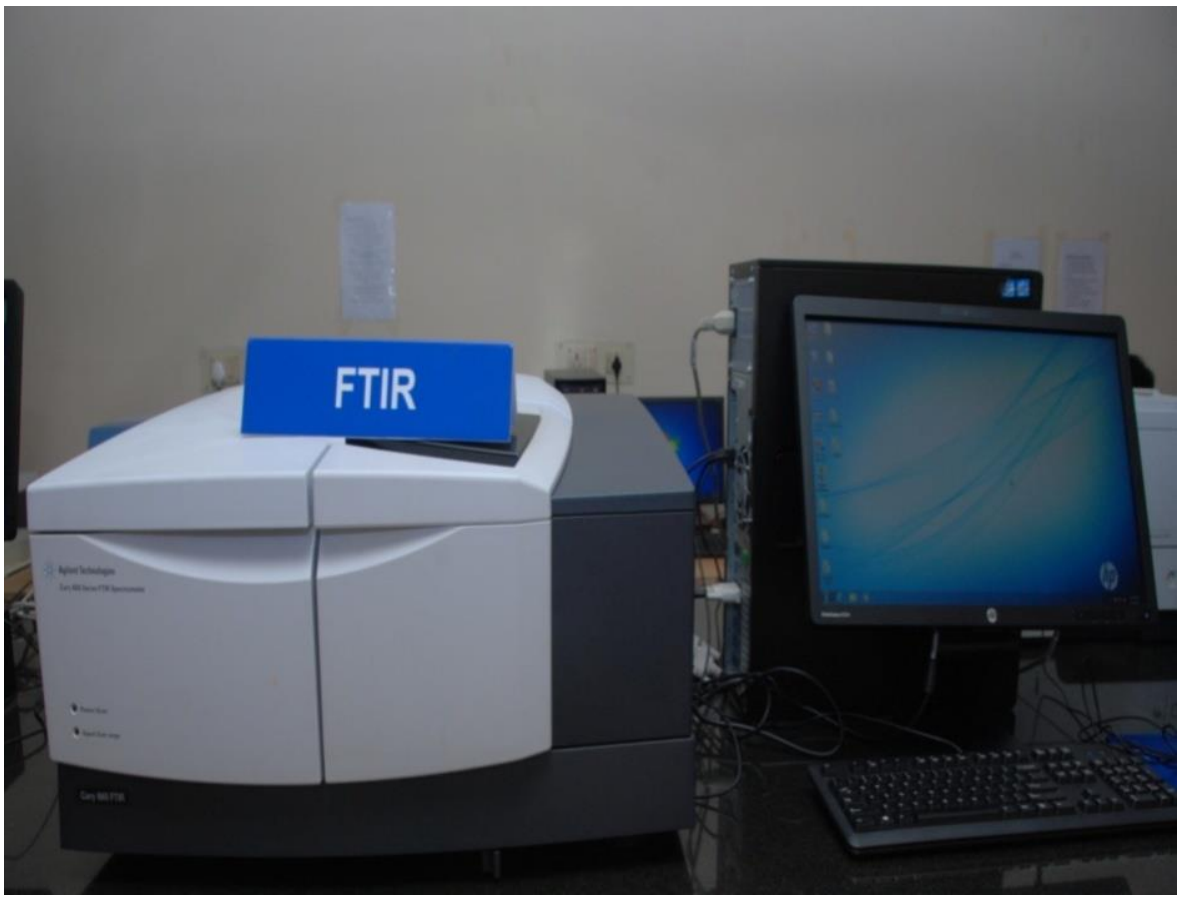
Name of the equipment and make : FTIR, AGILENT Technologies.

Year of installation : 2014

Broad specifications : AGILENT TECHNOLOGIES.

Faculty member in charge / looking after the equipment :- HOD

Picture of the equipment :



Name of the equipment and make : GCMS, AGILENT Technologies.

Year of installation : 2014

Broad specifications : AGILENT TECHNOLOGIES.

Faculty member in charge / looking after the equipment : - HOD

Picture of the equipment :

Name of the equipment and make : High Speed Centrifuge, Southern India

Year of installation : 2012

Broad specifications : REMI (R24)

Faculty member in charge / looking after the equipment :- HOD

Picture of the equipment :

Name of the equipment and make : High Speed Centrifuge with 3 Rotors,Kubota

Year of installation : 2005

Broad specifications : KUBOTA

Faculty member in charge / looking after the equipment :- HOD

Picture of the equipment :

Name of the equipment and make : High Performance Liquid Chromotography, Agilent Technologies.

Year of installation : 2013

Broad specifications : AGILENT TECHNOLOGIES.

Faculty member in charge / looking after the equipment :- HOD

Picture of the equipment :

Name of the equipment and make : Inverted Microscope,Lab India

Year of installation : 2005

Broad specifications : LEICA

Faculty member in charge / looking after the equipment : - HOD

Picture of the equipment :

Name of the equipment and make : Lcms 2020,Spincotech Pvt Ltd

Year of installation : 2005

Broad specifications : SHIMADZU

Faculty member in charge / looking after the equipment : - HOD

Picture of the equipment :

Name of the equipment and make : Merk Millipore, Millipore (India) Pvt Limited

Year of installation : 2012

Broad specifications : Millipore Water up to 10 Liter Capacity

Faculty member in charge / looking after the equipment : - HOD

Picture of the equipment :

Name of the equipment and make : Phase Contrast Microscope, Siscon

Year of installation : 2009

Broad specifications : OLYMPUS

Faculty member in charge / looking after the equipment : - HOD

Picture of the equipment :

Name of the equipment and make : Ultra Sonicator, Siscon

Year of installation : 2014

Broad specifications : BRANSON

Faculty member in charge / looking after the equipment : HOD

Picture of the equipment :

Name of the equipment and make : UV-VIS Microplate Spectrophotometer, Siscon

Year of installation : 2014

Broad specifications : AGILENT TECHNOLOGIES

Faculty member in charge / looking after the equipment : - HOD

Picture of the equipment :

Name of the equipment and make : UV-VIS Spectrophotometer, Agilent Technologies

Year of installation : 2014

Broad specifications : AGILENT TECHNOLOGIES

Faculty member in charge / looking after the equipment : - HOD

Picture of the equipment :

Name of the equipment and make :UV-Transilluminator, Amersham Bioscience

Year of installation : 2005

Broad specifications : AMERSHAM BIOSCIENCE

Faculty member in charge / looking after the equipment : - HOD

Picture of the equipment :

Name of the Department : BIOTECHNOLOGY

Name of the equipment and make : AKTA PRIME PLUS (FPLC), GE HEALTH CARE

Year of installation : 2006

Broad specifications : AKTA PRIME GE HEALTH CARE

Faculty member in charge / looking after the equipment : - Dr. K.Venkatesan

Picture of the equipment :

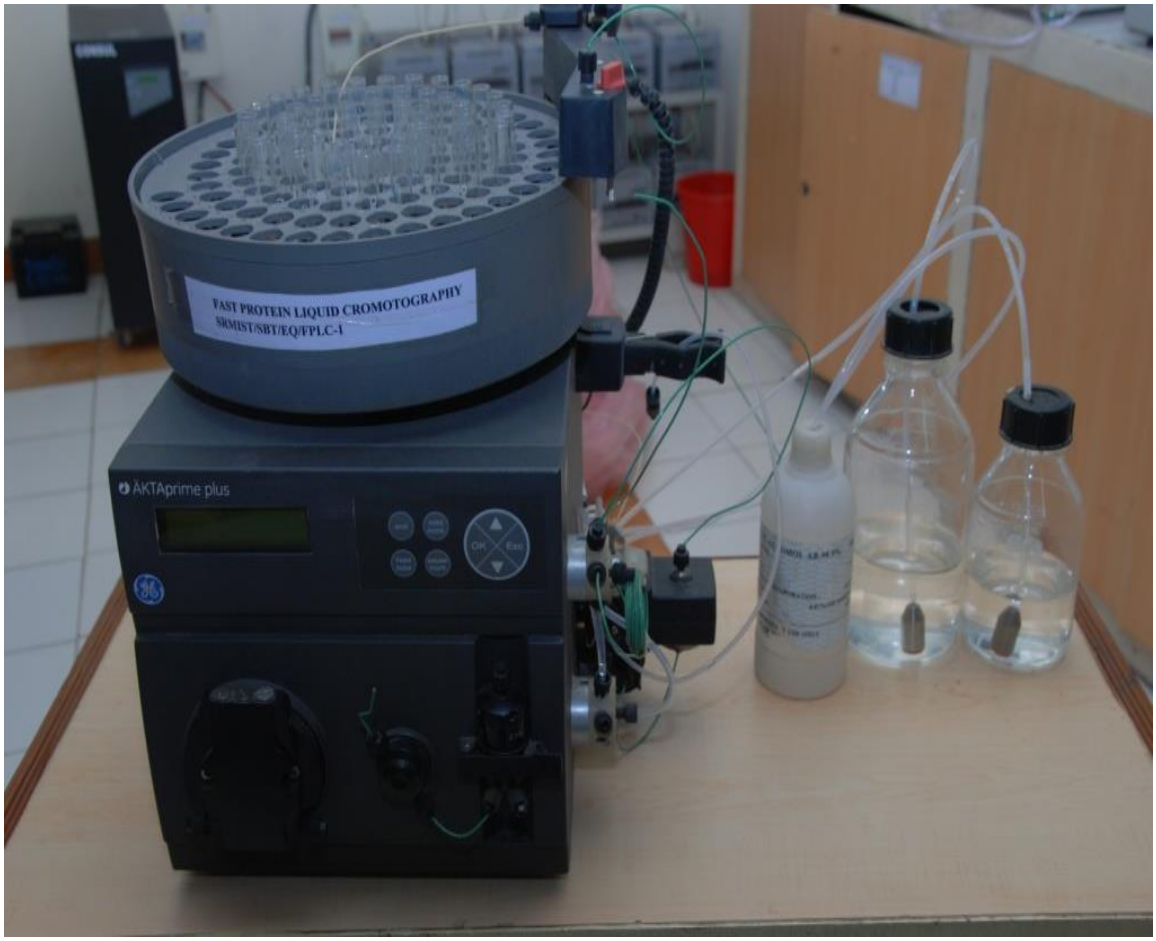
Name of the equipment and make : AKTA PURIFIER (FPLC), GE HEALTHCARE

Year of installation : 2006

Broad specifications : AKTA PRIME GE HEALTH CARE

Faculty member in charge / looking after the equipment : -Dr. K.Venkatesan

Picture of the equipment :



Name of the equipment and make : Chem Doc Xrs and Image, Biorad Laboratories

Year of installation : 2014

Broad specifications : BIORAD LABORATORIES

Faculty member in charge / looking after the equipment :- Dr.S.Nageswaran

Picture of the equipment :

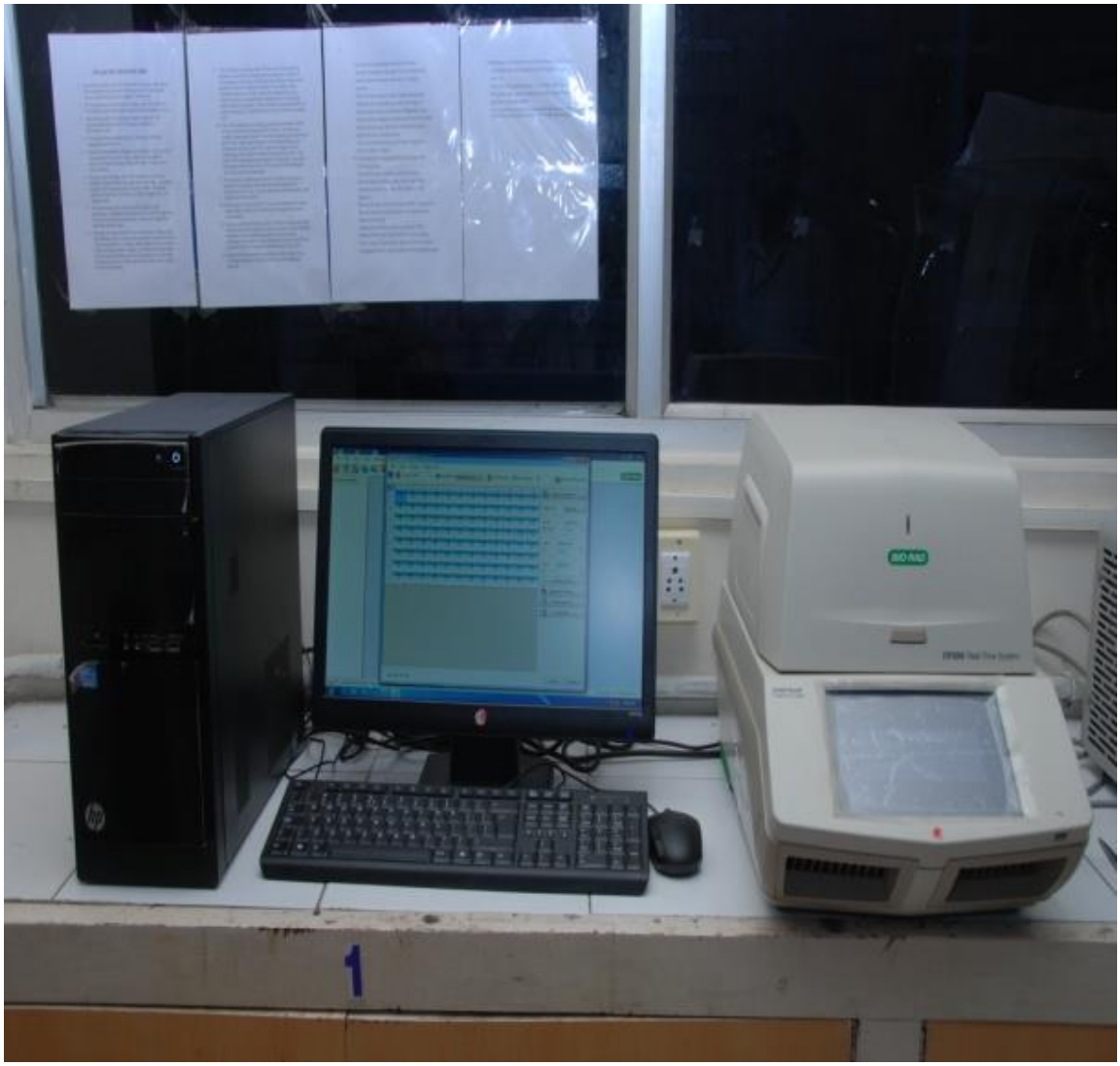
Name of the equipment and make : CFX Touch System (RT-PCR), Biorad Laboratories

Year of installation : 2014

Broad specifications : BIORAD LABORATORIES

Faculty member in charge / looking after the equipment : - Dr.K. SuvankarGhorai

Picture of the equipment :



Name of the equipment and make : Deep Freezer,Southern India

Year of installation : 2012

Broad specifications : THERMO SCIENTIFIC

Faculty member in charge / looking after the equipment : - Dr.S.Subhashini

Picture of the equipment :

Name of the equipment and make : Double Beem UV-VIS Spectrophotometer, Royal TESTING

Year of installation : 2012

Broad specifications : ELICO

Faculty member in charge / looking after the equipment : - Dr.K.Venkatesan

Picture of the equipment :

Name of the equipment and make : Fermentor, Scigenic Ltd

Year of installation : 2005

Broad specifications : BIOFERM LS2

Faculty member in charge / looking after the equipment : - Dr.M.VenkateshPrabhu

Picture of the equipment :

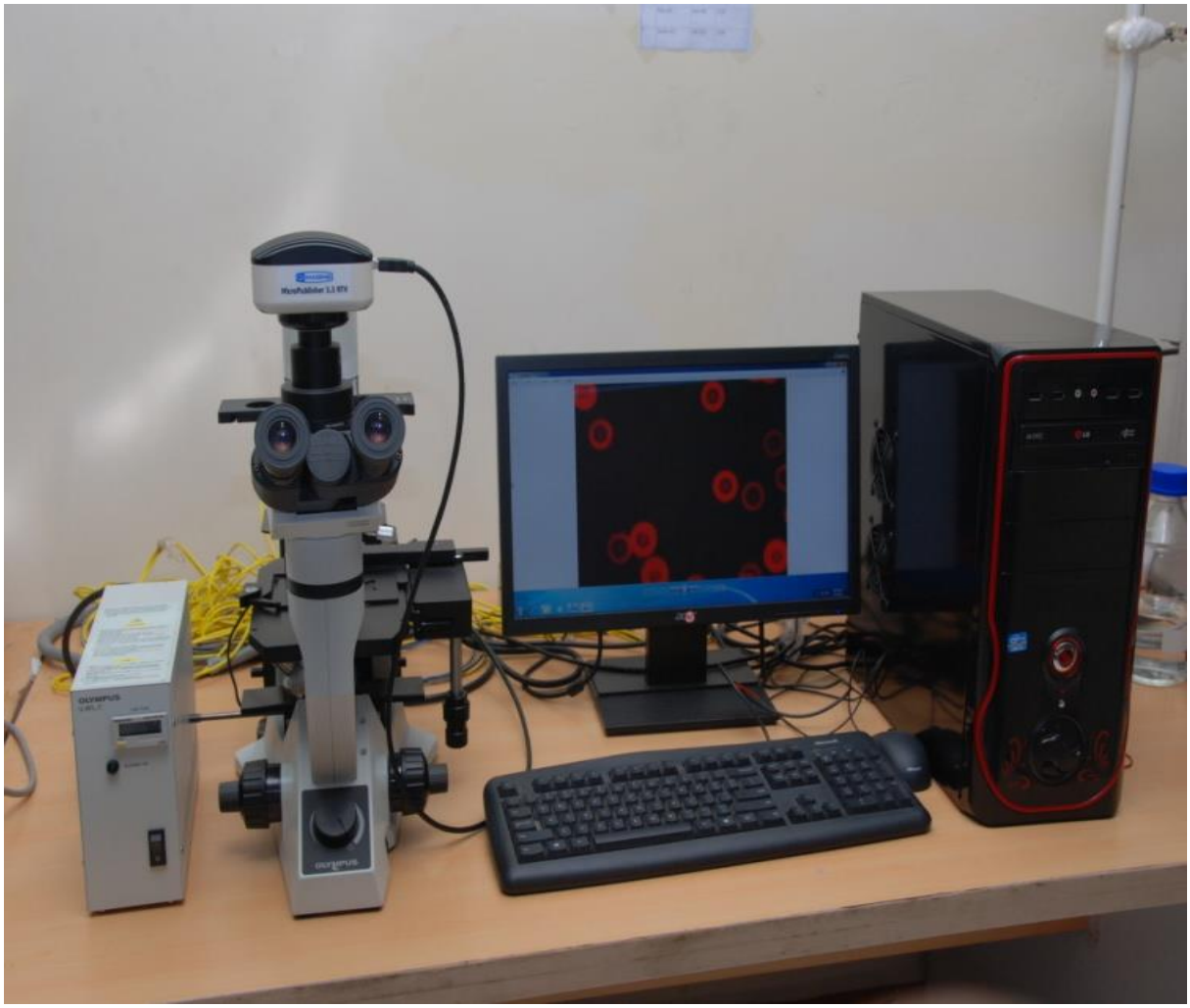
Name of the equipment and make : Fluorescent Microscope

Year of installation : 2014

Broad specifications : Olympus

Faculty member in charge / looking after the equipment : Dr.S.Nageswaran

Picture of the equipment :



Name of the equipment and make : Flurometer and Luminometer, Siscon

Year of installation : 2014

Broad specifications : Fluroskan Ascent

Faculty member in charge / looking after the equipment : - Dr.S.Nageswaran

Picture of the equipment :

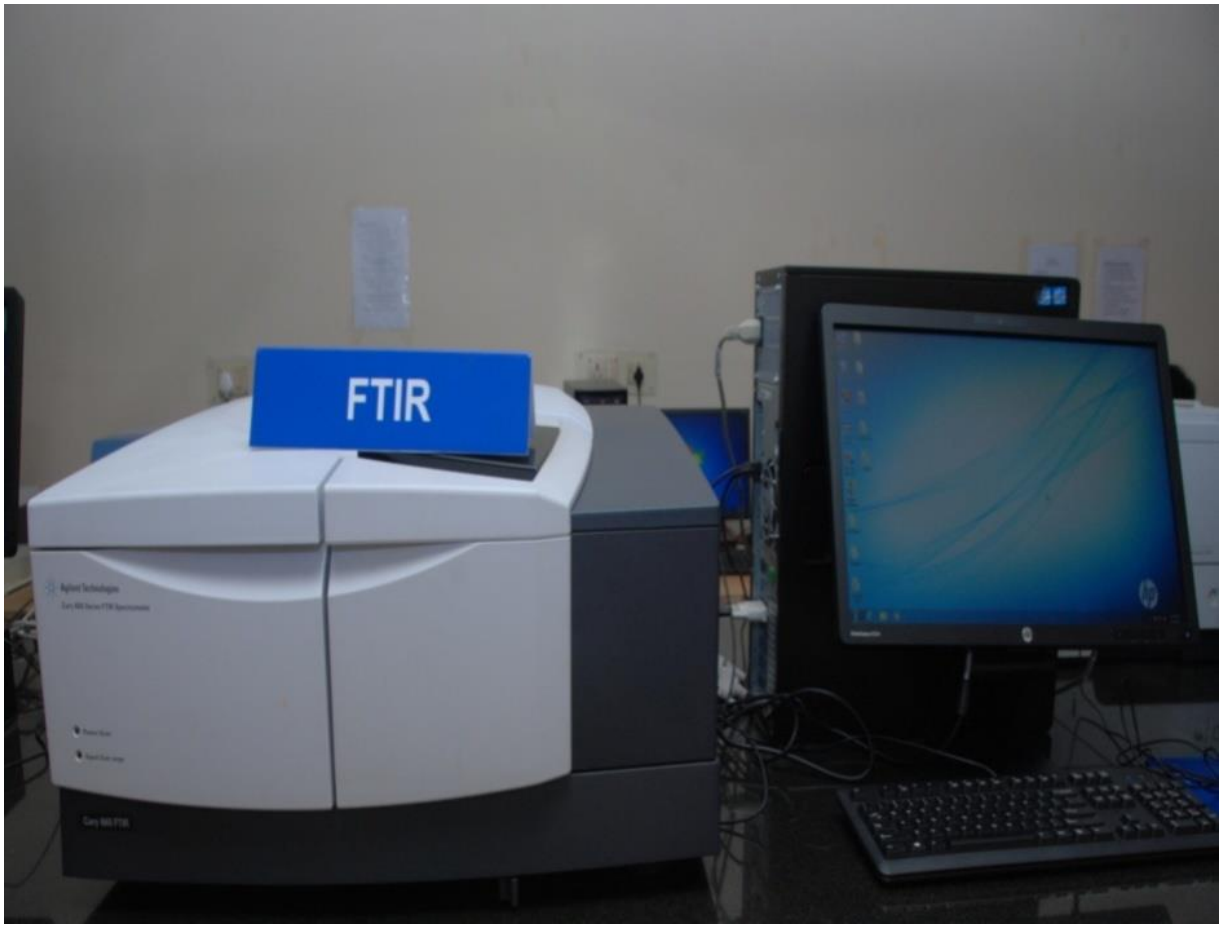
Name of the equipment and make : FTIR, AGILENT Technologies.

Year of installation : 2014

Broad specifications : AGILENT TECHNOLOGIES.

Faculty member in charge / looking after the equipment : -Dr.S.Rupachandra

Picture of the equipment :



Name of the equipment and make : GCMS,AGILENT Technologies.

Year of installation : 2014

Broad specifications :AGILENT TECHNOLOGIES.

Faculty member in charge / looking after the equipment: -Dr.S.Nageswaran

Picture of the equipment :

Name of the equipment and make : High Speed Centrifuge, Southern India

Year of installation : 2012

Broad specifications : REMI (R24)

Faculty member in charge / looking after the equipment : - Dr.K.Ramani

Picture of the equipment :

Name of the equipment and make : High Speed Centrifuge with 3 Rotors, Kubota

Year of installation : 2005

Broad specifications : KUBOTA

Faculty member in charge / looking after the equipment :- Dr.K.Venkatesan

Picture of the equipment :

Name of the equipment and make : High Performance Liquid Chromotography, Agilent Technologies.

Year of installation : 2013

Broad specifications : AGILENT TECHNOLOGIES.

Faculty member in charge / looking after the equipment : -Dr.S.Nageswaran

Picture of the equipment :

Name of the equipment and make : Inverted Microscope, LabIndia

Year of installation : 2005

Broad specifications : LEICA

Faculty member in charge / looking after the equipment :-Dr.S.Nageswaran

Picture of the equipment :

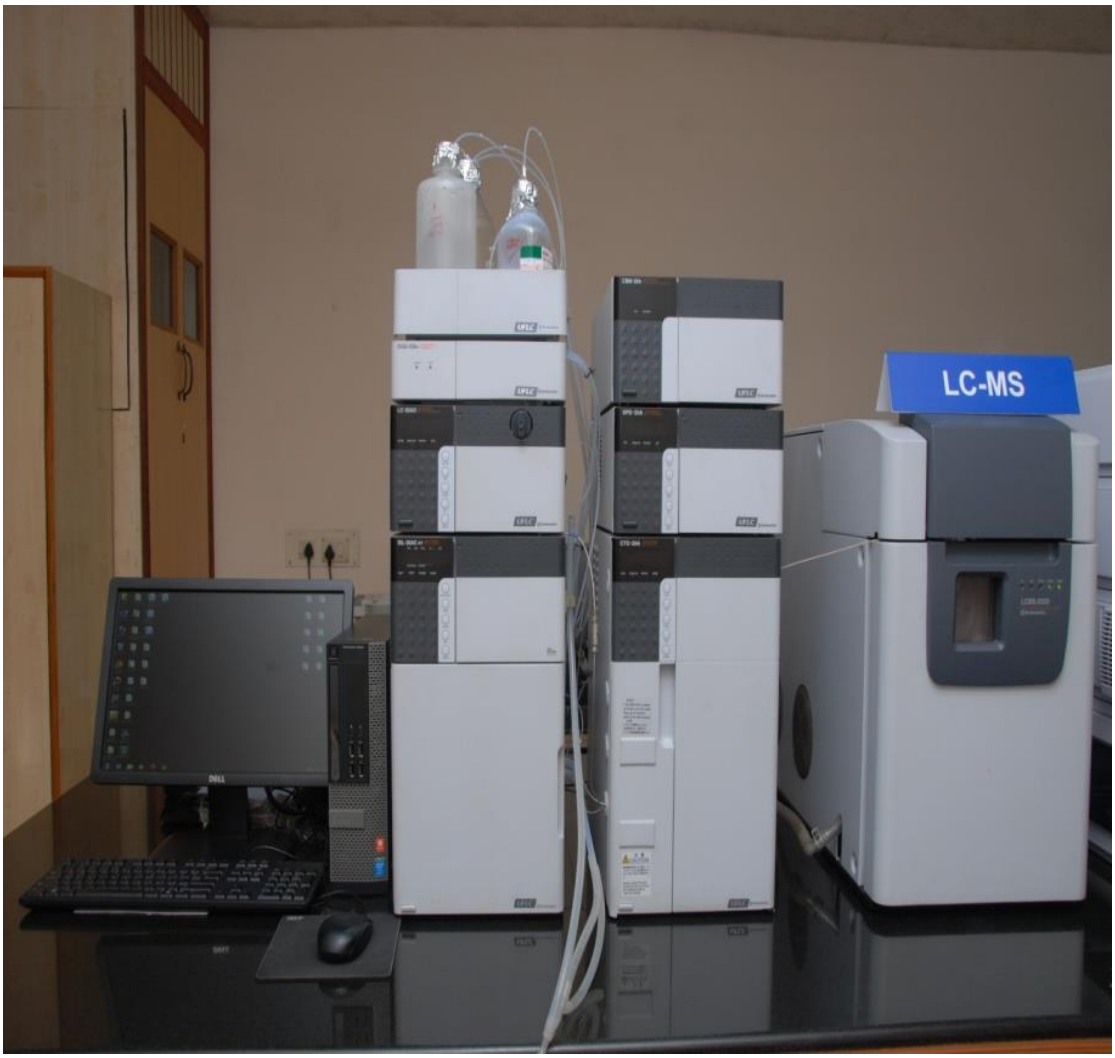
Name of the equipment and make : Lcms 2020, Spincotech Pvt Ltd

Year of installation : 2010

Broad specifications : SHIMADZU

Faculty member in charge / looking after the equipment : -Dr.S.Nageswaran

Picture of the equipment :



Name of the equipment and make :Liquid Nitrogen Container (Ln2),Siscon

Year of installation : 2015

Broad specifications : Thermo Fisher

Faculty member in charge / looking after the equipment : -Dr.N.Selvamurugan

Picture of the equipment :

Name of the equipment and make : Merk Millipore, Millipore (India) Pvt Limited

Broad specifications : Merck Millipore

Faculty member in charge / looking after the equipment :-Mrs.P.Radha

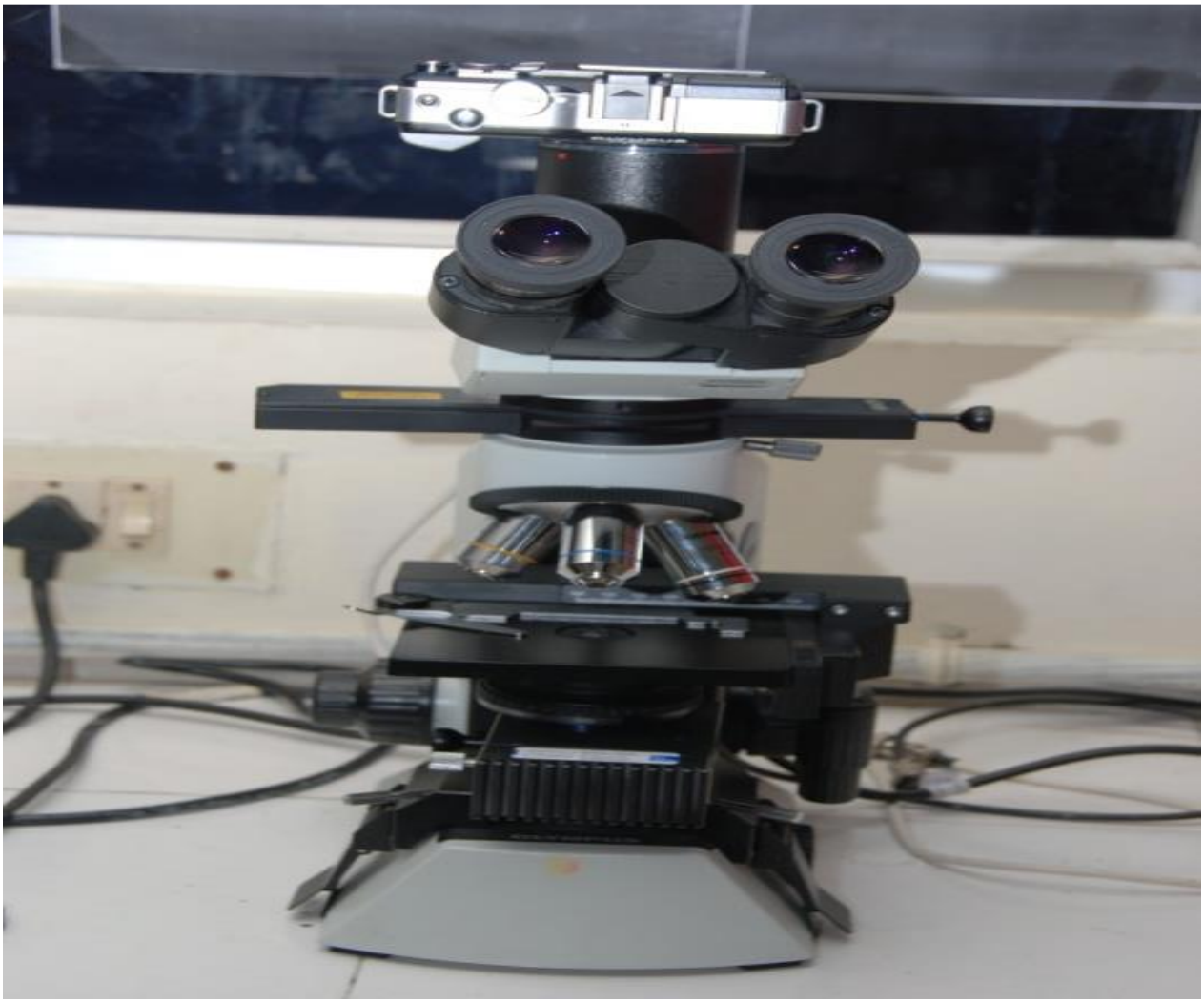
Picture of the equipment :

Name of the equipment and make : Phase Contrast Microscope, Siscon

Broad specifications : OLYMPUS

Faculty member in charge / looking after the equipment :- Dr.K.Venkatesan

Picture of the equipment :



Name of the equipment and make : ULTRA SONICATOR,SISCON

Broad specifications : BRANSON

Faculty member in charge / looking after the equipment :- Dr.K.Venkatesan

Picture of the equipment

Name of the equipment and make : UV-VIS Microplate Spectrophotometer, Siscon

Year of installation : 2014

Broad specifications : Thermo Scientific

Faculty member in charge / looking after the equipment :-Dr.S.Nageswaran

Picture of the equipment :

Name of the equipment and make : UV-VIS Spectrophotometer, Agilent Technologies

Year of installation : 2014

Broad specifications : AGILENT TECHNOLOGIES

Faculty member in charge / looking after the equipment :-Dr.S.Nageswaran

Picture of the equipment :

Name of the equipment and make : UV -Transilluminator, Amersham Bioscience

Year of installation : 2005

Broad specifications : AMERSHAM BIOSCIENCE

Faculty member in charge / looking after the equipment :-Dr.K.Venkatesan

Picture of the equipment :

RESEARCH INSTITUTE

Name of the equipment and make : Dual Magnetron DC & RF sputtering facility. (VR technologies, Bangalore.RF power supply from SERAN, USA)

Broad specifications : Deposition of thin films by sputtering process (Metals and metal oxides)

Faculty member in charge / looking after the equipment: Dr.P.Malar

Picture of the equipment:

Name of the equipment and make : Stand alone UV exposure source for Optical lithography (OAI, USA)

Broad specifications : Lithography patterning of photoresist using 365 nm UV light.

Faculty member in charge / looking after the equipment: Dr.P.Malar

Picture of the equipment:

Name of the equipment and make : Scanning Tunneling Microscope
(A.P.E. Research, Italy)

Year of installation : 2014

Broad specifications:

Standard scanner technical data

X-Y piezo tube:

- high voltage mode scan size: 10 x 10 μm
- low voltage mode scan size: 650 x 650 nm
- high voltage mode resolution: 1.5 Å
- low voltage mode resolution: 0.1 Å

Z piezo tube:

- high voltage mode scan size: 1.2 μm
- high voltage mode resolution: 0.2 Å

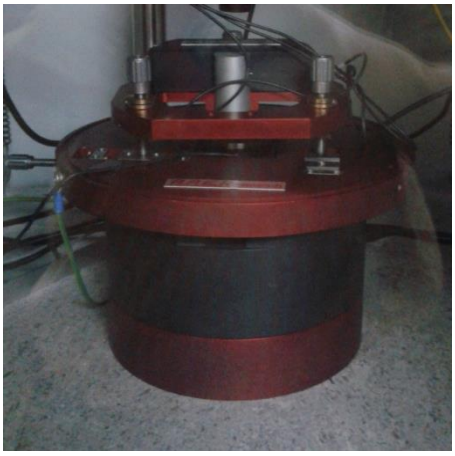
Translator stage data

X-Y range: 5 x 5 mm

Z range: 13 mm (4 mm servo assisted)

Faculty member in charge / looking after the equipment : Dr. ArijitSen

Picture of the equipment:



Name of the equipment and make : Photoluminescence spectrometer,
Horiba Instruments Inc., USA

Year of installation : Received November 2014, Not Installed

Broad specifications:

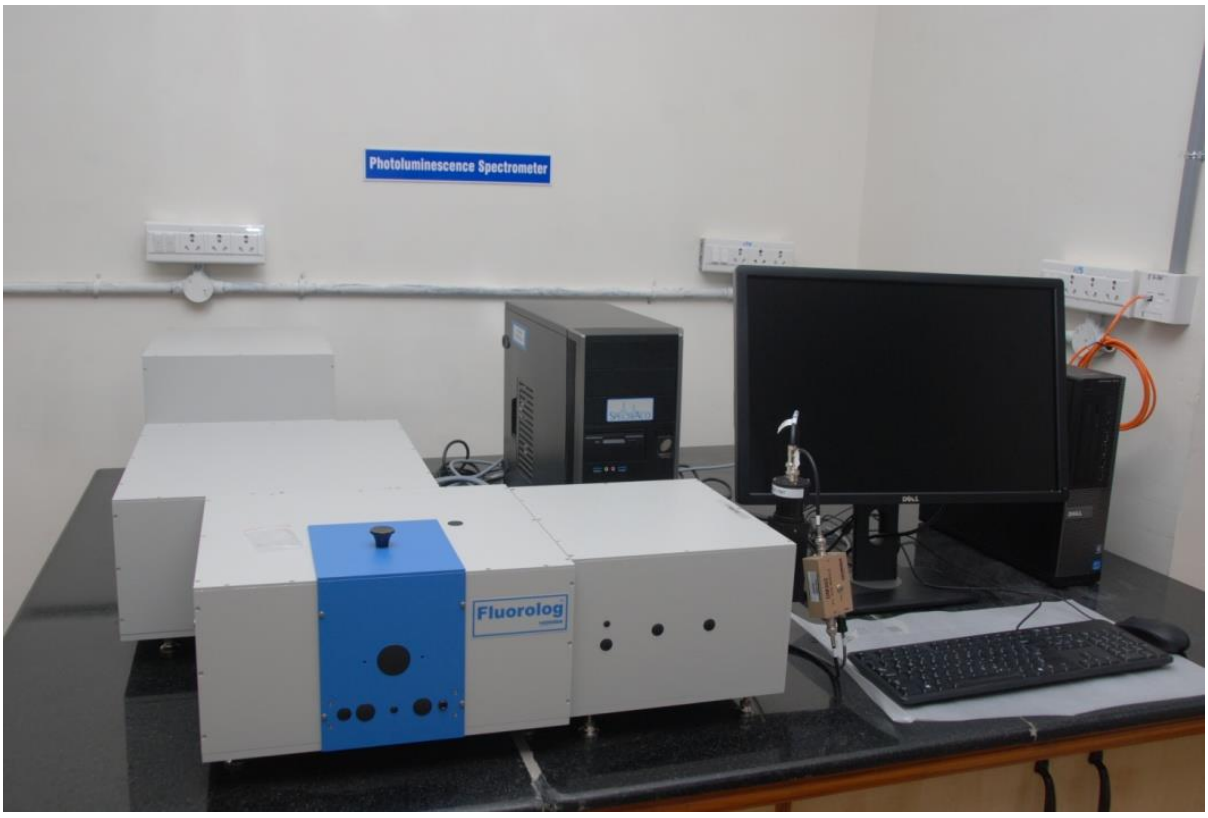
Fluorolog FL3-21Spectrofluorometer from Horiba Instruments Inc., USA:

450 Watt Xenon lamp as the excitation source, Double monochromator on the excitation side, Wavelength range 200-850nm.

Liquid and solid samples

Faculty member in charge / looking after the equipment: Dr. S .VenkataprasadBhat,

Picture of the equipment:



Name of the equipment and make : High Performance Liquid Chromatography (HPLC) - Simadzu, Japan

Year of installation : 2014

Broad specifications:

- To check the concentration of organics present in a solvent, etc
- Simadzu, model No- LC-6AD
- Column – C18 (CTO-20A)
- Detector- PDA (1-CBM-20A), detector-2 (SPD-M20A
- Manual sample injector.
- Oven temperature- 90^0C
- Flow range- 0.001-20mL/min
- Range of constantpressure control- 10-500 kgf/cm^2
- Suction filter- 5µm,
- Line filter- 2µm

Faculty member in charge / looking after the equipment : Prof. B. Neppolian

Picture of the equipment:

Name of the equipment and make : Trace metal analyzer- metrolhm, Netherland

Broad specifications :

- metrolhm, Model -797 VA
- Three electrode system
- Reference electrode- Ag/AgCl electrode
- Counter electrode – platinum (Pt) electrode
- Working electrode- droping mercury electrode (DME)

Faculty member in charge / looking after the equipment : Prof. B. Neppolian

Picture of the equipment:

Name of the equipment and make : Total organic carbon analyzer- Shimadzu, Japan.

Broad specifications:

- To check the total organic compounds present in water
- Shimadzu, model- OCT-L
- Catalyst used for CO_2 detection- platinum (Pt)
- Measurement range - 4µg/L - 25,000mg/L
- Types of TOC detectors-Non-Dispersive Infrared (NDIR) detector
- Carrier gas – high purity nitrogen used as carrier gas
- 8-port auto sampler

Faculty member in charge / looking after the equipment : Prof. B. Neppolian

Picture of the equipment:

Name of the equipment and make : UV-visible and Diffuse reflectance spectroscopy -Analytikjena, Germany.

Broad specifications:

- Analytikjena
- Model- Specord-200
- Real double-beam mode
- Pre-adjusted and voltage stabilized radiation sources.
- Internal helium oxide filter for automatic wavelength calibration and for optimized wavelength accuracy and reproducibility
- DRS- accessories

Faculty member in charge / looking after the equipment : Prof. B. Neppolian

Picture of the equipment:

Name of the Department : SRM Super Computer Center

Name of the equipment and make : Star Server (1+22)

HP - ProLiant

Year of installation : 2013

Broad specifications:

- Processor – Intel,
- Processor Core – 8,
- Processor Main Features – Hyper –Threading
- Technology, Intel QuickPathInterconnect,Intel
- Turbo Boost Technology
- RAM:
- Technology – DDR3 SDRAM
- Memory Speed – 1333MHz
- Memory per node – 128 GB

Faculty member in charge / looking after the equipment : Dr. Ranjit Thapa

Scan me

QR code for Star server

For more details visit : http://mysrm.srmuniv.ac.in/HPCC/

Name of the Department : SRM Super Computer Center

Name of the equipment and make : Comet (1+10)
HP - ProLiant

Year of installation : 2017

Broad specifications:

- Processor – Intel,
- Processor Core – 12,
- Processor Main Features – Hyper –Threading
- Technology, Intel vPro Technology, Intel Turbo
- Boost Technology 2
- RAM:
- Technology – DDR4 LRDIMM
- Memory Speed – 2400MHz
- Memory per node – 256 GB
- Networking:
- Mellanox Infiniband QDR/FDR10.

Faculty member in charge / looking after the equipment : Dr. Ranjit Thapa

Scan me

Qr code for Comet server

For more details visit : http://mysrm.srmuniv.ac.in/HPCC/

Name of the Department : SRM Super Computer Center

Name of the equipment and make : Galaxy (1+40)
HP - ProLiant

Year of installation : 2017

Broad specifications:

- Processor – Intel,
- Processor Core – 12,
- Processor Main Features – Hyper –Threading
- Technology, Intel vPro Technology, Intel Turbo
- Boost Technology 2
- RAM:
- Technology – DDR4 LRDIMM
- Memory Speed – 2400MHz
- Memory per node – 256 GB
- Networking:
- Mellanox Infiniband QDR/FDR10.

Faculty member in charge / looking after the equipment : Dr. Ranjit Thapa

Scan me

Qr code for Galaxy :

For more details visit : http://mysrm.srmuniv.ac.in/HPCC/

Name of the Department : SRM Super Computer Center

Name of the equipment and make : Genome server

HP - ProLiant

Year of installation : 2017

Broad specifications:

- Processor – Intel,
- Processor Core – 16,
- Processor Main Features – Hyper –Threading
- Technology, Intel vPro Technology, Intel Turbo
- Boost Technology 2
- RAM:
- Technology – DDR4
- Memory Speed – 2400MHz
- Memory – 512 GB

Faculty member in charge / looking after the equipment : Dr. Ranjit Thapa

GENOME SERVER - 1.075 TFs

Scan me

Qr code for Genome Server :

For more details visit : http://mysrm.srmuniv.ac.in/HPCC/

Name of the Department : SRM Super Computer Center

Name of the equipment and make : Moon server
Tyrone - camarero

Year of installation : 2018

Broad specifications:

- Processor – Intel,
- Processor Core – 18,
- Processor Main Features – Hyper –Threading
- Technology, Intel vPro Technology, Intel Turbo
- Boost Technology 2
- RAM:
- Technology – DDR4 SDRAM
- Memory Speed – 2400MHz
- Memory – 512 GB
- Networking:
- Mellanox Infiniband QDR/FDR10.

Faculty member in charge / looking after the equipment : Dr. Ranjit Thapa

Scan me

Qr code for Moon server:

For more details visit : http://mysrm.srmuniv.ac.in/HPCC/

Name of the Department : SRM Super Computer Center

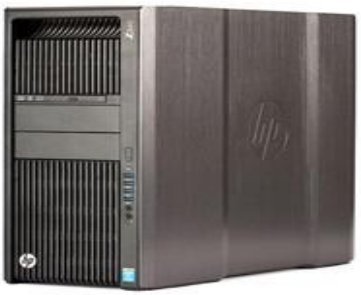
Name of the equipment and make : Workstations - 7
HP-Z840 -5 , Dell -2

Year of installation : 2017

Broad specifications:

- Processor – Intel,
- Processor Core – 14,
- Processor Main Features – Hyper –Threading
- Technology, Intel vPro Technology, Intel Turbo
- Boost Technology 2
- GPU: NVIDIA Quadro M2000 4 GB – 1
- RAM:
- Technology – DDR4
- Memory Speed – 2400MHz
- Memory – 128 GB
- Dell :
- Processor – Intel
- Processor core – 10
- Processor Main Features – Hyper –Threading
- Technology, Intel vPro Technology, Intel Turbo
- Boost Technology 2
- GPU: NVIDIA Quadro M2000 2 GB – 1

Faculty member in charge / looking after the equipment : Dr. Ranjit Thapa



WORKSTATIONS - 5.376 TFs

Scan me

Qr code for workstations :

For more details visit : http://mysrm.srmuniv.ac.in/HPCC/

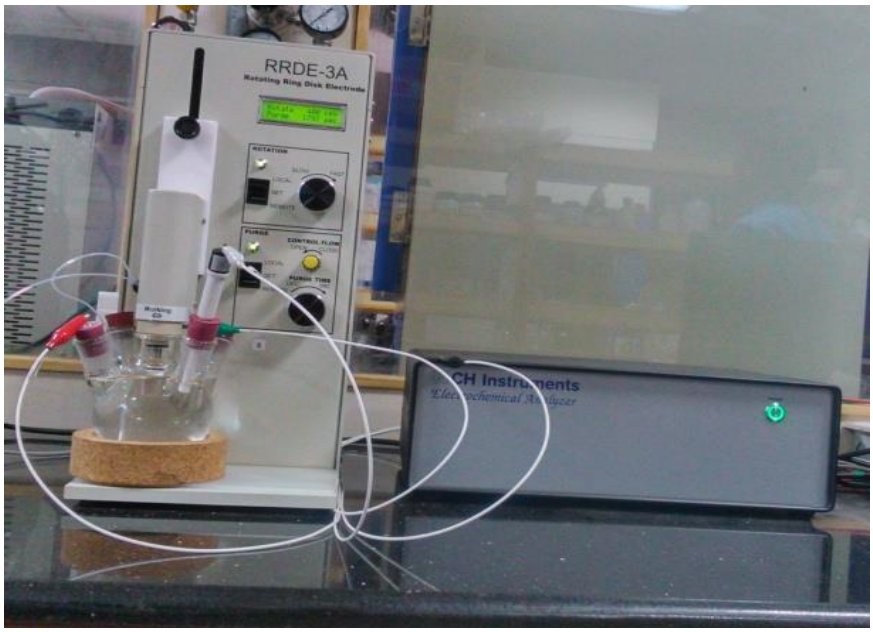
Name of the equipment and make : Potentiostat (CHI604E) with RDE; USA

Broad specifications:

Electrochemical measurement like cyclic voltammetry, ac impedance measurement and RDE measurement can be performed,electrocatalysis can also be carried out.

Faculty member in charge / looking after the equipment : Dr. BhalchandraKakade

Picture of the equipment:



Name of the equipment and make : Tubular furnace with MFCs; India

Broad specifications : High temperature synthesis and annealing under controlled gaseous conditions can be carried out.

Faculty member in charge / looking after the equipment : Dr. BhalchandraKakade

Picture of the equipment:

Name of the equipment and make : Chemical Vapor Deposition,

V.B Ceramics,INDIA

Broad specifications :to synthesize grapheme, carbon nantubes etc

Faculty member in charge / looking after the equipment : Dr. M. Sasidharan

Picture of the equipment:

Name of the equipment and make : Electron Beam with Thermal Evaporation, Hind Hivac System. INDIA

Broad specifications : to deposit metals by evaporation condensation process

Faculty member in charge / looking after the equipment : Dr. M. Sasidharan

Picture of the equipment:

Name of the equipment and make : Gas Chromatography, Agilent Technologies. U.S.A

Year of installation : 2014

Broad specifications : to analyse water and gas samples

Faculty member in charge / looking after the equipment : Dr. M. Sasidharan

Picture of the equipment:

Name of the equipment and make : Gas chromatography - Mass spectrometry
Agilent, model No- 7890 B GC- 5977A MSD

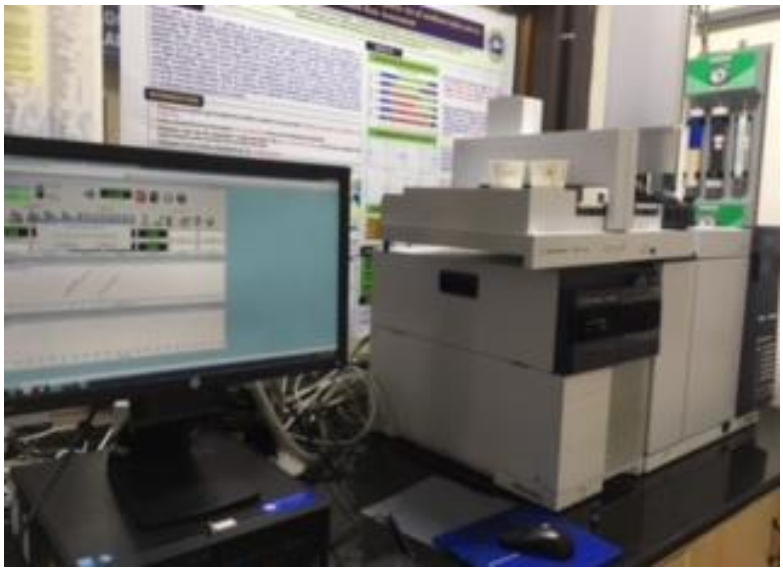
Year of Installation : 2014

Broad Specification:

- To check the concentration of trace organics in various environmental matrices Auto sample injector
- Autosampler – 500 samples can be run.
- HP 5 ms column

Faculty member in charge/ looking after the equipment : Dr. Paromita Chakraborty

Picture of the equipment:



Name of the equipment and make : Glove box Inert Systems, M Braun Inert Systems. GERMANY

Broad specifications : to fabricate lithium ion batteries in humid free environment

Faculty member in charge / looking after the equipment : Dr. M. Sasidharan

Picture of the equipment:

Name of the equipment and make : Potentistat/Galvanostat with Solar Simulator, Biologic Science Instruments. FRANCE

Broad specifications : Electrochemical measurement like cyclic voltammetry, ac impedance measurement, battery and solar cell testing

Faculty member in charge / looking after the equipment : Dr. M. Sasidharan

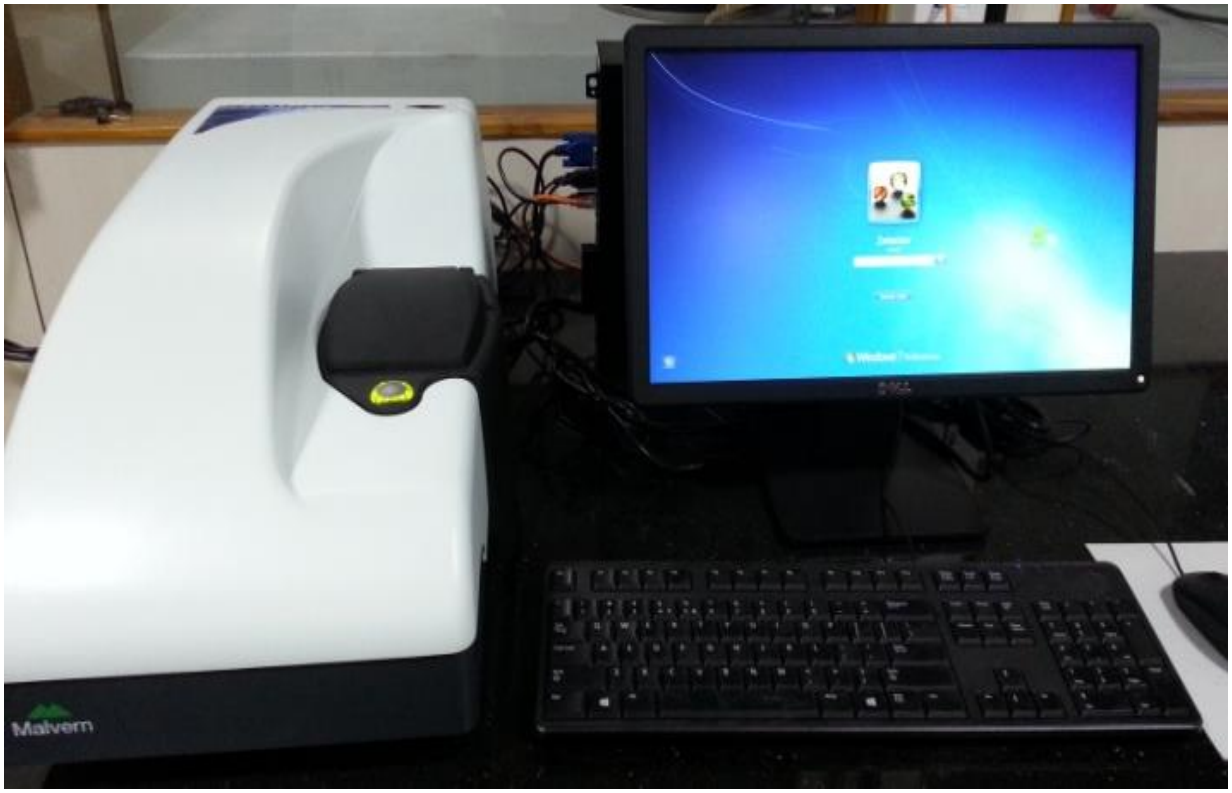
Picture of the equipment:

Name of the equipment and make : Zeta Potential Analyser, Malvern. U.K

Broad specifications : toanalyseparticle size distribution

Faculty member in charge / looking after the equipment : Dr. M. Sasidharan

Picture of the equipment:

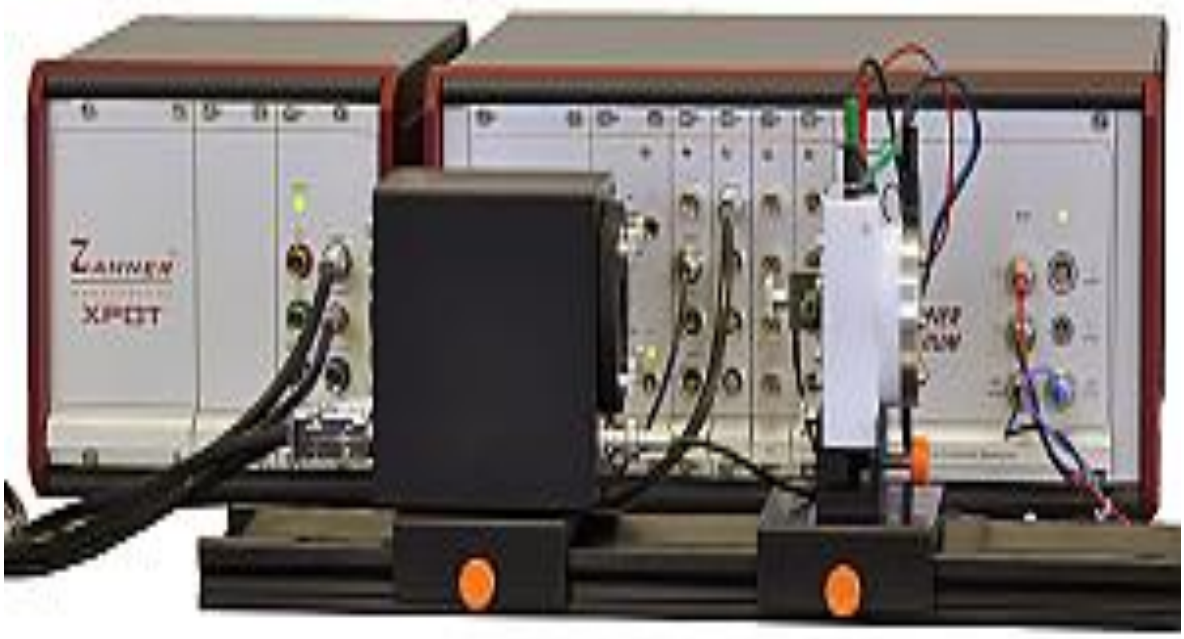


Name of the equipment and make : ZahnerZennium Electrochemical workstation, Netherlands

Broad specifications : Electrochemical analysis

Faculty member in charge / looking after the equipment : Dr. S. Harinipriya

Picture of the equipment:



Name of the equipment and make : BTCorp CVD reactor

Year of installation : 2017

Broad specifications : High Pressure Carbon and Metallic nanoparticle synthesis

Faculty member in charge / looking after the equipment : Dr. S. Harinipriya

Picture of the equipment:

Name of the equipment and make : Sonoplot Microplotter

Year of installation : 2017

Broad specifications : to plot the material ink on flexible and rigid substrates

Faculty member in charge / looking after the equipment : Dr. S. Harinipriya

Picture of the equipment:

Name of the equipment and make : HRTEM, JEOL Japan

Year of installation : 2018

Broad specifications:

High Resolution Transmission Electron Microscope for surface morphology and Lattice studies of materials

Faculty member in charge / looking after the equipment : Dr. Sasidharan

Picture of the equipment:

Name of the equipment and make : XRD, Brucker

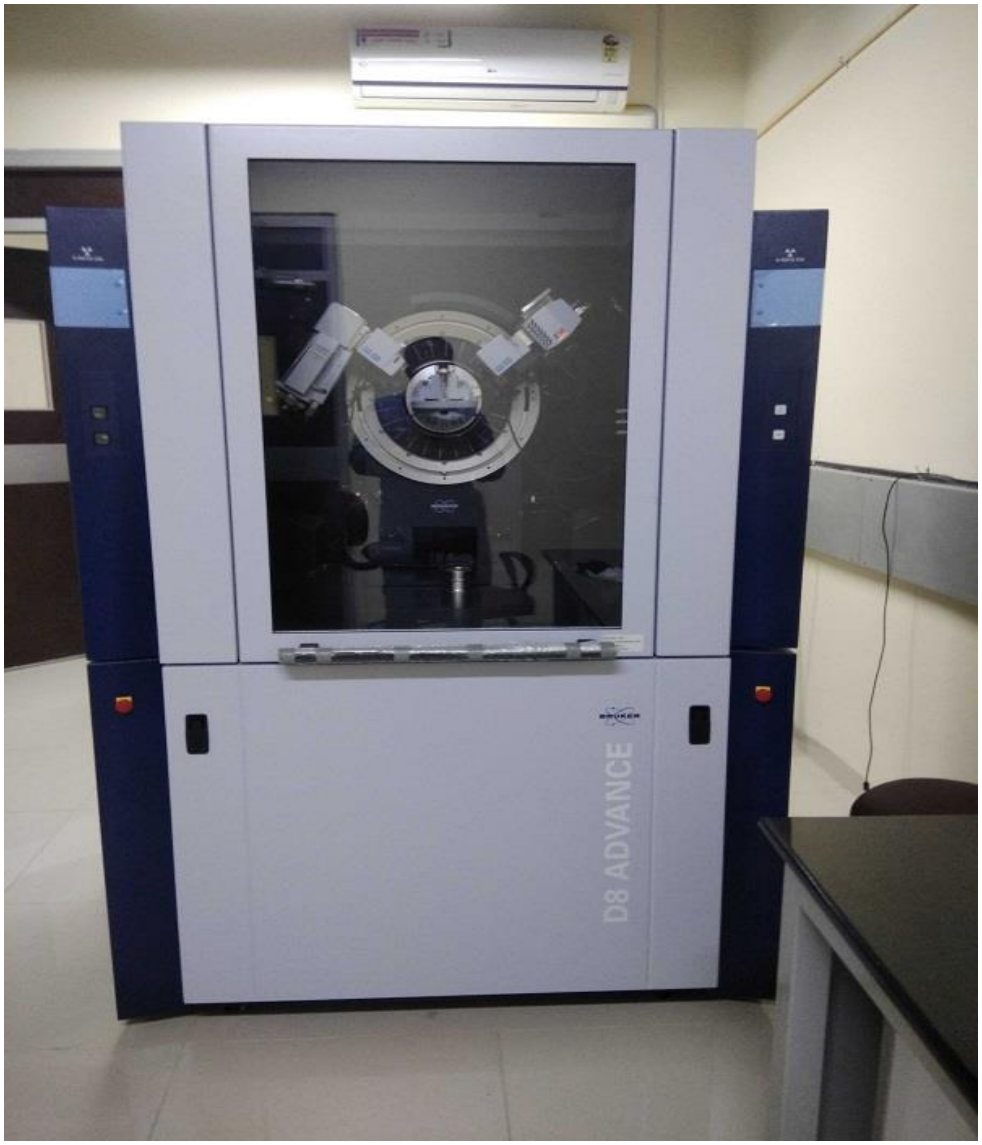
Year of installation : 2018

Broad specifications:

XRD for thin film, low angle and small angle studies of materials

Faculty member in charge / looking after the equipment : Dr. P. Malar

Picture of the equipment:



Name of the equipment and make : Micro Raman, HORIBA France, LABRAM HR Evolution

Year of installation : 2018

Broad specifications : Micro Raman Faccility for optical studies

Faculty member in charge / looking after the equipment :Dr. Senthil Kumar

Picture of the equipment: