THAPAR INSTITUTE
OF ENGINEERING & TECHNOLOGY
(Deemed to be University)

A
PRESENTATION
ON

Open Research Infrastructure @ TIET

Bhupendrakumar Chudasama
Associate Dean, Research and Development Cell

THAPAR INSTITUTE OF ENGINEERING & TECHNOLOGY
PATIALA, PUNJAB – 147004

Thapar Institute of Engineering and Technology Patiala

(Deemed to be university since 1985)

Dr. Rajendra Prasad, laying the foundation stone in **1956.**

Total publication (scopus)	: 14433
Total citation (scopus)	: 280952
h-index (Web of science)	: 154
H-index (scopus	: 180
i10-index (Scopus)	: 5858
NIRF Ranking (2024)	: 29 (Engineering)
	: 29 (University)
THE Ranking (2023)	: 127 (Asia)
	: 501-600 (World)

NIRF Research Ranking (2023): 39

Departments/Schools

Total number of Science and Technology Departments	11
Name of the departments	Department of Bio-Technology, Department of Chemistry & Bio-Chemistry, Department of Physics & Material Science, Department of Mathematics, Department of Chemical Engineering, Department of Civil Engineering, Department of Energy & Environment, Department of Mechanical Engineering, Department of Electrical and Instrument Engineering, Department of Electronics and Communication Engg., Department of Computer Science and Engg.
Total number of Humanities, social science, Management and Liberal Arts Departments	03
Total number of Science and Technology Departments	L. M. Thapar School of Management Thapar School of Liberal Arts & Sciences (TSLAS) School of Humanities and Social Sciences

Human Resource

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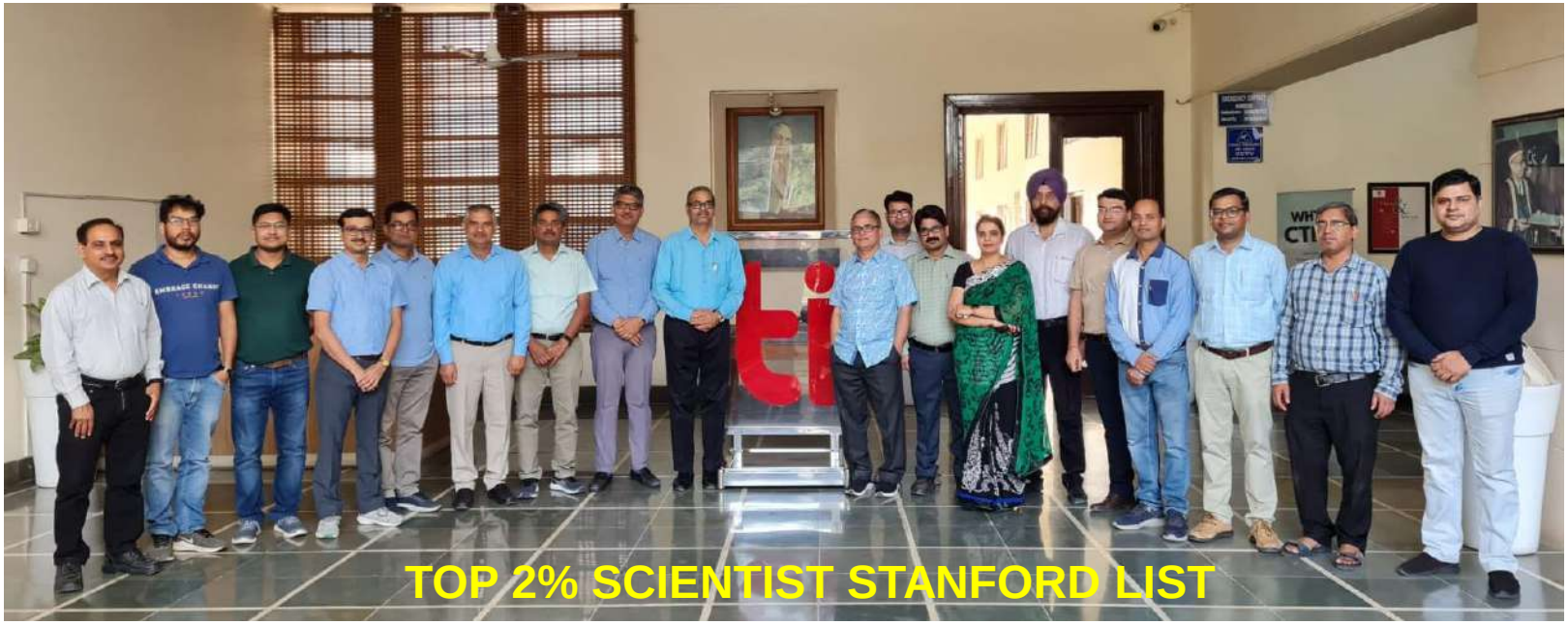
Record of PhDs (last 5 years)

No. of PhDs awarded		No. of ongoing PhDs		Passing out students (PhD)					
Full time	Part time	Full time	Part time	2023	2022	2021	2020	2019	2018
520	186	576	122	104	102	97	101	101	98
Total number of Supervisors				400+					
2023 Stanford list of 2% Scientist (Lifetime)				22					
2023 Stanford list of 2% Scientist (2023)				39					



Publications and Research Impact (WOS)

THAPAR INSTITUTE
OF ENGINEERING & TECHNOLOGY
(Deemed to be University)

Export Full Report

Publications

9,928
Total

From 1989 to 2025

Citing Articles

148,139 Analyze
Total

142,269 Analyze
Without self-citations

Times Cited

207,346
Total

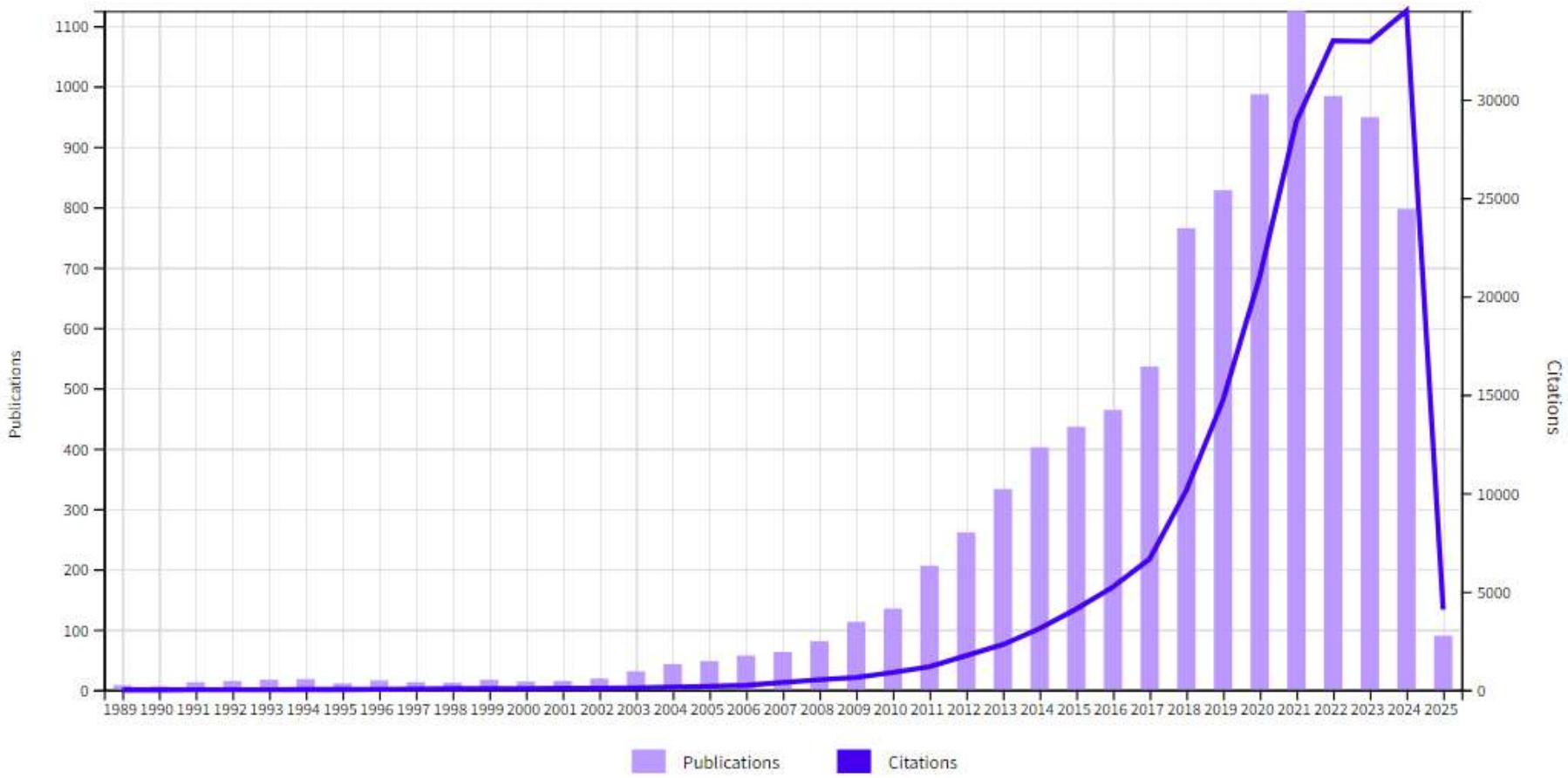
20.88
Average per item

186,014
Without self-citations

154
H-Index

Times Cited and Publications Over Time

DOWNLOAD



Research Impact

THAPAR INSTITUTE
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ELSEVIER

Available online at www.sciencedirect.com
ScienceDirect

Bioresource Technology 98 (2007) 2243–2257

BIORESOURCE TECHNOLOGY

Review

Microbial and plant derived biomass for removal of heavy metals from wastewater

Sarabjeet Singh Ahluwalia, Dinesh Goyal *

Department of Biotechnology & Environmental Sciences, Thapar Institute of Engineering & Technology, Patiala 147 004, Punjab, India

Received 12 July 2005; received in revised form 29 November 2005; accepted 2 December 2005
Available online 19 January 2006

1394 Citations;
82 cites per year

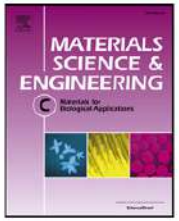
Materials Science & Engineering C 102 (2019) 844–862

ELSEVIER

Contents lists available at ScienceDirect

Materials Science & Engineering C

journal homepage: www.elsevier.com/locate/msec



Review

Review on titanium and titanium based alloys as biomaterials for orthopaedic applications

Manmeet Kaur, K. Singh*

School of Physics and Materials Science, Thapar Institute of Engineering and Technology, Patiala, Punjab 147004, India

1111 Citations;
222 cites per year

Patents, Projects and Industrial Consultancy

Patent Details (5 years)	
Granted	135
Filed (Pending)	35

Project Details (5 years)	
Number	**128**
Amount (Rs.)	**41.64 Cr**

Annual Consultancy	
Amount (Rs.)	~7.00 Cr

Financial Supports

Research Fellowships @ TIET	
GATE / NET	Rs. 35,000/-
MSc/M.tech	Rs. 20,000/-

Other Financial Support	
PhD Contingency	Rs. 15000
Conference	Rs. 30,000

Seed Funding for every new Faculty upto Rs. 8,00,000/-

Fully paid PDF opportunities for Young Faculties in partner institutes

DST-FIST Grants Received in last 5 years

S. No.	DST-FIST Department	Amount (Rs., Lakhs)	Year
1	Mechanical Engineering (MED) - FIST I	125	2019-20
2	Department of Energy and Environment (SEE) - FIST I	92	2019-20
3.	Department of Physics and Material Science (SPMS) - FIST II	367	2019-20
4.	Department of Chemistry and Bio-chemistry (SCBC) - FIST I	220	2019-20
5.	Department of Mathematics (SOM) - FIST I	54	2017-18
6.	Department of Chemical Engineering (CHED) - FIST I	194	2017-18
7.	Department of Electrical and Instrument Engineering – FIST I	150	2023-24

DST-FIST sponsored Materials Characterization Facility

MCF@SPMS (google.com)

DST – PURSE AWARD - 2023

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Development of Technologies for Converting Waste to Wealth

Dr. Pratishtha Pandey
Scientist 'F' &Head
R&D Infrastructure Division
Email: pratishtha.tp@nic.in
Tel.: 011-26590452

भारत सरकार
विज्ञान और प्रौद्योगिकी मंत्रालय
विज्ञान और प्रौद्योगिकी विभाग
टेक्नोलाजी भवन नया महरौली मार्ग
नई दिल्ली- 110016
Government of India
Ministry of Science &Technology
Department of Science & Technology
Technology Bhawan, New Mehrauli Marg
New Delhi - 110016

SR/PURSE/2023/213

03 August 2023

Subject: Proposal under "**PURSE 2023 Program (General Call)**" [TPN -88181]

Dear Sir,

Kindly refer to your captioned proposal submitted by Thapar Institute of Engineering and Technology, Punjab for support under the PURSE 2023 Program (General Call) of DST. I am pleased to inform you that the proposal has been in principle approved for support based on the recommendation of the Program Management Board (PMB). The details of the recommendation for 4 years' duration of the project are given below:

[Equipment –Rs. 15.05 Crores {High-Resolution Transmission Electron Microscope (HRTEM), X-ray photoemission spectrophotometer (XPS), Safety infrastructure for management of hazardous waste} Manpower -Rs 2.58 Crores {Project Associate-I (6 Nos), Project Associate-II (5nos), Scientific Administrative Assistant (1nos), Laboratory Assistant/Technician (1nos)}, Consumables-Rs 1.72 Crores, Seminar/Workshop/Conferences -Rs 0.43Crores, Travel -Rs 0.22 Crores, Maintenance of Facilities -Rs 0.43 Crores, SSR Activities- Rs 0.22 Crores, Hand holding of Start-ups & Industrial Collaboration -Rs 0.43 Crores, Over Head charges- Rs 0.43 Crores].

Total - Rs. 21.51 Crores

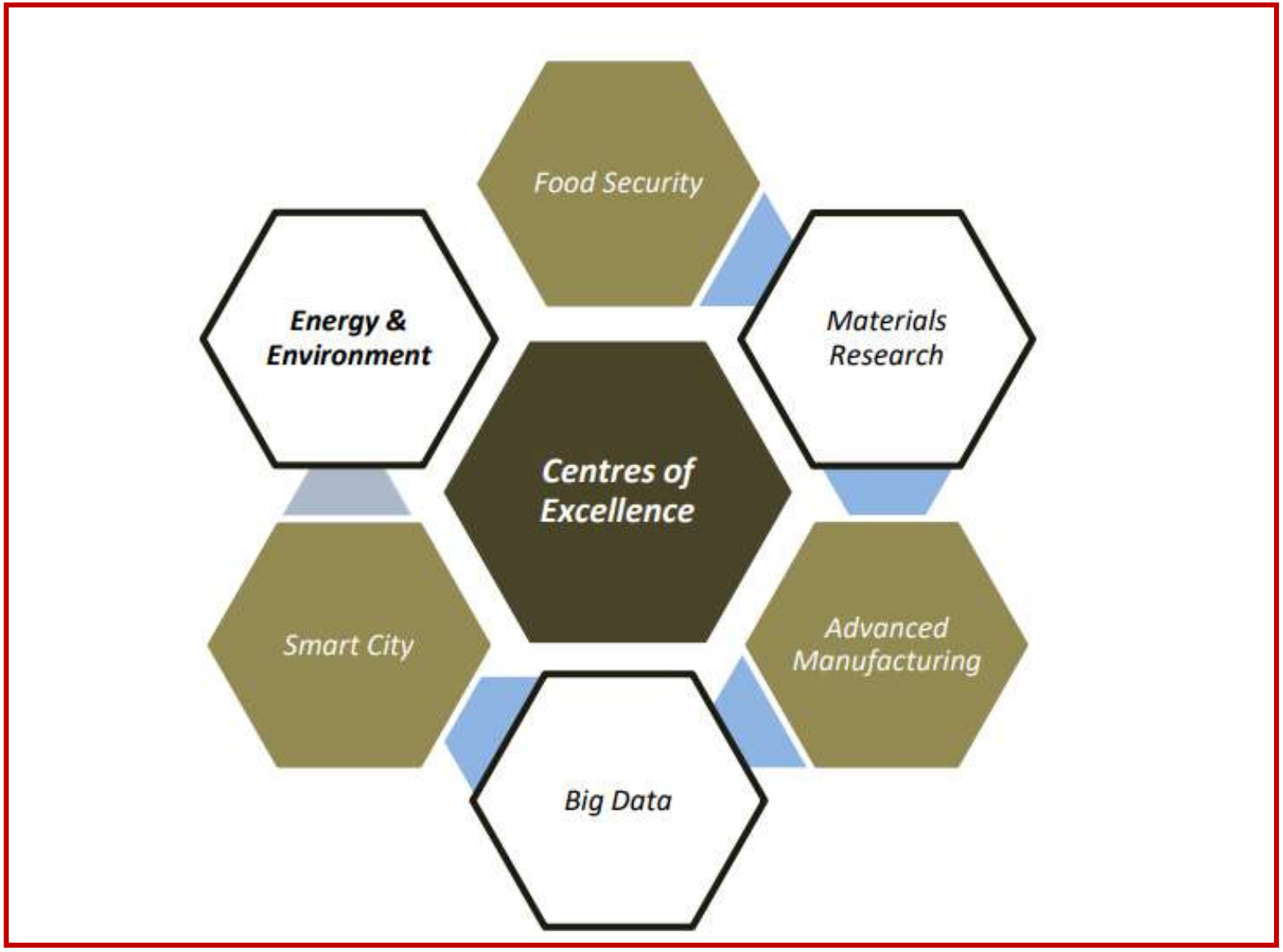
The funding pattern & its mode will be maintained at **75:25** ratio, i.e., **DST share would be 75% and the management of the Host Institute would need to contribute 25%** of the total sanctioned cost of the project. Over expenditure /Price Escalation towards any of the recommended budget heads will be borne by the University.

21.51 Crores

XPS

HR-TEM

Centres of Excellence



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Community Research Infrastructure

THAPAR INSTITUTE
OF ENGINEERING & TECHNOLOGY
(Deemed to be University)

Sophisticated Analytical Instruments Laboratories

Thapar Technology Campus, Bhadson Road, Patiala
(NABL Accredited Laboratory)

TEL: +91-175-2393552, 2393501
Mob: 098554-93658
office.sailabs@thapar.edu
info@sailabs.org

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MCF@DPMS

HOME | FACILITIES | REGISTRATION PROCESS | USER CHARGES | PAYMENT DETAILS

DST - FIST and TIET
SPONSORED

Materials Characterization Facility

Department of Physics & Materials Science
Thapar Institute of Engineering and Technology
Patiala - 147004, INDIA

X-Ray Diffractometer (XRD)

Scanning Electron Microscope (SEM)

Raman and PL Spectrometer (RAMAN)

Multiferroic Test System

R&D Infrastructure

THAPAR INSTITUTE
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(Deemed to be University)

STEP

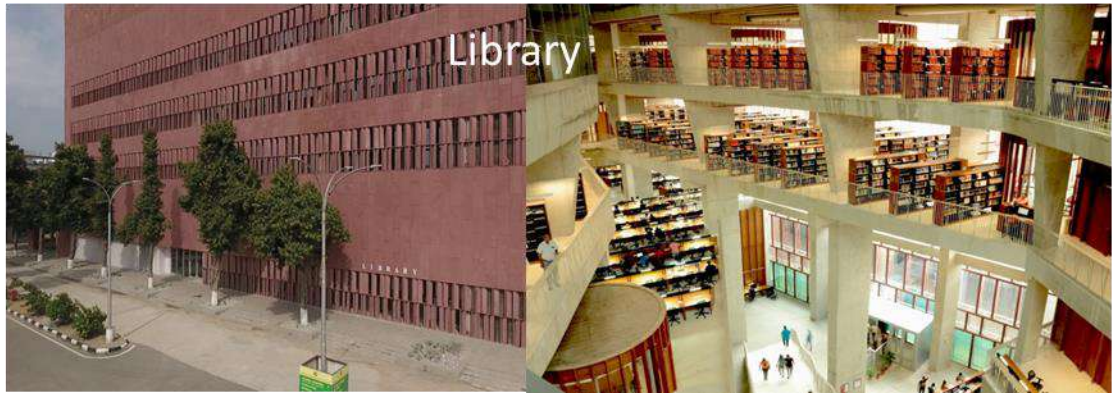

TIFAC-CORE

Raman & PL

FESEM

XRD

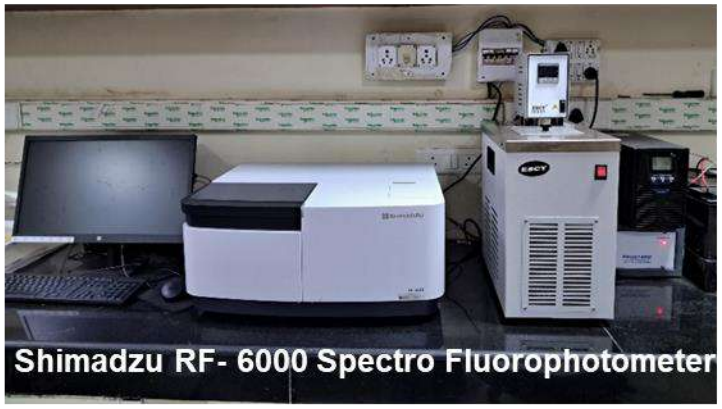
ICP

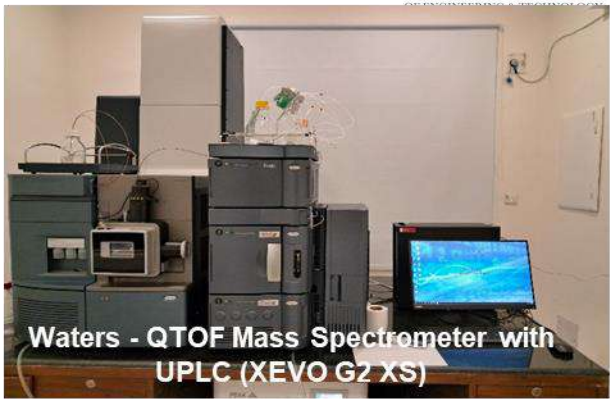


NTPC Sponsored Pneumatic Conveying Pilot Plant

Existing Infrastructure


Multiferroic tester


Shimadzu RF- 6000 Spectro Fluorophotometer

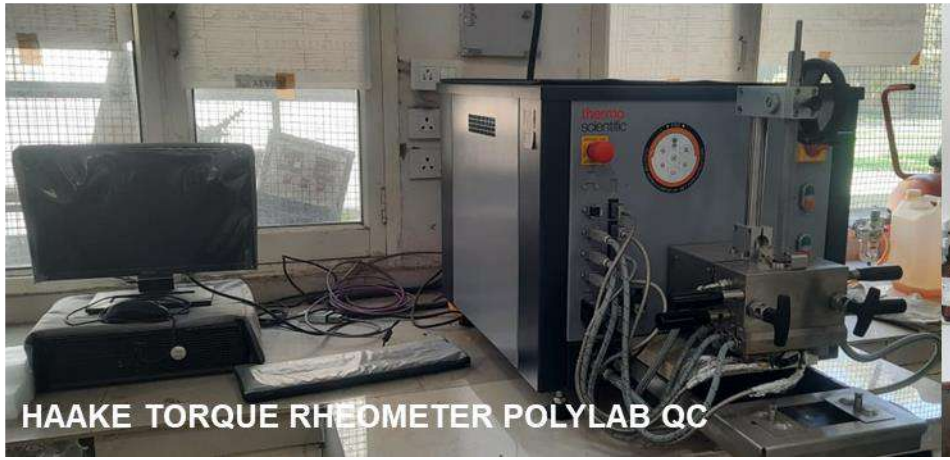

Waters - QTOF Mass Spectrometer with UPLC (XEVO G2 XS)


AFM


GCMS-SQ (Bruker SCION 436)


VSM


SURFACE AREA ANALYZER (BET)


HAAKE TORQUE RHEOMETER POLYLAB QC


MULTIPURPOSE HPLC CUM GPC SYSTEM


FLOW CYTOMETER

Materials Characterization Facilities

School of Physics & Materials Science
Thapar Institute of Engineering and Technology
Patiala –147004

THAPAR INSTITUTE

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SCANNING ELECTRON MICROSCOPE

- SE/BSE Imaging
- Elemental analysis
- EBSD
- TKD
- STEM
- Resolution 0.1 nm

Carl Zeiss, Sigma 500

X-Ray DIFFRACTOMETER

- Powder XRD
- 2D diffraction
- GIXRD for films,
- Residual Stress analysis
- Bulk Texture

(For powder and Bulk)

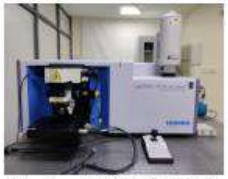
Rigaku, SmartLab SE

ICP-OES

- Chemical Analysis
- Detection limit:
  - < 1 ppm (sample Dependent)
  - < 1 ppb (for hydride-generating elements)

Teledyne Leeman Labs, Prodigy

RAMAN & PL



- Raman Spectroscopy
- PL Spectroscopy
- Raman & PL Mapping (1D/2D)
- Temp. range: 80-850 K

Horiba, LabRAM HR

SCANNING PROBE MICROSCOPE

- Surface topography
- (2D & 3D)
- Contact / non-contact
- Multiple modes (AFM, MFM, KPFM, STM)

NT-MDT, Solver NEXT

VIBRATING SAMPLE MAGNETOMETER

- Hysteresis loops
- Magnetization
- Coercivity
- Temp.: 80 K - 850 K
- Field: upto 10 KOe

Lake Shore, 7404

Consultation on following Measurement / Characterization facilities are also available:

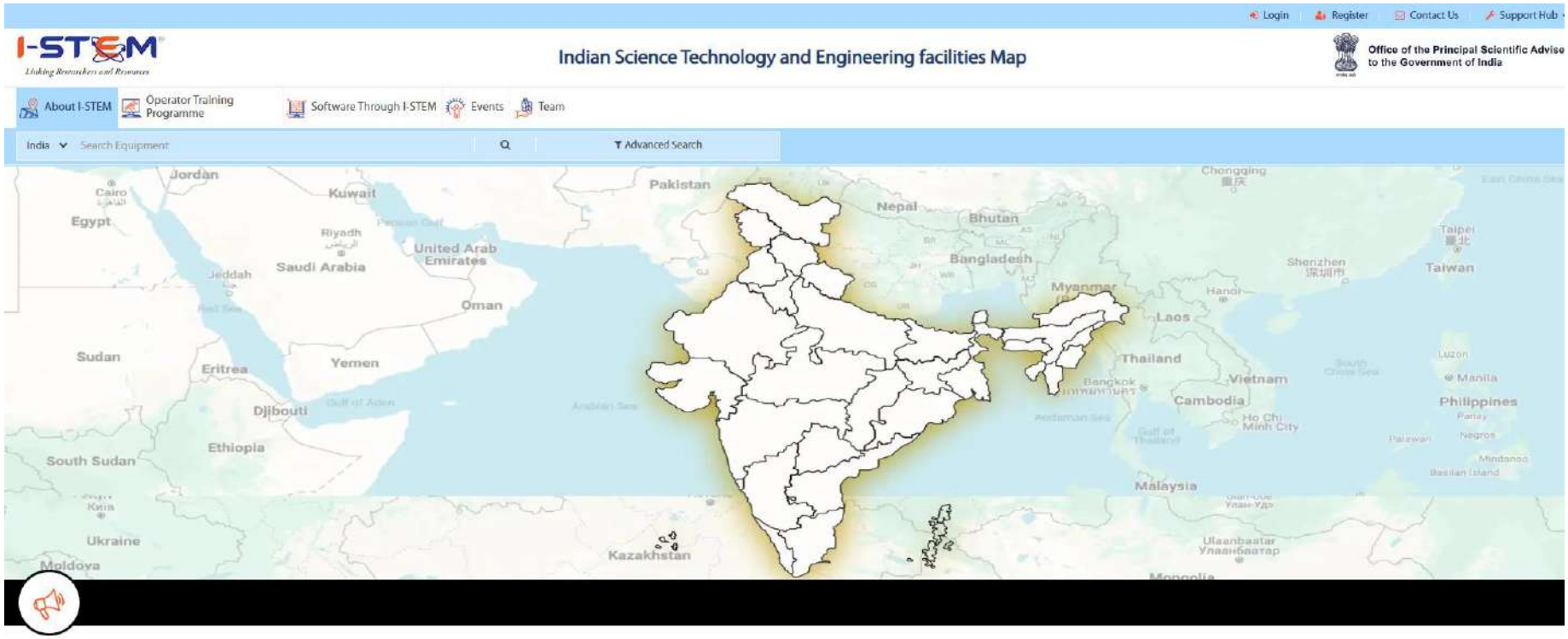
- TGA / DSC
- Particle sizing (Dynamic light Scattering)
- Optical microscopy
- Micro-Hardness
- UV-Visible spectroscopy
- Multiferroic test system

Scan for more details.

CONTACT

Prof. Bhupendrakumar Chudasama, Coordinator
(M) +91-9781966136 (Dr. Bhupendrakumar Chudasama)

Shared Research Infrastructure: I-STEM (Govt. Of India Initiative



About Us

The I-STEM Web Portal: a National Portal that is the gateway for researchers to locate the specific facility(ies) they need for their R&D work and identify the one that is either located closest to them or available the soonest.

To protect the IP involved in building the I-STEM Portal, a provisional patent application entitled, "A method and process for efficient use of geographically dispersed resources", has been filed with the Indian Patent Office.

know more

Statistics of Researchers, Equipment, Institution

Status of Facility Booking Record

Enter 10-digit FBR | Find Status

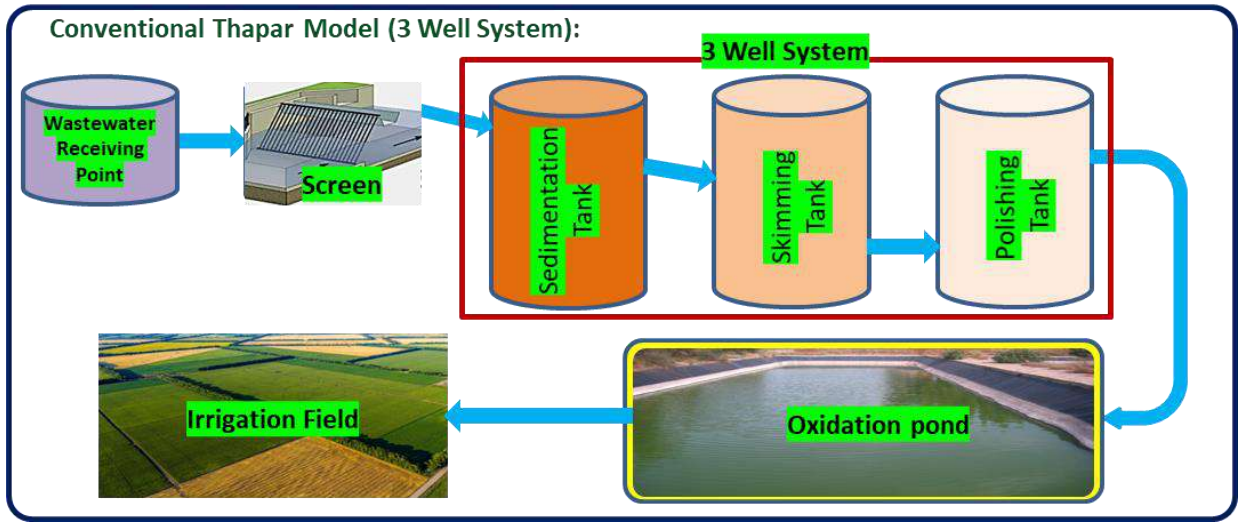
26399+	3311+	34185+	36475+
Equipment Listed	Institute Listed	Researchers	Facility Booking Record (FBR)

TIET providing a sustainable solution: A case study

Wastewater Treatment in Rural Ponds --Thapar Model

(Adopted & implemented in approx. 125 Villages across the state by Govt. of Punjab)

Thapar model consists of a screening chamber and 3 wells followed by oxidation pond (with no energy or labour requirement)



Bar Screen

Wells

Oxidation Pond

Highlights of Thapar Model

- ✓ Simple Design
- ✓ Biological Treatment with natural indigenous consortia
- ✓ Extremely low operational cost
- ✓ One-time investment

TIET providing a sustainable solution: A case study

Wastewater Treatment in Rural Ponds --Thapar Model

(Adopted & implemented in approx. 125 Villages across the state by Govt. of Punjab)

{ SWACHH BHARAT MISSION } BATHINDA DISTRICT

'3-well system' to help rejuvenate ponds in 125 villages

Vishal Joshi

vishal.joshi@htlive.com :

BATHINDA: A total of 125 villages in Bathinda will soon witness a 'three-well system' to recycle grey water generated from the village households.

Pegged at ₹50 crore, the ambitious project under the Swachh Bharat Mission, for rejuvenating wastewater ponds will be crucial to recharge the groundwater table with clean water.

These ponds will further be beautified and developed as hygienic walking spaces for the local community.

The district administration has taken the newly elected panchayats on board for the project.

Deputy commissioner Showkat Ahmad Parray said work will be undertaken using the benchmark technology devised by Thapar Institute of Engineering and Technology, Patiala.

The Thapar model of three-well wastewater management system at Bhai Bakhtaur village in Bathinda district. HT PHOTO

He said that the project will also generate employment as it will be executed under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

"This is a multi-scheme convergence project where funds from different schemes will be pooled. We have four model projects for replication. Presently, work is underway at 18 villages. Our team is working to complete work at all 125 ponds before the onset of monsoon," said the DC

Called "Thapar model", the rejuvenation system requires three wells to be dug adjacent to the village pond.

District nodal officer of MGNREGA, Deepak Dhingra said the existing pond is converted into two water bodies. One of the portions is left kutcha where after treatment clean water is used to recharge groundwater, he said.

"Wastewater from all the households is collected in the screening chamber where floating materials are separated. It further goes to a digestion well where water revolves, and solid materials settle down in the base while the liquid floats," said Dhingra.

Two skimming tanks or wells are dug where the liquid material present in the water get separated and it then moves to the third well, known as the stabilisation tank where almost clean water is collected.

"Water from the stabilisation tank is then transferred to the oxidation pond. The main function of the oxidation pond is to treat wastewater through the interaction of sunlight, bacteria, and algae. Algae grow using energy from the sun and carbon dioxide and inorganic compounds released by bacteria in water," added Dhingra.

February 18, 2025 – Hindustan Times

Knowledge Disbursement and Training

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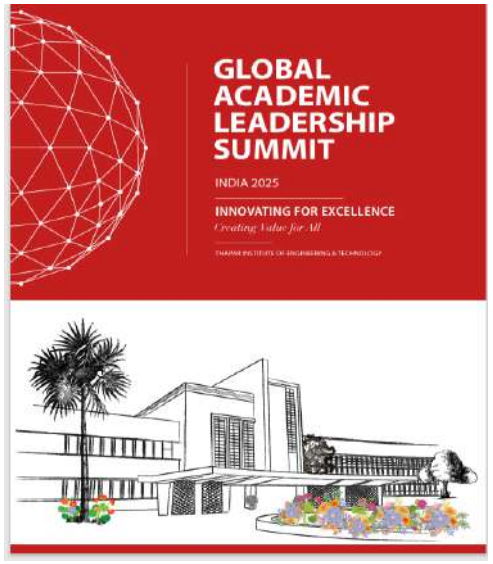

THAPAR INSTITUTE
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Department of Mechanical Engineering

Thapar Institute of Engineering & Technology, Patiala

Inaugural Ceremony

of

5-day Faculty Development Programme

on

"Latest Trends in Additive manufacturing"

17–21 February, 2025

Chief Guest

Prof. Rupinder Singh Khalsa, NITTTR Chandigarh

Guests of Honour

Mr. Saras Jee Gopal & Mr. Rahul Rai,

DASSAULT SYSTÈMES

Venue: LT-201

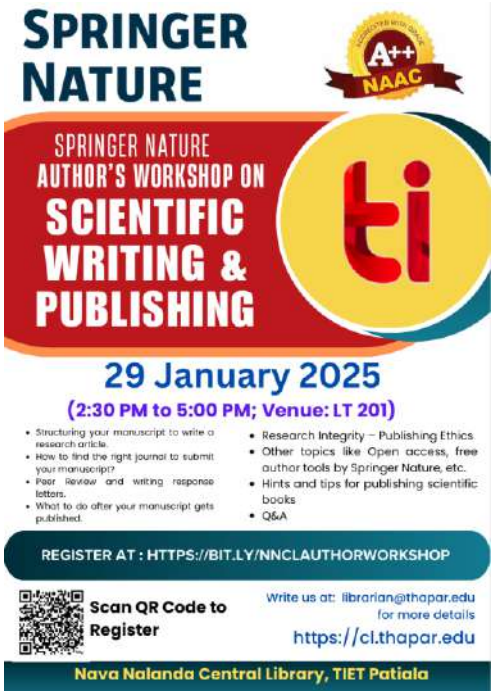
Date: February 17, 2025

Time: 10:00 – 11:00 a.m.

All guests are requested to take their seats before 9:50 AM

Organizing Committee

LTAM-2025



Knowledge Disbursement and Training

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THANK YOU