



CITAR | CENTRE FOR INNOVATION AND TRANSLATIONAL RESEARCH



CSIR-INDIAN INSTITUTE OF TOXICOLOGY RESEARCH

VISHVIGYAN BHAWAN, 31, MAHATMA GANDHI MARG, LUCKNOW-226001



वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद्
COUNCIL OF SCIENTIFIC & INDUSTRIAL RESEARCH

CITAR Centre for
Innovation and
Translational
Research



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सीएसआईआर-भारतीय विषविज्ञान अनुसंधान संस्थान
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CITAR Centre for Innovation and Translational Research

CITAR is an ecosystem that provides researchers, innovators, and entrepreneurs from academia and industry access to state-of-the-art platform technologies and mentorship in a multidisciplinary collaborative environment. This centre was inaugurated by Dr Girish Sahni, Director General, Council of Scientific & Industrial Research and Secretary, DSIR, Government of India on February 6, 2017.

CITAR's vision is to provide researchers from multi-disciplinary background an opportunity to innovate, develop, probe, and translate the most important technological challenges facing health and the environment.

- Encourage impactful societal and industrial research to enable startups
- Foster collaborations with researchers to fast track technological solutions

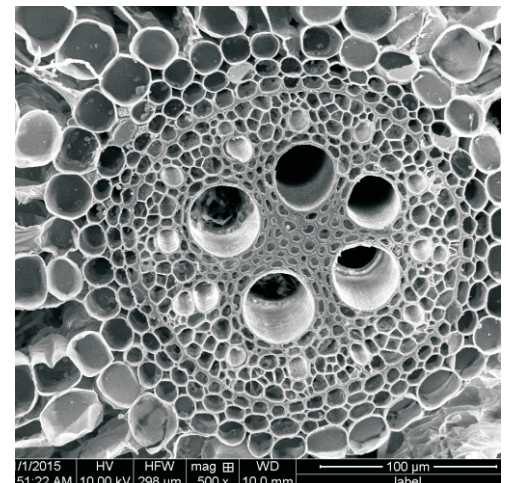
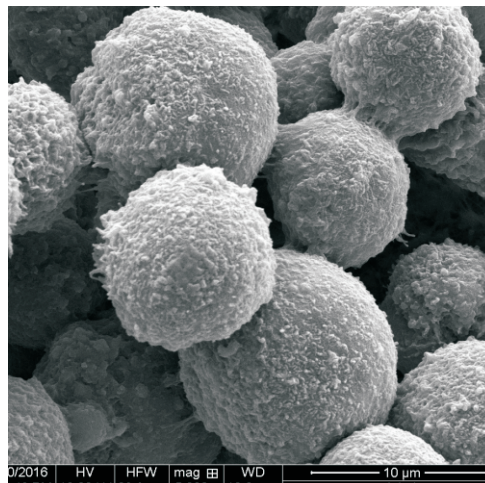
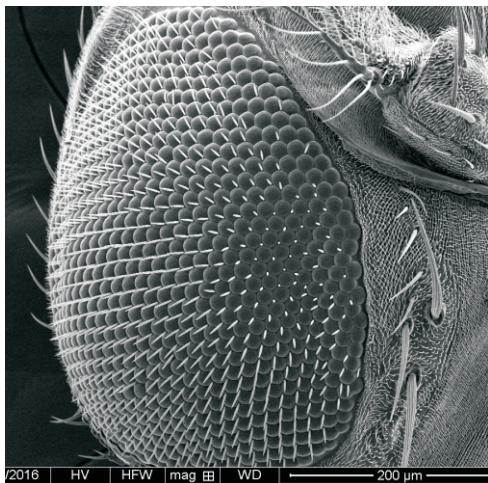
This facility is equipped with state-of-the-art instrumentation, laboratories, and computational resources. CITAR provide access to in house NABL accredited and GLP certified facilities for product development. CITAR is ideally placed at CSIR-IITR overlooking the Gomti River front. The centre spread over 20,000 sq. ft. is energized by solar power.

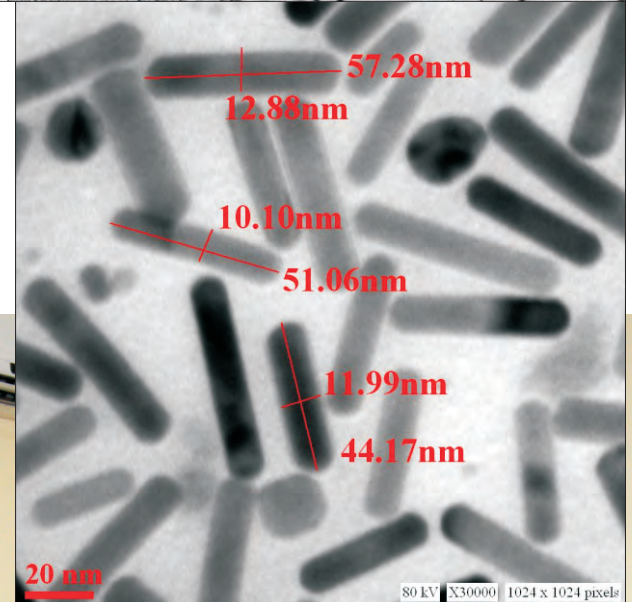
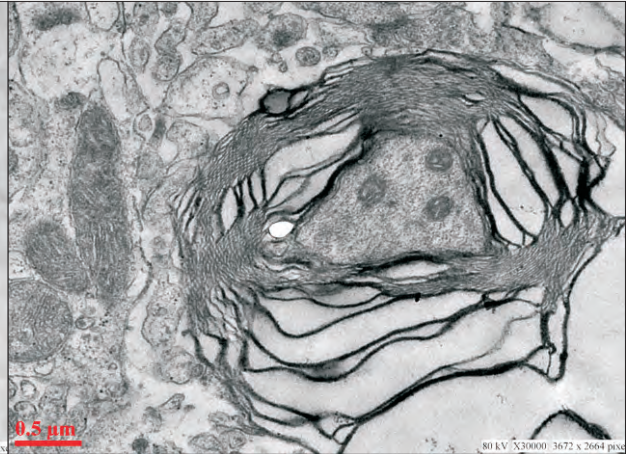


Advance Imaging Facility

This facility provides state-of-the-art characterization and manipulation of biological samples, nanomaterials and also facilitates nano-bio interface.

- Transmission Electron Microscope (Tecnai™ G2 Sprit, FEI, The Netherlands)
- Scanning Electron Microscope (Quanta 450 FEG, FEI, The Netherlands)
- Fluorescence Microscope (Leica, Germany)
- Confocal Microscope (Leica, Germany)





SAIF Sophisticated Analytical Instrument Facility

This facility offers wide range of knowledge based analytical solutions and services to the researchers and industries from chemical and biotechnology sectors and also assessing quality to meet national and international standards. This NABL accredited facility for characterization in different matrices is equipped with advanced analytical instruments such as:

- LCMS/MS: Quadrupole based ultra-performance liquid chromatography-mass spectrometer
- Gas Chromatograph-MS/MS
- High Performance Liquid Chromatography
- Atomic Absorption Spectrophotometer
- Atomic Fluorescence Spectrophotometer
- FTIR Spectrometer
- Zeta sizer nanoZS
- Multimode Plate Reader



CORE Computational Toxicology Facility

This facility integrates advances in chemistry, biology and informatics to identify and address pertinent issues in areas of health and the environment. Time and cost effective computational tools help to prioritize chemicals and also reduce the use of animals in safety evaluation of chemicals. State-of-the-art computational methods provide solutions to interpret experimental results and develop new chemical entities through a 'safe by design' approach.

- High Performance Computing (HPC) for toxicology cheminformatics and bioinformatics – the only facility in India
- Health and environmental databases and data analytics
- HPC Resource - 320 processors with 1526 GB RAM
- Linux / Windows workstations and desktops





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A board room with wifi and smart projection, video conference and smart class provides seamless interaction for effective networking.





Translational Research Facility

This facility nurtures generation of new knowledge for “Innovation” and “Translation” necessary to create ground-breaking science and technologies. It provides a unique interdisciplinary platform to ideate, innovate and create.

Translational research facility provides researchers on protein engineering platform. This facility offers end-to-end solutions in molecular cloning, protein engineering, various plasmids, antibiotics, competent cells and protein purification matrices.

- Molecular Cloning: PCR, cloning, mutagenesis, plasmid preparation and transformation
- Protein expression: Expression of proteins in bacterial cells (small scale and large scale)
- Protein purification: Protein purification using size exclusion, affinity and ion exchange columns
- Protein characterization: SDS-PAGE, Westerns and various biophysical techniques such as assays, FTIR, CD-Spectroscopy and DLS
- Sensors and devices laboratory: Provide facilities for development of stir-type electrochemical sensors for various analytes.

Translational Research Facility



Cell Biology Facility

- Cell culture
- Live Cell Analysis
- Flow Cytometry (BD influx, Canto Models)
- Robosep for stem cell biology



Molecular Biology Facility

- Real Time PCR facility (Quant Studio 6 Flex)
- High Throughput Real Time PCR Array (Quant Studio 12 Flex & 7900 HT)
- IR imaging facility for immunoblots and in Cell Western (LI-COR ODYSSEY CLX)
- Protein purification
- Protein analysis
- Fermenters





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Industry labs for startups & MSMEs in niche areas

This is a one stop solution for startups and industry to partner with our scientists to develop:

- Cell based assays
- Alternate to animal models
- Protein engineering
- Bio-IT solutions
- Sensor and devices
- Product and process development



एनएबीएल द्वारा रासायनिक एवं
जैविक परीक्षण हेतु प्रत्यायित
Accredited by NABL for chemical
and biological testing



विषाक्तता परीक्षण: जीएलपी अनुरूप सुविधा
Toxicity Testing: GLP Test Facility

Contact details:

Director

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CSIR-IITR, Lucknow is the only multidisciplinary research institute in the field of toxicology in South-East Asia with the motto:

"Safety to environment & health and service to industry"



R & D Areas

- Food, Drug & Chemical Toxicology
- Environmental Toxicology
- Regulatory Toxicology
- Nanotherapeutics & Nanomaterial Toxicology
- Systems Toxicology & Health Risk Assessment

R&D Partnership for Industries & Startup

- Centre for Innovation and Translational Research (CITAR)

Services Offered

- GLP Certified Pre-clinical Toxicity Studies
- NABL (ISO/IEC 17025:2005) Accredited
- Safety/ Toxicity Evaluation of NCEs
- Water Quality Assessment and Monitoring
- Analytical Services
- Environmental Monitoring and Impact Assessment
- Information on Chemicals/Products

Recognitions

- Scientific & Industrial Research Organizations (SIROs)
- UP Pollution Control Board (Water & Air)
- Indian Factories Act (Drinking water)
- Bureau of Indian Standards (Synthetic Detergents)
- Food Safety & Standards Authority of India (FSSAI)

Technologies Developed/ Available

- Oneer- A Novel Solution for Safe Drinking Water
- Portable Water Analysis Kit
- Mobile Laboratory for Environment and Human Health
- AO Kit for Rapid Screening of Argemone in Mustard Oil
- MO Check for Detection of Adulterant Butter Yellow in Edible Oils

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जैविक परीक्षण हेतु प्रत्यायित
Accredited by NABL for chemical
and biological testing



विषाक्तता परीक्षण: जीएलपी अनुरूप सुविधा
Toxicity Testing: GLP Test Facility