tcg crest

(Deemed to be **University** *u/s 3 of UGC Act, 1956)*

Distinct Category - Research

RESEARCH
LED
EDUCATION

COFFEE TABLE BOOK 2025

A JOURNEY OF PURPOSE,
PROGRESS & KNOWLEDGE

From Research Centres to a Research University

2026

Launch of curated Postgraduate Programmes and Executive Courses advancing interdisciplinary learning and research

Academic Programmes will commence under the Schools (Natural Sciences, Mathematics & Computer Sciences, Health, Environment & Sustainability Studies, and Humanities & Social Sciences)

2025

Recognized by the Ministry of Education and the UGC as a Deemed to be University in the 'Distinct Category — Research'

Induction of 40 research scholars into the Deemed University PhD programme & four new Schools introduced under the university

2024

Established two new Research Centres of Excellence — Cancer Research (CARE) & Food Science & Technology (FTSI)

Nation's first Cryo Dual—Ion Microscope; Joint research projects with U Chicago, UC Barkley, RICE

2023

Recognized by DSIR (Govt. of India)
Strengthened Industry partnerships with KPIT, LabVantage, Quantum AI, DRDO

Top ranked in the Corporate Category for Physical Sciences by Nature Index India

2022-2021

Established State-of-the-Art Research Labs: AI/ML, Quantum, Neuroscience, Advanced Battery Technology

Launched PhD Programmes in collaboration with premier institutions (IITs, NITs, RKMVERI, AcSIR)

2020

The Chatterjee Group established TCG CREST as a not-for-profit research institution advancing emerging areas in Science and Technology

Four Research Centres of Excellence focused on new and emerging areas of Science and Technology (CHINTA, RISE, CQuERE, IAI)

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Chairman's Message

Dr Purnendu Chatterjee
Chairman & Chancellor
TCG CREST

The year 2025 marks a defining chapter in the journey of TCG CREST. What began as a bold vision to reimagine research and education in India has steadily evolved into a vibrant, interdisciplinary ecosystem - anchored in excellence, driven by curiosity, and guided by societal relevance. What began as a bold vision to reimagine research and learning in India is now emerging as a distinctive university model - where human intellect and machine intelligence work in synergy to advance knowledge, innovation, and societal progress.

At TCG CREST, we have consciously chosen a path less travelled. Instead of following conventional academic templates, we have placed research at the heart of the institution - allowing inquiry, discovery, and innovation to shape our academic culture. In an era where digital technologies are transforming the way knowledge is generated, tested, and applied, we are building an institution where discovery is accelerated through advanced computation, data-driven inquiry, and interdisciplinary collaboration - without losing sight of ethical responsibility and human values.

Over the past year, our research institutes have continued to expand the frontiers of science and technology - spanning quantum engineering, artificial intelligence, neuroscience, sustainable energy, food technology, cryptology, and translational research.

Artificial Intelligence at TCG CREST is not confined to a single discipline - it is a unifying force that enhances scientific exploration, enables new methodologies, and opens pathways from laboratory to society, policy, and industry.

2025 also represents a significant milestone as TCG CREST strengthens its identity as a research-driven university of the future. With the launch of structured doctoral programmes and the forthcoming introduction of advanced postgraduate and executive education, we are nurturing scholars who are not only domain experts, but also fluent in the tools, ethics, and collaborative mindset required in an AI-enabled world. Our graduates will be equipped to navigate complexity, bridge disciplines, and lead responsibly in a rapidly changing global landscape.

As we look ahead, our aspiration remains clear: to build an institution that stands for academic freedom, ethical research, global engagement, and societal good. We will continue to invest in exceptional talent, cutting-edge infrastructure, and bold ideas, ensuring that TCG CREST serves as a living laboratory for the future of higher education.

I invite you to explore this volume as a reflection of our journey in 2025 - one that captures the emergence of TCG CREST as a unique university for the age of AI, defined by purpose, progress, and an unwavering commitment to the pursuit of knowledge.

Board of Director's Message

Jeremy Ghose

Board of Directors &
Executive Council Member, TCG CREST
President, The Chatterjee Group

As TCG CREST enters a pivotal phase in its evolution as a research-driven university, it is increasingly evident that the Institute represents a distinctive and forward-looking model in the global research landscape. CREST is purpose-built to bring together deep scientific inquiry, advanced technology, and interdisciplinary research in service of addressing some of the most pressing societal challenges of our time—at scale and with lasting impact.

The progress achieved in 2025 reflects not only growing scholarly excellence, but also the strength of a truly global institutional ecosystem. Through TCG's international platforms in the United States, the United Kingdom, and Japan, CREST is forging meaningful partnerships with leading research universities, innovation hubs, and industry leaders. These global linkages enable the free exchange of ideas, talent, and best practices—ensuring that CREST's research agenda is globally informed, while remaining firmly anchored in national priorities and real-world needs.

A defining strength of TCG CREST is the active alignment between research and enterprise, underpinned by the unwavering support of the TCG Group. TCG's breadth of expertise across industry, technology, energy, life sciences, and infrastructure provides a powerful foundation for translational research, accelerating the journey from discovery to deployment. This unique integration allows CREST to move beyond conventional academic boundaries, converting breakthrough research into practical solutions with measurable societal benefit.

TCG CREST stands as a new generation research institution—one where global collaboration, scientific depth, technological capability, and institutional purpose converge. The commitment of TCG's leadership and its international partners reflects a shared conviction that world-class research institutions must play a transformative role in shaping the future—advancing knowledge while directly contributing to societal progress on a global scale.

Swapan Bhattacharya

Board of Directors,
TCG CREST

The progress of TCG CREST reflects the realization of a carefully nurtured institutional vision—one that recognizes research, innovation, and education as fundamental drivers of long-term national and global advancement. As the institution consolidates its academic and research foundations, it is heartening to see how purpose, planning, and performance have come together during this pivotal year.

By prioritizing excellence in research before scale, the institution has created a strong and credible academic base—one that supports meaningful scholarship, interdisciplinary collaboration, and sustained intellectual growth.

The achievements of the Institute's Centres of Excellence, the expansion of its doctoral community, and the establishment of academic Schools reflect a robust governance and academic framework. These milestones underscore the importance of strategic oversight, sound institutional processes, and long-term commitment—values that the Board of Directors fully endorses and supports.

Equally significant is the integration of TCG CREST within the wider TCG Group ecosystem. The collective experience, resources, and institutional values of the Group strengthen CREST's ability to translate research into impact, while preserving academic autonomy and integrity. As a member of the Board, I am confident that TCG CREST is on a path of sustainable growth—guided by clarity of purpose, academic rigour, and ethical responsibility. The University's journey thus far inspires optimism, and I look forward to its continued contribution to research, education, and societal progress in the years ahead.

TCG CREST's Research Footprint (2025)

204
TOTAL PUBLICATIONS IN 2025

70%
ARTICLES IN Q1 JOURNALS,

20%
ARTICLES IN Q2 JOURNALS

3830+
TOTAL CITATIONS (2021-25)

104
COLLABORATIVE PUBLICATIONS (NATIONAL) IN 2025

94
COLLABORATIVE PUBLICATIONS (INTERNATIONAL) IN 2025

150+
PHD SCHOLARS

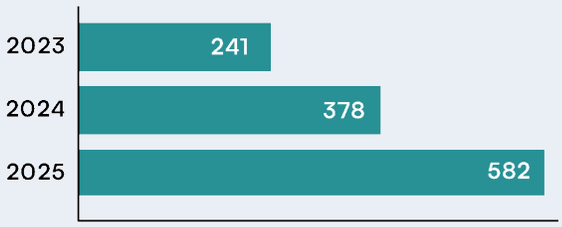
250+
STAFF, INCLUDING FACULTY, VISITING FACULTY, POSTDOCTORAL FELLOWS, AND TECHNICIANS

5
PATENTS APPLIED/ GRANTED IN 2025
Advancing innovation through patents

32
H INDEX IN 2025
H Index grew from 24 in 2024 to 32 in 2025

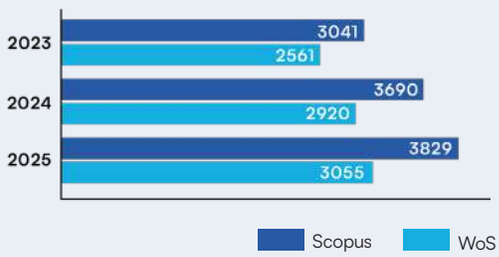
CUMULATIVE PUBLICATIONS IN LAST 3 YEARS

Building research momentum year on year



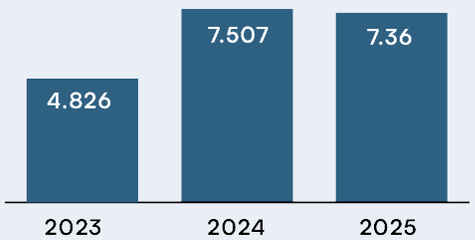
CUMULATIVE CITATIONS IN LAST 3 YEARS

The growth in Q1 journal output is poised to translate into rising citation impact



AVERAGE IMPACT FACTOR IN LAST 3 YEARS

High Impact Factor rooted in quality research



HIGH-IMPACT JOURNALS PUBLISHED IN 2025

Advanced Materials	26.8 (IF)
Advanced Energy Materials	26 (IF)
ACS Energy Letters	18.2 (IF)
Nature Communications	15.7 (IF)
Information Fusion	15.5 (IF)

THE HINDU

RECOGNISED BY THE HINDU, TCG CREST IS AMONG THE FIRST RESEARCH-DRIVEN PRIVATE UNIVERSITIES TO BE ESTABLISHED IN KOLKATA
Read the full article here

Insights prepared by the Researgence Intelligence team utilising data from Scopus, Web of Science, PubMed, IEEE, and the UGC CARE repository

Message from the Mentor

Prof. Malabika Sarkar
Mentor & Vice-Chancellor (Officiating),
TCG CREST

2025 has been a transformative year for TCG CREST. Formal approval of university status in 2025 gave us the opportunity to imagine and build an innovative research university. It was a recognition of the excellence of research in the Centres at TCG CREST and a mandate to create a unique research-driven University in the Indian higher education landscape that could aspire for global recognition. This transition represents the fruition of a carefully envisioned academic model—one that places innovation, discovery, and societal relevance at its core.

With University status now firmly established, we have significantly expanded our academic and research footprint. This year alone, 40 new Ph.D. scholars have joined TCG CREST under the University framework, taking our vibrant research community to over 150 doctoral scholars. Their work reflects an exceptional standard of scholarly performance, contributing to our high-quality publications, impactful collaborations, and interdisciplinary inquiry.

Of the five Schools planned for the University, the School of Natural Sciences and the School of Mathematical and Computer Sciences have been formally established, drawing upon the resources of our six Centres of Excellence - IAI, CHINTA, RISE, CQuERE, CARE and FTSI. Each centre exemplifies depth, rigour, and relevance, advancing knowledge across artificial intelligence, neuroscience, sustainable energy, quantum engineering, cancer research, and food science. Together, they embody TCG CREST's commitment to addressing complex scientific and societal challenges through cutting-edge research.

In parallel, 2025 has seen the formal establishment of two new Schools under the University: the School of Humanities and Social Sciences and the School of Health, Sustainability & Environmental Studies. The School of Economics is scheduled to begin in 2027. The Schools of the University will provide a strong academic architecture that integrates research with advanced education.

Infrastructure and governance have progressed hand in hand with academic growth. The DJ2 Campus has commenced operations, adding critical capacity for research and learning. At the same time, all statutory bodies of the University—including academic, financial, and governance structures—have been fully constituted, ensuring transparency, accountability, and academic autonomy.

True to our founding philosophy, TCG CREST continues to pursue a reverse-model in its university framework—where research excellence precedes and shapes education. In this spirit, we have begun curating a suite of innovative postgraduate and executive education programmes, designed to respond to emerging knowledge domains, professional needs, and lifelong learning aspirations.

As we move forward, our focus remains unwavering: to build an institution that nurtures intellectual courage, interdisciplinary collaboration, and ethical scholarship. The achievements of 2025 reaffirm our belief that a research-first university can redefine higher education in India and contribute meaningfully to the global knowledge economy.

I extend my sincere appreciation to our faculty, researchers, scholars, staff, and partners whose dedication continues to shape this remarkable journey. Together, we are building not just a university, but a living ecosystem of ideas, inquiry, and impact.

School of Natural Sciences

The School of Natural Sciences advances fundamental and translational research across five high-impact domains: Quantum Sciences, Sustainable Energy Solutions, Translational Neuroscience, Cancer Research, and Food Science & Technology. These interdisciplinary initiatives address global challenges through collaboration with industry, healthcare professionals, and leading academic institutions.

WHERE INQUIRY INSPIRES LEARNING

- **PhD programmes** offered across all five research domains, with rigorous, research-intensive training
- **MSc programmes** launching in August 2026 in Energy Materials and Devices, Neuroscience, and Quantum Computing

BOARD OF STUDIES

- **Pankaj Agrawal**
- **Bhanu P. Das**
- **Satishchandra B. Ogale**
- **Sumantra Chattarji**
- **Parthasarthi Bhattacharya**
- **Bhupendra N. Dev**
- **Bidisa Das**
- **Subhasis Ray**
- **Tanmoy Basu**
- **Ashish Goyal**
- **Anuradha Nambiar**
- **Partha Sarathi Majumdar** (IACS, External Member)
- **Sanjit Dey** (Univ. of Calcutta, External Member)

"At the School of Natural Sciences, we encourage rigorous inquiry, nurture curiosity, and inspire transformative research that bridges fundamental science with real-world applications, empowering the next generation of scientists to innovate with integrity and purpose within a globally collaborative academic and research ecosystem."

Professor Pankaj Agrawal

INTERDISCIPLINARY FOCUS AREAS

Quantum Sciences
Computing, information, sensing

Sustainable Energy
Na-ion batteries, green hydrogen, clean energy

Cancer Research
India centric cancers, personalized treatment

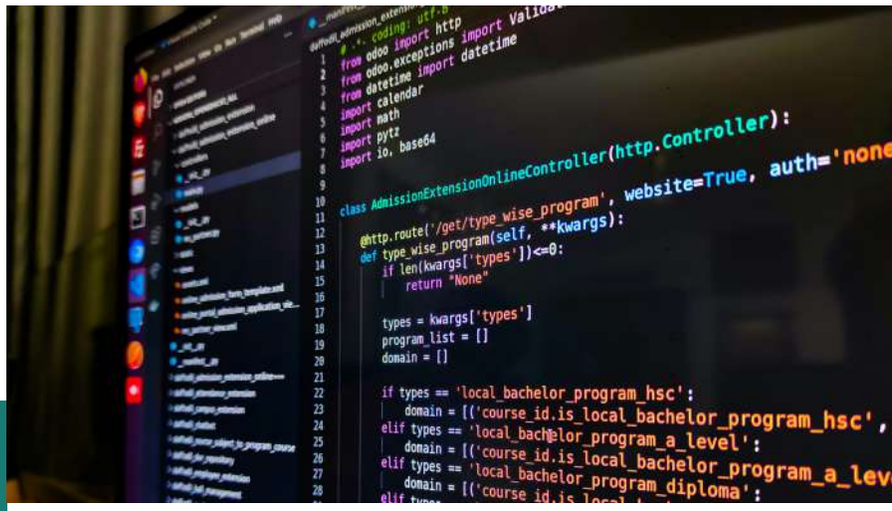
Translational Neuroscience
Brain disorders, interdisciplinary approaches

Food Science
Sustainable nutrition, functional foods

Future-ready education model that equips researchers to address emerging scientific, technological, and societal challenges through interdisciplinary and translational learning.

School of Mathematics & Computer Sciences

The School of Mathematics and Computer Sciences leads cutting-edge research and education in mathematics and its applications to real world problems, foundation and application areas of machine learning, and artificial intelligence, and data science. The school cultivates highly skilled researchers with strong analytical and quantitative capabilities essential for modern science and technology.



BOARD OF STUDIES

- **Goutam Mukherjee**
- **Rana Barua**
- **Arpita Maitra**
- **Nilanjan Datta**
- **Sayan Chakraborty**
- **Avisek Gupta**
- **Jaya Sil** (IIEST Shibpur, External Member)
- **Santanu Sarkar** (IIT Madras, External Member)

WHERE FOUNDATIONS SHAPE THE FUTURE

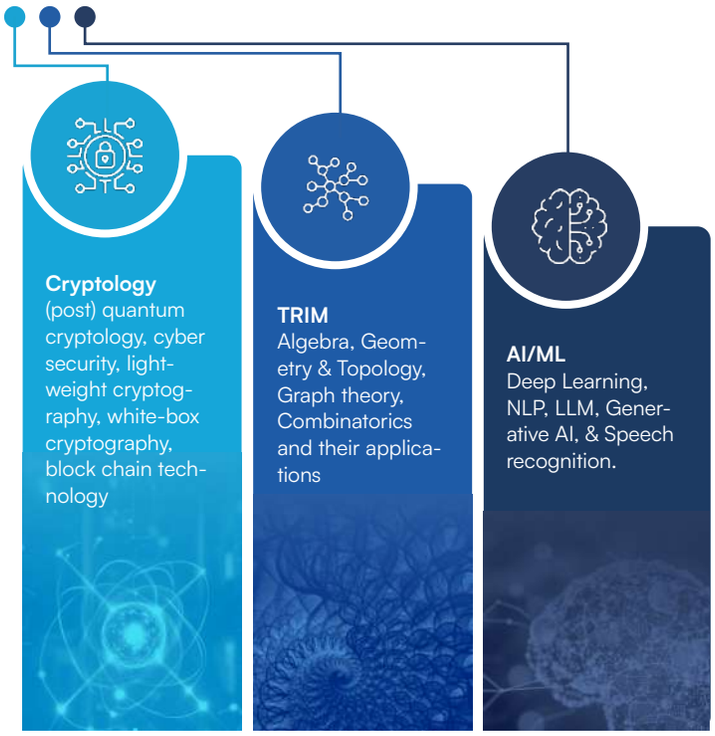
- **PhD programmes** offered in Mathematics, Cryptology, (Post) Quantum Cryptology, Artificial Intelligence, Machine Learning, Data Science and their application areas with rigorous, research-intensive training.
- **MSc programmes** launching in August 2026 in Artificial Intelligence and Cryptology & Cybersecurity.

The school prepares for careers in academia, industry, and digital transformation through high-impact, future-facing programmes.

> The beauty of nature lies in its hidden symmetry. Symmetry is vast and mathematics lies at its root. Knowledge of Mathematics and Computer Science are essential for the quest of understanding nature and its rule.

Professor Goutam Mukherjee

CORE RESEARCH DOMAINS



School of Health, Environment & Sustainability Studies

The School of Health, Environment & Sustainability Studies (SHESS) represents a unique endeavour driving comprehensive Health Systems Transformation through an “Evidence to Policy” agenda in public health. The school creates sustainable, long-term transformational impact on population health equity in India and beyond by providing a stimulating environment for learning and research at the intersection of data science and health, frugal health technologies, and the critical linkage between climate change and health impacts.

EDUCATION FOR POPULATION HEALTH IMPACT

- Diploma Courses in Critical Care Technology and Healthcare Management to be introduced in 2026 focused on hands-on clinical skills, and training in healthcare administration and leadership.
- MSc programmes in Health Data-Science, Public Health, and Health & Environment Sciences addressing data-driven, policy-relevant, and sustainability-linked health challenges.
- Integrated MSc—PhD pathways planned for subsequent phases, enabling seamless progression from advanced training to doctoral research.

Collectively, these programmes prepare professionals and researchers to lead in healthcare delivery, public health systems, policy formulation, and evidence-based decision-making, advancing equitable and resilient population health outcomes.

OUR DISTINGUISHED ADVISORS

Professor Marc Madou (UC Irvine)

Professor Indrani Gupta (IEG)

Professor Bhramar Mukherjee (Yale)

Professor LS Sashidhara (NCBS)

Dr. Swarup Sarkar (Univ. of Gothenburg)

Professor Gautam Menon (Ashoka Univ.)

Anchored in science informed by diverse human contexts and guided by sustainability, the School of Health, Environment & Sustainability Studies advances a global vision that understands health as emerging from interconnected environmental, social, and technological systems. We will integrate AI, public health, and community insight promote health equity and create lasting impact.

Prof. Satadal Saha MS, FRCS (Eng)

DOMAINS OF IMPACT: EVIDENCE TO ACTION

Data-driven Health		Epidemiology, AI forecasting, clinical informatics
Frugal Diagnostics		Cost-effective, resilient technologies
Simulation Research		Biomaterials, digital twins, clinical algorithms
Climate Science		Disease forecasting, resource mobilization

School of Humanities & Social Sciences

This newest School envisions a revitalization of Kolkata's lineage of interdisciplinary research, teaching programmes and collaborative projects, by bringing in fresh energies and cutting-edge talents of senior and younger scholars from all over the country. Bridging the Arts and Humanities with the Social Sciences, it hopes to draw in faculty (of the ranks of Professors, Associate Professors and Assistant Professors) and postdoctoral fellows from disciplines such as History, Literature, Sociology, Anthropology, Political Science, Film Studies, Cultural Studies and Gender Studies. Its vision is to foster a dynamic environment for cross-disciplinary and collaborative scholarship and create a space for critical enquiry across the domains of art, media, culture, politics and society.

OUR DISTINGUISHED ADVISORS

Tapati Guha-Thakurta (CSSSC)
Chairperson

Malabika Sarkar
(TCG CREST)

Supriya Chaudhuri
(Jadavpur Univ.)

Jayanta Sengupta
(Alipore Museum)

Souvik Mukherjee
(CSSSC)

Udaya Kumar
(JNU)

Parul Dave-Mukherji
(JNU)

COURSES IN THE HUMANITIES AND SOCIAL SCIENCES

- The School will begin its teaching and research programme by inaugurating a group of interdisciplinary thematic clusters.
- In keeping with the reverse trajectory model of an institution of higher research, it will initially offer only an integrated (one-year) M.A. & (four-year) Ph.D. programme in these clusters - keeping an exit option for a MA in Research at the end of the first year for those who do not wish to pursue a Ph.D.
- The plans are to begin the integrated M.A. & Ph.D. programme in the academic session of 2026-2027 in the clusters of Art History and Visual Studies and History and Sociology of Science.
- Under the rubric of these two clusters, specialised 6-8 week short courses will also be offered at the Masters level, that will have a job market and public policy orientation. Some of these short courses are being planned in areas such Exhibition Research and Curation, Modern Craft and Design Histories and Heritage Studies.
- The School is also working on a calendar of international conferences, smaller workshops, and public lectures by visiting scholars

INTERDISCIPLINARY FIELDS OF INQUIRY

- Art History & Visual Studies
- History & Sociology of Science
- History & Anthropology
- The Politics of Culture
- Urban Sites, Spaces and Ecologies
- Archiving & Public History
- Digital Humanities & Culture

Institute for Advancing Intelligence (IAI)

The Institute for Advancing Intelligence (IAI) conducts pioneering and multidisciplinary research which drives both fundamental theoretical breakthroughs and practical applied solutions aligned with India's national scientific priorities.

IAI at Glance (2025)

21 faculty members

54 PhD scholars, postdoctoral fellows, research associates, & project staff

Focus Research Areas: Translational Research in Mathematics, Cryptology, Quantum & Post-Quantum Cryptology & Artificial Intelligence & Machine Learning

Interview: India's Industrial AI Moment. Professor Goutam Mukherjee, director, Institute of Advancing Intelligence at TCG CREST was interviewed for Analytics India Magazine. Read more **here**.

Research Excellence

IAI achieved extraordinary research productivity throughout 2025, publishing **60 papers** in top-tier Q1 journals and CORE conferences. The institute secured **ten prestigious grants** from MeitY, NVIDIA and I-Hub Quantum Foundation, and ANRF, establishing a robust funding portfolio.

Today, technology has become imperative for the progress of science and society. IAI commits to providing the best possible environment and state-of-the-art facilities for learning and research in quantitative, computational, technological, and analytical streams. We conduct research in Cryptology and Security, Translational Research in Mathematics, and Artificial Intelligence and Machine Learning while promoting ethics in AI and aligning with the IndiaAI Mission.

Professor Goutam Mukherjee
Director, IAI

Advancing Intelligence for a Changing World

- Secure Digital Infrastructure: light-weight, post-quantum, and leakage-resilient cryptographic systems for secure cloud computing, blockchain platforms, etc
- Responsible AI Systems: human-centric AI models, including large language models, responsible AI frameworks, and secure AI deployment
- AI for Sustainability & Climate Resilience: advanced machine learning and climate informatics to model, predict, and mitigate environmental and sustainability challenges
- AI in Healthcare: AI-enabled medical image processing, speech and signal analysis, and secure health data analytics to support diagnostics, decision-making, and digital health systems
- Mathematical Foundations for Complex Systems: advanced mathematics and theoretical models to address industrial, technological, and societal problems, enabling robust algorithms, networks, and data-driven solutions

PhD Awardees in 2025

Thesis: A Study of Lie—Yamaguti Algebra and its Bundle

Supervisor: Prof. Goutam Mukherjee

Defence: 14 November 2025
Publications: 6 journal papers during PhD

Saikat Goswami
(2021 Batch) First PhD Graduate, TCG CREST

Thesis: Adversarial Machine Learning and Cybersecurity: The Interplay

Supervisor: Prof. Bimal Kumar Roy

Defence: 25 November 2025

Pierre-Francois Maillard
(2022 Batch) Second PhD Graduate, TCG CREST

Facilities that Power Discovery

IAI expanded to Bengal Eco Intelligent Park's 10th floor in 2025, featuring 9 faculty rooms, collaborative student workspaces, discussion rooms, and AV-equipped classrooms for hybrid teaching. Capital investments included GPU servers, high-end desktops/laptops, Mathematica licenses, and Overleaf renewal, boosting deep learning, cryptanalysis, and AI processing capacity. Unique assets support lightweight cryptography, generative AI, and theoretical math research.

IAI 2025: A Year of Impact

2 PhD Graduates

10 Major Grants Secured

60 Publications in Q1/CORE

5 Faculty Awards & Editorial Positions

Industry Translation at Scale

An MFI prediction model for Grade B6401 has been successfully developed and deployed for Haldia Petrochemicals Ltd. This work exemplifies IAI's industry-aligned translational research approach, where rigorous academic innovation is translated into real-world, commercial-scale solutions through close collaboration with industry partners.Mathematical Foundations for Complex Systems: advanced mathematics and theoretical models to address industrial, technological, and societal problems, enabling robust algorithms, networks, and data-driven solutions

Research Institute for Sustainable Energy (RISE)

RISE drives sustainable energy innovation by integrating experimental electrochemistry with computational modelling, density functional theory, and AI-driven materials discovery to accelerate the design, screening, and validation of energy materials and catalytic systems.

RISE at a Glance (2025)

- Nine core faculty members
- 9 Research Scientist & Scientific Officers
- 50+ PhD scholars, research engineers, and technical staff
- Research Areas: Na ion battery, Solid state battery, Clean fuels, Metal batteries, Anode-less batteries

India's Clean Energy Breakthrough

Prof Abhik Banerjee and the research team at RISE has engineered sodium-ion battery with 5-minute charge capability. Read more **here**.

The Chatterjee Group may consider taking up commercial production of sodium-ion batteries. Read more **here**.

Sustainable energy represents the only solution to climate change mitigation. RISE develops novel materials and device technologies for energy storage, particularly sodium-ion and solid-state batteries. Our commitment extends to hydrogen energy, fuel cells, CO_2 utilization, and alignment with national missions for energy independence.

Professor Satishchandra B. Ogale
Director, RISE

Powering the Next Energy Revolution

- RISE developed the nation's first dry-coated Na-ion electrodes, establishing breakthrough manufacturing methodologies.
- Novel single-atom Fe—N_4—O_2 anode architecture developed from wood-derived, N-doped carbon for high-performance sodium-ion storage and transport.
- US Patent granted for a microgradient-patterned carbon-coated current collector for alkali metal batteries (Joint patent: TCG CREST—IISER Pune)
- PCT patent filed for percolative inclusion of quantum dots to enhance battery electrode performance (Joint patent: TCG CREST—IISER Pune)

> We developed sodium-ion batteries with energy densities 30% higher than LFP lithium-ion and near LCONMC equivalence, establishing India's independence in critical battery technologies.

Dr. Abhik Banerjee
Associate Professor
& Principal Scientist

> Our aqueous zinc-ion battery research demonstrates remarkable cell stability and charge storage efficiency, advancing beyond lithium-ion limitations.

Dr. Bidisa Das
Associate Professor
(Computational Modelling)

Facilities Powering Energy Innovation

RISE houses India's first anode-free pouch cell fabrication system for sodium- and lithium-metal batteries, alongside the nation's first cryo dual-ion microscope, enabling advanced research across both solid and liquid battery phases. Comprehensive characterisation facilities—including XRD, XPS, Raman, AFM, and advanced electrochemical workstations—support end-to-end materials and device analysis. Infrastructure was further strengthened in 2025 through targeted additions in electrochemical, computational, and fabrication capabilities to accelerate next-generation energy research.

RISE 2025: A Year of Impact

51 Publications	3.46cr Grants Secured	3 Patents	5 Awards

Research Excellence

RISE has published **51 research papers** in leading international journals, including Nature Communications, Progress in Energy, Advanced Materials Technologies, and Small. Its patent portfolio has continued to expand, alongside strong success in competitive research funding, with support from DRDO, ANRF, and DST, bringing total research funding to 3.45 crore. Faculty achievements have also been recognized through Lifetime Achievement Awards, underscoring RISE's growing national and international impact.

RISE organized a four-day **international conference** on Batteries, ICSB-25 which was a huge success by the participation of leading scientists from academia and industries across the world.

Learn more about RISE **here**.

Centre for Quantum Engineering, Research and Education (CQuERE)

CQuERE advances superconducting quantum computing, NV-centre photonic integrated circuits, cold atom gravimetry, quantum information theory, and quantum computing theory.

CQuERE at a Glance (2025)

- Nine core faculty members
- 10 postdoctoral researchers, 2 visiting scientists, 2 quantum engineers
- 23+ PhD students, project associates, interns
- Research areas: Quantum Sensing and metrology using Cold Atoms, Photonic Integrated Circuits and Nitrogen Vacancy Centres for sensing, Quantum Computation with superconducting qubits, Quantum Computation (Theory), Quantum Information & Communication (Theory)

Cracking a 16-Year-Old Quantum Puzzle

Researchers at CQuERE Solve 16-Year-Old Puzzle in Quantum Computing: The Hindu.
Read more **here**.

“CQuERE has made rapid strides towards performing cutting edge research on superconducting Quantum computing, NV centre and photonic sensors, and cold atom gravimeters. Important results have been obtained on the quantum computations of properties of atoms and molecules using the D-Wave quantum annealer IonQ’s trapped ion quantum computer. Innovative research on secure quantum communication is underway.”

Professor Bhanu Pratap Das
Director, CQuERE

Cutting-edge Quantum Research and Technology

- Current projects develop bosonic quantum computing cavities, qutrit HHL solvers, quantum TSP/subset-sum algorithms, hyperfine structure VQE on qubit hardware, and network flow quantum advantage demonstrations.
- Development of Superconducting Quantum Computer- Initial characterization and Hands-on training with Single qubit system completed in-house.
- Quantum sensing research with NV centers in diamond funded by NQM under the quantum sensing hub for 6 years. One among the 17 grantees.
- Indigenously developed CW-ODMR setup and library for SU8 -based photonic integrated circuit-based sensor.
- Work underway on quantum-selected classical methods for atomic and molecular physics calculations, including relativistic implementations and probing new physics beyond the Standard Model of elementary particles.
- Work on strategies for quantum entanglement distribution and quantum communication over a quantum network & secure quantum key distribution

“Fourier Transform Noise Spectroscopy on superconducting qubit enables low overhead error mitigation was presented at SQA Delft, Netherlands 2025.”

Prof. Bhupendra Nath Dev
Professor

“Quantum technologies play a vital role in expanding today’s research and development. At CQuERE, my work centers around the development of cold atom-based gravimeter, which can detect very small variations in acceleration due to gravity (g) with unprecedented precision. So far, successful trapping of 108 Rubidium atoms in the magneto-optical trap with trap lifetime of 540 ms and continuous laser frequency stabilization up to seven days has been achieved.”

Dr. Anju
Qmet PARIMANA Postdoctoral Fellow associated with National Quantum Mission

Facilities powering Quantum Innovation

CQuERE’s superconducting qubit lab features single-qubit dilution refrigerator and 5-qubit QPU installation, with in-house CoSi2 resonators/ Josephson junctions. NV-centre lab includes CW-ODMR, 0.5-30keV ion implantation, nanodiamond coating. Cold atom lab achieves 10B Rb-87 atoms MOT, <500kHz laser stabilization.
In 2025, CQuERE indigenously developed SU8 photonic sensor library, SiNx on-chip sensors (Shizuoka Univ. collab), CoSi2 nanobridge junctions (RISE FIB), microwave cavity designs,and noise spectroscopy setups.

CQuERE 2025: A Year of Impact

23 IYQ Colloquiums	3 Int’l Conferences	NQM Grant	23 Publications	2 Postdoc Fellowships

CQuERE celebrated the International Year of Quantum Science and Technology (IYQ) by hosting 23 colloquiums including 3 Nobel Laureates

International Conference on Quantum Information Science and Technology (ICQIST 2025):

Kolkata Hosts Global Quantum Conference, Spotlights India’s Growing Edge in Next-Gen Tech: Times of India. Read more **here**.

Research Excellence

Secured NQM quantum sensing grant (6yrs), UGC DAE-CSR grant, ISRO grant. **23 publications**, best poster IWQT-2025, 2 LOTUS JST fellows.CQuERE’s collaborations grew with SINP Kolkata, SNBNCBS, TIFR Mumbai, University of Colorado Boulder, University of Arizona., among others.

Centre for High Impact Neuroscience and Translational Applications (CHINTA)

CHINTA conducts pioneering research with current projects investigating spinocerebellar ataxia type 12 (SCA12) cognitive deficits, including development of patient derived models, behavioural timescale synaptic plasticity (BTSP), and Fragile X syndrome using human iPSC-derived astrocytes and advanced imaging modalities.

CHINTA at a Glance (2025)

- Three core faculty members
- Six research scientists
- 15+ PhD scholars, postdoctoral fellows, research associates, and project staff
- Research Areas: navigation and neurosimulation, sensory morphogenesis, synapse-to-memory

Interview: The Science of healing

Dr. Anant Jain, Assistant Professor of Neuroscience at CHINTA spoke to Health & Me (Health Supplement of Times NOW).
Read more **here**.

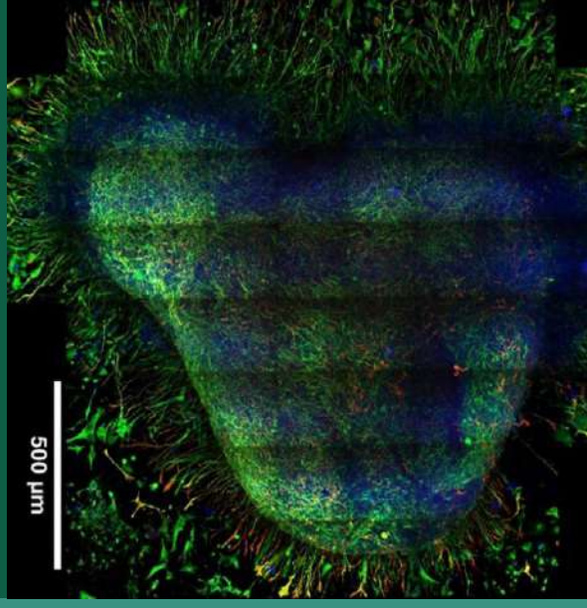
The word chinta, in Bengali, means a thought or idea. Foremost among these is the urgent unmet need to translating "discovery" to "delivery" and CHINTA is using a multidisciplinary strategy to achieve this.

Professor Sumantra Chattarji
Director, CHINTA

From Discovery to Delivery

- India's first SCA12 patient-derived brain organoids, enabling disease modelling and high-throughput drug screening
- Operational two-photon fluorescence lifetime imaging (FLIM) to study protein dynamics in intact neural tissue with high spatial and temporal precision
- MOOSE, a scalable and reproducible platform advancing open, collaborative neuroscience research

CHINTA's unique strength lies in its interdisciplinary approach combining biomedical sciences, physics, chemistry, mathematics, computational sciences, and engineering to address neurodegenerative disorders.



Facilities Powering Translational Neuroscience

CHINTA established operational two-photon FLIM imaging capability in 2025, enabling high spatiotemporal resolution measurements of protein activity and signaling dynamics in intact neural tissue. Specialized facilities include the NeuroStem Cell facility, Behavioral facility, Neurophysiology facility, Wet Biology Facility, Imaging facility.

CHINTA 2025: A Year of Impact

4 High Impact Publications

13.32cr Funding Pipeline

1 PCT Patent Filed

5 Faculty or Student Awards

> At CHINTA, we support open science by building MOOSE, a free and open-source platform for neuro-simulation, and by delivering training workshops worldwide.

Dr. Subhasis Ray
Associate Professor

Research Excellence

CHINTA published in PNAS, J Neurosci, Glia, and JoVE in 2025. Filed PCT patent IN23-2300 for "A Method of Generating Human iPSCs-Derived Forebrain-Specific Astrocytes and Uses Thereof." Secured Max Planck Partner Group, ICMR, Kavli Foundation, and Wellcome Trust, UK grants.

> CHINTA promotes a thoughtful yet scientifically rigorous clinical research culture and is actively involved in developing tools for cognitive testing and digital applications to advance evidence-based mental health treatment.

Dr. Krithika Ramachandran
Scientist and Clinical Research Coordinator

How Autism Affects the Brain | India Autism Centre

Podcast with Dr. Sumantra Chattarji. Watch full episode **here**.

Food Technology & Science Institute (FTSI)

Food Technology and Science Institute (FTSI) is dedicated to advancing food, nutrition, and human health through rigorous science and translational innovation. Operating at the intersection of biology, sustainability and formulation science, we develop scalable, future-ready solutions that address global challenges in nutrition, physical-mental health and resilient food systems.

Our interdisciplinary approach transforms molecular and biological discoveries into plantbased, high-performance, functional food innovations. By integrating cutting-edge research, strategic collaborations, precision formulation, and rigorous consumer safety studies, We unlock the potential of functional food systems to deliver nutritionally optimized, sustainable solutions for a healthier world.

Dedicated Team of Experts: 10+ core scientific faculty supported by other non-scientific staffs.

About a dozen pilot-scale food applications developed that includes protein bars, functional beverages, vegan ice-cream, cones, fat replacer, functional chocolates, and gummies using proprietary active ingredients.

Core Areas of Research:

- Plant based Proteins
- Dietary fibre and Prebiotics
- Pro & Postbiotic small molecules
- Mycoprotein
- Industrial Food Enzymes

Advanced food and nutrition research addresses India's dual burden of malnutrition, including persistent undernutrition and rising obesity, particularly in urban areas, among adults in general. This research is crucial for developing tailored interventions amid rapid urbanization and dietary shifts. nhanced dietary diversity and functional foods from research help lower risks of NCDs like diabetes and cardiovascular issues India's food market, projected to reach $1 trillion, towards health-focused growth via plant-based and functional foods. At FTSI, we are working on some path breaking innovations in developing novel plant and fungal proteins and dietary fibres

Dr. Parthasarathi Bhattacharya
Director, FTSI

Facilities Powering Food Science

R&D Laboratory
FTSI maintains 6,000+ sq. ft. of GLP-certified advanced research laboratory dedicated to food science, biochemistry, microbiology, and sensory analysis, supporting research and product innovation.

Pilot Laboratory and Infrastructure
The 2,000 sq. ft. pilot facility is equipped with bioreactors, advanced downstream processing systems (ion-exchange purification, decanters, micro- and ultrafiltration), and a cream processor, enabling integrated, end-to-end translational food research and scale-up.

From Lab to Market: Pioneering Scalable Food Innovations

FTSI transforms scientific breakthroughs into market-ready solutions. Our innovations span next-generation biotic ingredients, high-performance plant proteins, and sustainable fungal mycelium-based meat alternatives.

Highlights include:

- **Next-Generation Prebiotics**: An advanced fiber with Low GI, high panose and prebiotic properties designed for commercial health nutrition markets.
- **Postbiotic Platforms**: Industry-ready formulations supported by regulatory validation and real-world application trials.
- **Premium Plant Proteins**: Upcycled vegetable cake converted into functional protein concentrates & isolates for bars, beverages, and vegan dairy alternatives.
- **Sustainable Mycelium Proteins**: Innovative meat alternatives developed from indigenous Termitomyces strains, offering scalable, eco-friendly protein solutions.

> **“Delivering science-driven, scalable food innovations from concept to commercial”**

Combines techno-commercial expertise in protein and fermentation-based product development, leading scalable, high-impact food innovations from research to market.

Dr. Anuradha S. Nambiar
Principal Scientist

Dr. B. Sesikeran-Former Director of NIN (ICMR) and Ex-Chairman RCGM (GOI) as advisor of FTSI guides on all research projects & related safety studies.

Dr. B. Sesikeran
Scientific Advisor, FTSI

Seasoned professional in Food Safety, Regulatory Affairs, and Quality Assurance with over a decade of diverse experience. Lead auditor with expertise in FSSAI, HACCP, GMO, and GHP.

Ms. Payel Batabyal
Regulatory Advisor

Cancer-related Advanced Research and Education (CARE)

CARE pioneers cancer immunotherapy by investigating ERV mRNA re-expression for scalable immunotherapies, multi-omics integration for lung cancer resistance prediction, and epigenomic signatures in tumour biopsies/ PBMCs for early detection of lung/liver/ gallbladder/pancreatic cancers.

CARE at a Glance (2025)

- 6 core team members including faculty, scientists and PhD scholars
- 3 high-impact publications in Nature Communications, Leukemia, JBC
- 10+ national and international collaborations
- Research Areas: Epigenetic Cancer Vaccines & Immuno-Oncology Platforms, AI-Enabled Precision Oncology

BFI-Biome Funds AI-ML Lung Cancer Study:

Researchers at CARE are developing an AI-ML model to predict responder and non-responder molecular signatures to EGFR-TKI therapy in Indian and Caucasian lung cancer patients.

The strength of CARE lies in its global network of collaborators united by a common mission: to defeat cancer through innovation. Our partnerships spanning India, the US, Germany, and Australia enable us to accelerate discovery while ensuring these advances reach patients who need them most.

Dr. Chandan Guha
Scientific Advisor, CARE

From Platforms to Patients

- Project EVEREST: Development of off-the-shelf mRNA cancer vaccines targeting ERV-derived tumour antigens, enabled by clinical-grade epigenetic inhibitors.
- Population-scale vaccine platform supported by 13 mono-allelic cell lines covering ~95% of Indian HLA diversity, achieving a four-fold improvement in antigen detection sensitivity.
- AI-driven EGFR—TKI response prediction models to distinguish responders and non-responders in lung cancer.
- Comparative molecular analysis of Indian versus Caucasian patient cohorts, addressing ethnic bias in existing oncology datasets and enabling more equitable precision medicine.

Facilities Powering Precision Medicine

Phase 1 CARE lab features BSL1/BSL2 cell culture and molecular biology facility equipped with Incucyte SX5 live-cell imaging, Oxford Nanopore PromethION 2 Solo sequencer, Agilent 4150 Tape Station System, Leica Mateo FL microscope Amaxa 4D-Nucleofector, Chemi Doc MP imaging system, and CO2 incubators supporting immunotherapy development. Phase 2 expansion planned for FACS/proteomics labs and lecture hall to support PhD/postdoc training.

> At CARE the focus of my lab is to develop novel immunotherapies targeting epigenetic inhibitor induced ERV derived antigens.

Dr. Ashish Goyal
Assistant Professor

CARE 2025: A Year of Impact

Research Funding Rs 60L Grant

3 High Impact Papers

EVEREST Program

25+ advanced Research instruments commissioned

Research Excellence

Published 3 high-impact papers in Nature Communications, Leukemia, J Biol Chem on cancer mechanisms. Launched EVEREST program for epigenetic cancer vaccine enhancement.

> Our AI model brings together Indian and Caucasian patient data with cell lines to decode lung cancer drug response and resistance, closing critical gaps in population-biased datasets.

Dr. Anupama Goyal
Senior Scientist

Snigdha Patel
Scientist

Clinical & Research Partners

International: DKFZ (Germany) • The Olivia Newton-John Cancer Research Institute (Australia). Pathologisches Institut Universitätsklinikum Heidelberg (Germany) •Albert Einstein College of Medicine (US) • Weill Cornell Medical College (US)

National: ILBS • IISER Kolkata • Centella.ai • Sir Ganga Ram Hospital

External Engagements

From its inception, TCG CREST placed collaboration at the core of its research and education model. Over the past five years, the institution has built a strong ecosystem of external engagements spanning leading academic institutions, global industry partners, government bodies, and civil society organisations.

Today, CREST sustains 20+ active academic collaborations and nearly a dozen industry partnerships, largely with multinational corporations. In 2025, collaborations were guided by a strategic focus on consolidation and retention, strengthening partnerships that deliver shared impact.

This approach enabled the delivery of complex, mission-driven projects across the private sector and government, expanding CREST's external footprint and earning recognition from leading chambers of commerce and engagement with the Embassies of the United States and the United Kingdom.

With Deemed-to-be University status, CREST has unlocked new opportunities for joint PhD programmes, academic exchange, executive education, and industry immersion. 2026 will further scale these collaborative initiatives.

2025 Key Highlights

- MoU with Carle Foundation Hospital for collaborative initiatives in AI/ML-driven healthcare research
- MoU with Collective Good Foundation (Samyak), a nationally significant NGO led by former leaders of a major private insurance organisation
- Strategic agreement with the Army Institute of Technology and 42 Labs for Phase II of a project of national importance
- Invitation to serve on the inaugural National Expert Committee on Technology, Innovation and Advancement, Indian Chamber of Commerce
- Successful registration of two industry-sponsored PhD scholars, strengthening academia—industry integration
- High-profile engagements, including visits by the UK High Commissioner to India and the US Consul General
- Visit by the Technology Committee of the Indian Chamber of Commerce, reinforcing policy and industry dialogue
- Academic engagement with the University of Arizona, advancing international collaboration
- A High-level delegation from JST—NEDO (Japan), deepening engagement with global science and technology agencies

> TCG CREST strongly believes that executive education, if designed with a unique content and a flexible delivery model, can accelerate the traction between academia and industry. Given CREST's infrastructure across areas like AI/ML, Quantum, Sustainable Energy, Neuroscience and the capability of the research team, the institution is well poised to deliver courses that will be at par with international standards while addressing global as well as local use cases. The immediate focus is on demystifying the chaos around AI/ML and enabling the leaders of tomorrow in navigating the uncharted waters of technology driven growth across industries.

Mr. Anubrata Chakrabarti
Head (Collaboration)
TCG CREST

JST—NEDO (Japan) Delegation Visit

UK High Commissioner's Visit to India

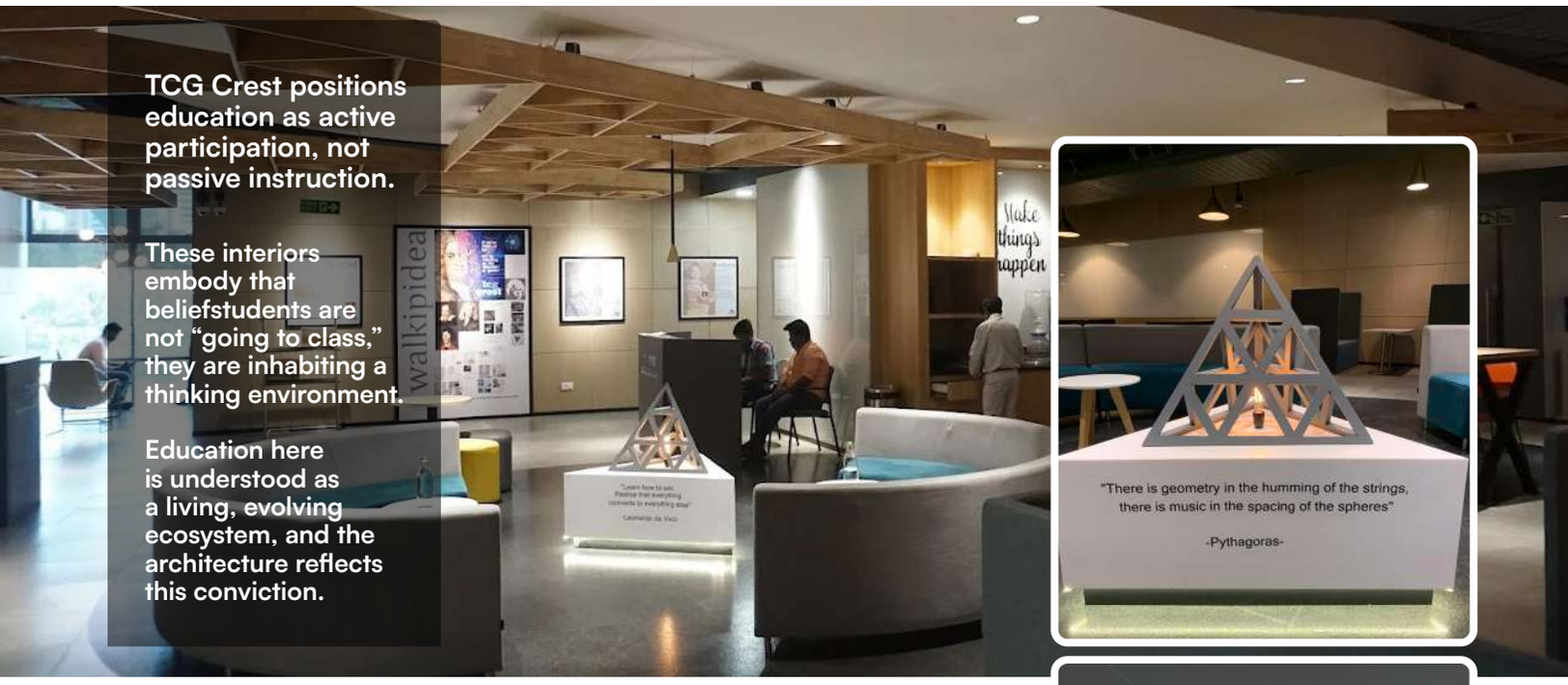
Major International Events in 2025

ICQIST 2025 - a five-day global conference hosted in Kolkata by TCG CREST's CQuERE bringing together leading global experts in the quantum ecosystem from more than 15 countries to reflect upon how quantum science is rapidly evolving today's error-prone quantum machines into fault-tolerant, reliable quantum machines with tangible technological and societal impact

ICSB 2025 successfully brought together leading experts from academia, industry, and policy to exchange insights on energy storage devices featuring engaging lectures, cutting-edge research presentations, and vibrant discussions on emerging innovations. Social and cultural events offered delegates a glimpse into Kolkata's rich heritage, complementing the scientific exchange.

CONNECTED CAMPUSES

A Continuous Knowledge Landscape



TCG Crest positions education as active participation, not passive instruction.

These interiors embody that beliefstudents are not "going to class," they are inhabiting a thinking environment.

Education here is understood as a living, evolving ecosystem, and the architecture reflects this conviction.

FTSI, Food Technology and Science Institute, is a state-of-art centre dedicated to pioneering research and education in the realm of food science.

Sukanya Hoon
Sr. VP (Design), TCGRE, Principal Architect & Advisor to TCG CREST

"Geometry serves as a shared intellectual language across campuses, with triangular installations acting as hubs for dialogue during conferences and workshops. These installations, enriched with philosophical quotes, are not mere sculptures but intellectual anchors fostering community and continuous knowledge exchange. Thus, the triangle symbolizes unity, bridging abstract mathematics and philosophical inquiry, while embodying the balance between logic and imagination."

Across campuses triangular geometry acts as a shared intellectual language.

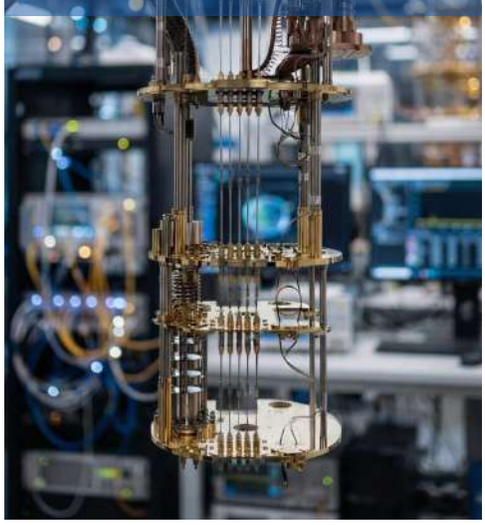
Bengal Eco Intelligent Park

Filtered daylight enters the interiors through patterned screens and deep-set glazing, producing a constantly shifting play of light and shadow. This controlled permeability allows natural light to animate spaces without overwhelming them.

The Atrium:
A Vertical Tapestry of Knowledge

This multi-level atrium embodies a philosophy where students and faculty ascend through interconnected schools and ideas. Linking the School of Health, Environment & Sustainability Studies, School of Humanities & Social Sciences, and interdisciplinary programs, each level visually embraces the others, showcasing that knowledge is a rich, layered tapestry—where humanities and sciences weave together in harmony, not as separate paths.

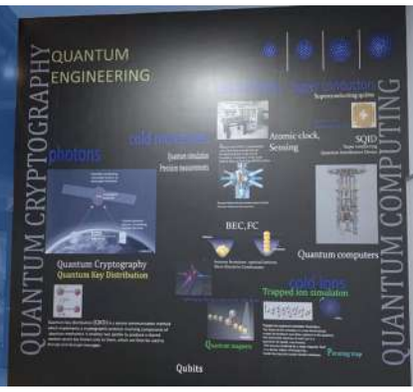
The Superconducting Qubit Lab at CQUERE focuses on pioneering research in quantum sciences and technologies.



TCG Crest's innovative building stands as a beacon for India's research landscape, embodying precision and interconnectedness in its design. With striking triangular geometry and dynamic angles, it symbolizes the university's intellectual pulse, marking a new era in research infrastructure.

RISE is engaged in extensive research aimed at evaluating various strategies for CO2 reduction and its transformation into value-added products, alongside catalyst design.

A visual atlas of quantum engineering—mapping how photons, atoms, ions, and superconductors converge into computation, communication, and sensing. This wall represents the interconnected pathways through which fundamental research transforms into real-world quantum technologies.



Partners & Funding Model

Academic Partners

- Sainsbury Wellcome Centre for Neural Circuits and Behaviour
- Indian Institute of Technology Tirupati
- CSIR - National Physical Laboratory
- University of Edinburgh
- National University of Singapore
- Ramakrishna Mission Vivekananda Educational\ and Research Institute
- Chennai Mathematical Institute
- National Institute of Technology, Durgapur
- Plaksha University
- Indian Institute of Science Education and Research, Pune
- Indian Institute of Science Education and Research, Kolkata
- National Physical Laboratory (NPL)
- Uppsala University, Sweden

Industry Partners

- Lario Therapeutics Limited
- Exsegen Genomics Research Private Limited
- Army Institute of Technology and 42Labs
- Carle Foundation Hospital
- KPIT Technologies Limited
- Atotech Development Center Private Limited
- Rincell Corporation
- The Chemors Company FC, LLC
- Uneverse Mobility Private Limited
- Epsilon Advanced Materials Private Limited
- Unigrid Inc
- CGF (Collective Good Foundation) / Samyak

NOTE: Restricted List (Institutional MoUs)

Research at TCG CREST is strengthened through funding from distinguished national and international agencies—including ANRF, IndiaAI—MeitY, DBT, DRDO, Wellcome Trust (UK), Max Planck Partner Group, Kavli Foundation, ICMR, SERB, and NVIDIA—alongside strategic research support from industry collaborators and CSR partners.

As an institution recognized under Section 35(1)(iia) of the Indian Income-tax Act, TCG CREST offers corporates and global partners a transparent and regulated pathway to contribute directly to approved scientific research. When viewed alongside India's CSR framework, this enables corporate and institutional funding to participate meaningfully in deep-technology research while aligning with long-term innovation, ESG and national development objectives.

"At TCG CREST, we follow a financial model that is both disciplined and supportive—one that gives researchers the freedom to excel while ensuring long-term sustainability. By combining institutional commitment with competitive research funding and industry partnerships, we make sure our resources are used wisely to drive innovation and create meaningful technological and societal impact."

Mr. Suprakash Das
CFO & Director (Operations)
TCG CREST

Distinctive Research Management & Administration

The Research & Development Office at TCG CREST functions as the strategic backbone of a research-first, well-funded, and industry-engaged innovation ecosystem. Purpose-built to support the Institute's distinctive academic and research model, the R&D Office enables the systematic translation of fundamental research into technologies, scalable solutions, and policy-relevant outcomes, backed by competitive industry, national and international funding.

At its core, the R&D Office delivers end-to-end research management, stewarding the entire innovation lifecycle—from idea incubation and strategic proposal development to competitive grant acquisition, project execution, governance oversight, outreach and communication. This integrated framework ensures academic freedom in discovery while providing professional structures that enhance efficiency, accountability, and impact.

Through its cohesive, forward-looking, and professionally administered approach, the Research & Development Office at TCG CREST represents a new paradigm in research management—one in which strategic funding, industry partnership, research excellence, and societal relevance converge to shape innovation for the future.

"

The year 2025 has been one of consolidation and momentum for TCG CREST, as the institute strengthened its academic, research, and governance foundations.

The establishment of robust research management frameworks, transparent governance processes, and professionally administered academic structures has enabled TCG CREST to support high-quality research while facilitating industry engagement and translational outcomes. Our focus has been on creating enabling mechanisms—across funding, compliance, partnerships - that allow researchers to pursue ambitious ideas with clarity and confidence.

As Registrar, getting the approval, formalisation of statutory bodies, academic regulations, and institutional processes has been a critical milestone in our transition to university status. These structures provide the stability and autonomy required for sustainable growth, while preserving research and academic integrity and excellence.

"

Dr. Anirban Chakraborty

Registrar &
Head (Reseach & Development)
TCG CREST

TCG CREST Shaping National Narratives

In 2025, TCG CREST emerged as a credible public voice on frontier science, health, education reform and India's research ecosystem. Faculty insights, institutional perspectives and research breakthroughs translated into mainstream conversations.

THE HINDU

One of the first research-driven private university to be established in Kolkata

This initiative will make students of the new generation better equipped to address the dynamic needs of the job market in India, says a mentor at TCG

Published - June 01, 2025 12:46 am IST – Kolkata

SHRABANA CHATTERJEE

READ LATER PRINT

TCG CREST, which was established in 2020, has quickly emerged as a key player in the global science and technology innovation landscape.

INDIA TODAY

How Kolkata researchers are turning potato, fungi into protein sources for Indians

Scientists in Kolkata are developing innovative proteins from potatoes and fungi to address India's protein deficiency. Their work could reduce reliance on expensive imports and improve nutrition for millions.

India's largest quantum computing research hub to come up at Salt Lake

RAJIB CHAKRABORTY

The Statesman

businessline.

The Chatterjee Group may consider taking up commercial production of sodium-ion batteries

Sodium-ion battery charges up to 94 per cent in just five minutes and delivers an energy density of around 180 watt-hour per kg

By Mithun Dasgupta

Updated - November 18, 2025 at 08:56 PM

Jeremy Ranjan Ghose, President, TCG Group and Additional Director, TCG CREST board

Breakthrough in sodium-ion cells

SAMBIT SAHA

Calcutta: Scientists at Calcutta-based Research Institute for Sustainable Energy (RISE) under TCG-Crest have developed an indigenous sodium ion (Na-ion) battery capable of charging up to 94 per cent in five minutes. The battery will match and, in some parameters, surpass the performance of conventional lithium-ion (Li-ion) batteries that dominate the global EV and energy storage market at present.

The RISE team under TCG-CREST

Unlike Li-ion systems, the technology developed by the scientists at the Salt Lake campus of TCG-Crest — a deemed to be university — uses no cobalt, nickel, copper or lithium, cutting India's exposure to global supply-chain risks for critical minerals and geopolitical volatility.

The Telegraph

প্রতিদিন

উচ্চশিক্ষায় সুযোগ বৃদ্ধি, দাবি সমীক্ষায়

নয়াদিল্লি: ভারতীয় শিক্ষা নীতি এবং বিশ্বশিক্ষার অগ্রণী পরিবর্তনের নতুন নীতি বিদেশি নামী বিশ্ববিদ্যালয়গুলির জন্য ভারতের দরজা খুলে দিয়েছে। কাজ এর ফলেই শুরু হয়েছে বিতর্ক। উঠছে প্রশ্ন ভারতের প্রধান বিশ্ববিদ্যালয়গুলির ক্ষেত্রে এই নতুন চেষ্টা কি? এর ফলে বৈশ্বিক মানের শিক্ষার দরজা খুলে যাবে না কি এটি আমাদের সমাজের শিক্ষাগত বৈষম্য আরও বাড়িয়ে তুলবে? প্রধানমন্ত্রী নরেন্দ্র মোদির প্রধান ভারত-ব্রিটেন মুক্ত বাণিজ্যচুক্তি নিয়ে আলোচনার সময় এবার ব্রিটিশ বিশ্ববিদ্যালয়ের প্রবেশ ভারত তথা বিশেষভাবে উল্লেখ করেছিলেন। ইতিমধ্যেই ইউনিভার্সিটি অফ সাউথহ্যাম্পটন ক্যাম্পাস তৈরি করেছে। অন্যদিকে অক্সফোর্ড ইন্সিটিউট ফর টেকনোলজি হতে চলেছে প্রথম মার্কিন বিশ্ববিদ্যালয় যার একটি পূর্ণাঙ্গ ভারতীয় ক্যাম্পাস—ইন্সিটিউট টেক মুম্বই। বিদেশি বিশ্ববিদ্যালয়গুলির এই ব্যাপারে দেশের শিক্ষক্ষেত্রে একটি ঐতিহাসিক অধ্যায়ের সূচনা অবশ্যই বলা যায়। অনেকেরই অবশ্য আশঙ্কা। যেমন, টিসিই কোর্সি-র ড. অমিতাভ চক্রবর্তীর মতো পর্যবেক্ষকরা মনে করছেন, যদি এই বিদেশি বিশ্ববিদ্যালয়গুলি ভারতের মাটিতে আন্তর্জাতিক মানের শিক্ষা দান শুরু দিতে পারে তবে দুরন্ত শিক্ষার্থীদের একটা বড় অংশ বিদেশমুখী হবে। দেশের মেধাও সেখা এবং মূলধন ওই দেশে চলে যাওয়ার সম্ভাবনা বাড়বে। শিক্ষাক্ষেত্রে নতুন পরিস্থিতির চাপ এবং শিক্ষক, উভয় পক্ষই উপকৃত হবে।

Dr. Purnendu Chatterjee met with PSA Prof. Ajay Kumar Sood and Scientific Secretary Dr. Parvinder Maini to discuss matters related to TCG CREST's various activities in facilitating R&D in the field of science and technology.

At global meet, experts discuss how to make error-prone quantum machines reliable

PRESS TRUST OF INDIA
India's premier news agency

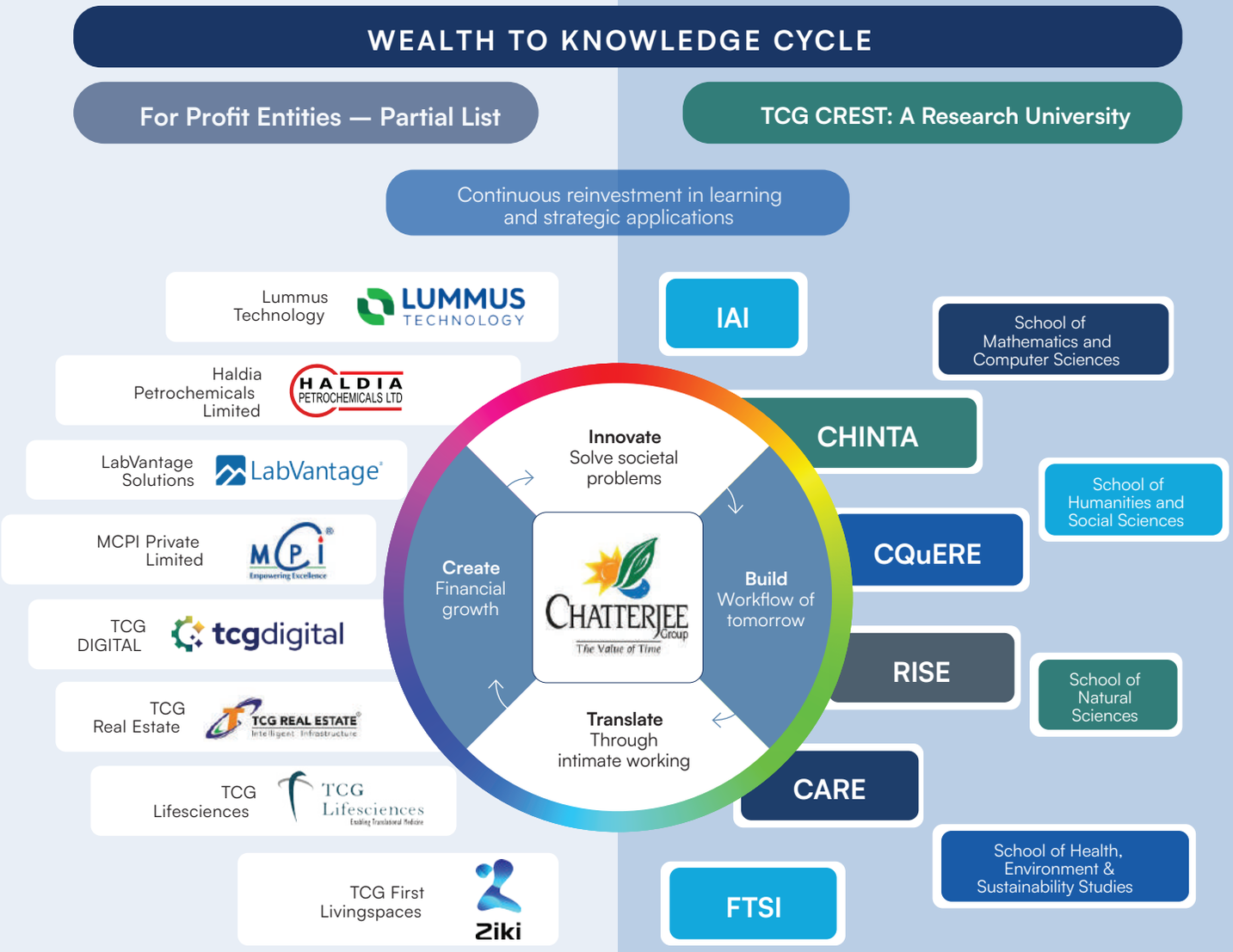
International Conferences organized by TCG CREST made national headlines.

Kolkata Hosts Global Quantum Conference, Spotlights India's Growing Edge in Next-Gen Tech

Business Standard

The Chatterjee Group (TCG)

The Group embraces the philosophy of knowledge creating wealth, and wealth in turn being leveraged to generate further and deeper knowledge and discovery. This approach creates a self-reinforcing cycle where commercial success and intellectual advancement fuel each other in a virtuous loop.



tcg crest

(Deemed to be **University** *u/s 3 of UGC Act, 1956)*

Distinct Category - Research

Working Together for a Better Future

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