

teg crest

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

Distinct Category - Research

MSc in Frontier Intelligence and Autonomous Agents

ONE-YEAR INTENSIVE MASTER'S PROGRAMME

Designed for those ready to engage deeply with the next era of intelligent systems.

A RESEARCH-DRIVEN ECOSYSTEM



RESEARCH-LED

Academic Environment



ACCOMPLISHED

Faculty & Mentors



ADVANCED

Research Infrastructure



INDUSTRY

Collaborations

INSTITUTE BACKGROUND

TCG CREST University is the academic and research arm of The Chatterjee Group (TCG). TCG is a multibillion-dollar, knowledge-driven business group with operations across 45 countries and over \$3 billion in strategic long-term investments. Dr. Purnendu Chatterjee founded TCG in 1989. Since then, TCG has built a legacy of institution-building across life sciences, technology, real estate, asset management and manufacturing.

TCG CREST University is officially recognized under the UGC Act, 1956. It is built on a strong doctoral and research-led academic foundation. It brings together rigorous scientific inquiry and industry-facing applications. Six research verticals anchor every programme it runs, including the MSc in Frontier Intelligence and Autonomous Agents (FIAA).

The university operates from the Bengal Eco Intelligent Park, EM Block, Sector V, Bidhannagar, Kolkata. This location sits at the heart of Kolkata's IT and innovation corridor.

STORY BEHIND

TCG CREST University (UGC) was conceived on a simple premise. India needs research institutions built with the same rigour, ambition and long-term vision that built The Chatterjee Group itself. Rather than replicating a conventional university model, the institute was designed as an industry-backed academic ecosystem with a future-facing orientation. Research, teaching and real-world enterprise sit side by side here.

The FIAA programme is the newest expression of that vision. As AI moved from predictive models to autonomous, reasoning, tool-using agents, the institute recognized a gap. India lacked a postgraduate programme built specifically around this frontier. FIAA was designed from scratch to train the next generation of engineers and researchers who can build systems that plan, decide, and act.

crest
tcg

WHAT OUR LEADER ENVISIONS

FROM THE DESK OF THE CHANCELLOR



"The MSc in Frontier Intelligence and Autonomous Agents was built for a specific moment. AI systems are shifting from ones that predict to ones that act. We designed this programme without the inherited assumptions of a legacy CS degree. That means our door is wider, our curriculum is dynamically updated, and our research verticals are directly tied to how intelligent agents are being deployed in the real world today. FIAA is where rigorous mathematical foundations meet hands-on systems engineering. We are preparing graduates not just to use AI tools but to design, build and govern the autonomous systems that will define the next decade."

- Dr. Purnendu Chatterjee

Founder, Chairman – The Chatterjee Group
Chancellor – TCG CREST University



VISION

TCG CREST University aspires to be a world-leading research institution that unlocks the full potential of human talent. TCG CREST University is dedicated to the four Ks: Knowledge Creation, Knowledge Application, Knowledge Dissemination, and Knowledge Exchange. The aim is to build a strong global network comprising leading universities, research institutions, technology-driven corporations, knowledge centres and academic communities. Our goal is to foster a culture of continuous knowledge exchange through collaborative research, student and faculty exchanges, joint projects, workshops, and seminars.



MISSION

Conduct world-class research in frontier intelligence, autonomous systems, quantum technologies, and other emerging fields that drive global progress.

Deliver globally competitive education, including the MSc in Frontier Intelligence and Autonomous Agents, to prepare learners for a technology-driven world.

Build a global network of partnerships with leading universities, corporations, research institutions and innovation ecosystems.

Translate research into scalable innovations and commercial ventures with international impact.

Advance responsible and ethical innovation that benefits diverse communities worldwide.



CORE VALUES

Intellectual Rigour

Responsible Innovation

Global Collaboration

Inclusive Excellence

Impact Orientation



POSITIONING

A globally leading, research-driven institution advancing artificial intelligence, autonomous systems, quantum technologies and other emerging fields. Through cutting-edge research, transformative education, and strategic global partnerships, the aim is to develop exceptional talent and deliver innovations that shape industries and improve human well-being.

DETAILS ABOUT THE FRONTIER INTELLIGENCE AND AUTONOMOUS AGENTS (FIAA) COURSE

FIAA is structured as a continuous academic journey across three terms. It is preceded by two preparatory modules that level the playing field for candidates from diverse backgrounds. This includes science, engineering, data science, finance, and economics with quantitative exposure.

PREPARATORY MODULES

PRIMER I.

Mathematical, Statistical and Computational Foundations

Linear Algebra For ML

Probability And Statistics

Optimization Basics

Numerical Computing And Python

Gradient-Based Learning Intuition

PRIMER II.

Data Engineering, Management and AI in Organizations

Data Pipelines

Data Governance And Lineage

Organizational Systems (4ms)

Ai Adoption Strategy And Economics

Ethics And Explainable Ai

Case Studies In Healthcare And Supply Chain

TERM I.

Foundations of Intelligent Systems

Mathematical & Statistical Foundation

Probabilistic & Generative Models

Machine Learning & Representation Learning

Ai Systems Lab I

Data, Evaluation & Experimental Design **NEW**

TERM II.

Foundation Models & Agentic AI

Large Language Models & Foundation Models

Multimodal & Generative Ai

Data, Evals & Scaling Trade-Offs **NEW CORE**

Agentic Ai & Multi-Agent Systems

Reinforcement Learning & Decision Systems

TERM III.

AI Studio, Systems & Applications

Ai Systems Engineering & Deployment

Capstone Project / Thesis

Domain Ai Applications; Responsible Ai

Fair & Explainable Ai; Industry Immersion / Case-Based Learning

Innovation Workshops & Build Challenges

FACILITIES

- ◆ **GPU-enabled workstations** for model training and experimentation
- ◆ **Cloud compute credits** across AWS, GCP and Azure
- ◆ **LLM API access**, including OpenAI, Anthropic and other leading providers
- ◆ **Open-source framework access**, including HuggingFace and LangChain and equivalent tools.
- ◆ **On campus, full-time learning environment** at the Bengal Eco Intelligent Park, Kolkata's dedicated innovation and IT hub
- ◆ **Access to TCG CREST University (UGC)'s broader research infrastructure** across its six research verticals

COURSE INFORMATION

Programme Name	MSc in Frontier Intelligence and Autonomous Agents (FIAA)
Offered By	TCG CREST University
Duration	1 Year, Preparatory Modules plus 3 Terms
Format	Full-time, on campus
Campus	Bengal Eco Intelligent Park, Sector V, Bidhannagar, Kolkata
Next Cohort	September 2026
Total Programme Fee	₹ 2,500,000, payable across 5 milestone-linked instalments
Eligibility	Minimum of 16 years of formal education. 4-year Bachelor's degree or relevant postgraduate qualifications. Minimum 55% qualifying marks. An MBA with a specialisation in Finance, Human Resources, Marketing, Operations, Business Analytics or a related area. A three-year Bachelor's degree followed by successful completion of the prescribed Pre-MSc Bridge Programme.
Open To	Final year UG and PG students, early career professionals, industry sponsored candidates
Admissions Process	Application, Document Review, Entrance Exam, Personal Interview, Offer, Enrolment.



COURSE FEE BREAKDOWN

No.	Milestone	Amount
1	At the time of application	₹ 25,000
2	Within 7 days of receiving the offer letter	₹ 225,000
3	Within 7 days of completion of the Preparatory Module	₹ 750,000
4	Within 7 days of completion of Term 1	₹ 750,000
5	Within 7 days of completion of Term 2	₹ 750,000

Education Loan Assistance

To make quality education more accessible, TCG CREST has partnered with leading banks and NBFCs to facilitate education loans for eligible students.



SCHOLARSHIP SUPPORTED BY DONORS

Category	Merit
Name of the Scholarship	Ideal Eyes Academic Merit Scholarship
Description	Ideal Eyes sponsors merit-based scholarships for top-ranking FIAA applicants, recognizing academic excellence in AI and computational research. Awardees are recognized as "Ideal Eyes Scholars."
How to Apply?	No separate application required
Scholarship Amount	₹ 1,00,000
Stipend	—
Mode	Waiver

Category	Research
Name of the Scholarship	Laser Science Services Research Potential Award
Description	Laser Science Services sponsors awards for applicants demonstrating genuine research aptitude – published papers, GitHub projects, or open-source contributions. Includes a monthly stipend commencing after successful completion of Term I, recognizing sustained research engagement.
How to Apply?	No separate application required, assessed from SOP and research portfolio
Scholarship Amount	₹ 75,000
Stipend	₹ 180000 (Post Term I)
Mode	Waiver + Stipend

Education Loan Assistance.

TCG CREST University (UGC) has tied up with leading banks and NBFCs. This includes collateral-free loan options for students scoring 80% or above in graduation, plus dedicated HDFC Bank support.

Category	Research
Name of the Scholarship	Ideal Eyes Research Potential Award
Description	Ideal Eyes sponsors awards for applicants demonstrating genuine research aptitude – published papers, GitHub projects, or open-source contributions. Includes a monthly stipend commencing after successful completion of Term I, recognizing sustained research engagement.
How to Apply?	No separate application required, assessed from SOP and research portfolio
Scholarship Amount	₹ 75,000
Stipend	₹ 180000 (Post Term I)
Mode	Waiver + Stipend

Category	Diversity
Name of the Scholarship	Eppendorf Women in AI Scholarship
Description	Eppendorf has committed to supporting women candidates pursuing careers in AI and autonomous systems. Five scholarships are reserved annually.
How to Apply?	No separate application required
Scholarship Amount	₹ 1,00,000
Stipend	—
Mode	Waiver

Category	Technical Excellence
Name of the Scholarship	Lab Solutions Technical Excellence Award
Description	Lab Solutions sponsors awards for applicants demonstrating exceptional technical proficiency in building AI-driven instrumentation, lab automation systems, or data-intensive scientific tools. Recognizes precision-engineering capability at the intersection of AI and applied science.
How to Apply?	No separate application required, assessed from technical portfolio and SOP
Scholarship Amount	₹ 1,00,000
Stipend	—
Mode	Waiver

FACULTY

FIAA draws on internationally trained researchers whose expertise spans machine learning, intelligent systems, computational science and autonomous agent technologies.

PROGRAMME LEADERSHIP



Prof. Saibal Chattopadhyay
Director, Academic Programmes,
TCG CREST University



Prof. Goutam Mukherjee
Director, Institute of Artificial Intelligence (IAI),
TCG CREST University



Prof. Swagatam Das
Mentor, IAI, TCG CREST University
Professor – Indian Statistical Institute



Dr. Prabhakar Raghavan
Chief Technologist – Google
Strategic Advisory Leader,
TCG CREST University

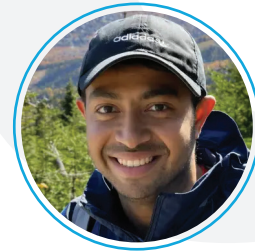
CORE FACULTY



Dr. Shibasish Dasgupta
Professor of Practice, IAI,
TCG CREST University (UGC)



Dr. Avisek Gupta
Assistant Professor, IAI,
TCG CREST University (UGC)



Dr. Proloy Das
Assistant Professor, IAI,
TCG CREST University (UGC)



Dr. Sourav Bhaduri
Assistant Professor, IAI,
TCG CREST University (UGC)

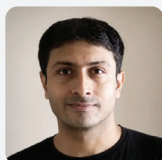


Dr. Md Sahidullah
Assistant Professor, IAI,
TCG CREST University (UGC)



Dr. Rima Hazra
Assistant Professor, IAI,
TCG CREST University (UGC)

COLLABORATING FACULTY



Dr. Debapriyo Majumdar
Assistant Professor
Indian Statistical Institute,
Kolkata



Dr. Sudeepa Roy
Associate Professor
Duke University, USA



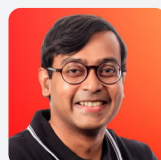
Prof. Debmalya Panigrahi
Professor
Duke University, USA



Prof. Barna Saha
Professor
University of California
San Diego, USA



Prof. Arya Mazumdar
Professor
University of California
San Diego, USA

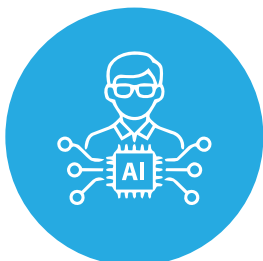


Dr. Amritendu Mukherjee
Co-founder & CTO
NeuroPixel.AI

Students also benefit from research mentorship connected to TCG CREST University's global academic partner network.

JOB ROLES AFTER THE COURSE

Based on the curriculum's coverage of ML systems, LLMs, agentic AI and applied domain modules, graduates are positioned for roles such as



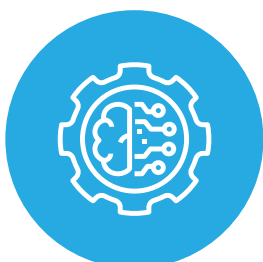
Lead AI and
ML Engineer



Agentic AI and
Autonomous
Systems Engineer



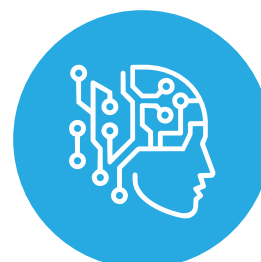
LLM and Foundation
Model Engineer



AI Systems Engineer
for MLOps and
Deployment



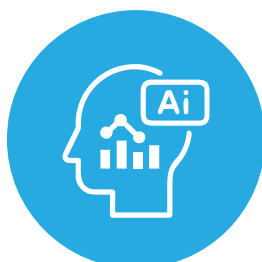
Principal AI
Research Scientist



Applied AI
Consultant across
Finance, Healthcare,
and Manufacturing



Responsible AI and
AI Governance
Specialist



Data and AI Product
Strategist



Future Ready
Emerging Roles

HOW THE COURSE BENEFITS POTENTIAL CANDIDATES

A. No prior CS degree required.

The programme is open to candidates from science, engineering, data science, finance and economics backgrounds with quantitative exposure. The preparatory modules close any foundational gaps.

B. Research-led, not just tool-led.

The programme is built on TCG CREST University's doctoral research culture. Candidates learn why AI systems work, not just how to prompt them.

C. Direct industry access.

Structured engagement with global technology, banking, energy and manufacturing majors gives candidates real-world problem exposure well before graduation. See Section 11 for the full list.

D. A guaranteed personal interview.

There is no black box rejection in the admission process.

E. Scholarship-backed affordability.

Merit, research, and diversity-linked scholarships materially reduce the net cost of the programme.

F. Employer-informed curriculum.

TCG CREST University runs CHRO roundtables specifically to align curriculum with what employers are hiring for, before the first cohort even finishes Term I.

G. Full infrastructure access.

GPU workstations, multi-cloud credits and commercial LLM APIs remove the barrier of not having access to compute.

RESEARCH EXCELLENCE AT TCG CREST UNIVERSITY

FIAA's inaugural cohort begins in September 2026, What FIAA students step into instead is TCG CREST University's live and active research culture. The same Institute for Advancing Intelligence (IAI) that anchors the FIAA curriculum is already producing globally recognized work. Here is a sample of recent achievements from TCG CREST University's research community.

A. Recognition at IACR CRYPTO 2026

Two research papers from TCG CREST University's Cryptology research group were accepted for presentation at IACR CRYPTO 2026, the 46th Annual International Cryptology Conference, one of the most prestigious conferences in cryptography with a CORE ranking of A star. The accepted papers were authored by researchers including Mriganka Dey, Sampa Dey, Sampurna Pal, Subhabrata Samajder, Rana Barua, Nilanjan Datta, Hrithik Nandi, Soumit Pal, Yu Sasaki, Patrick Struck and Maximiliane Weishäupl.

Read the full story here:

<https://www.tcgcrest.org/news/two-papers-from-iai-tcg-crest-accepted-for-presentation-at-iacr-crypto-2026/>

B. A First at EUROCRYPT 2026

A paper co-authored by TCG CREST University researchers Hrithik Nandi, Sougata Mandal, Avijit Dutta and Nilanjan Datta was accepted for presentation at EUROCRYPT 2026, the 45th annual international conference on the theory and applications of cryptographic techniques, also ranked CORE A star. This marked the first paper by TCG CREST University's student authors to be recognized at EUROCRYPT, a significant institutional milestone.

Read the full story here:

<https://www.tcgcrest.org/news/iai-tcg-crest-research-reaches-eurocrypt-2026/>

C. AI Driven Lung Cancer Research at AlxLife 2026

TCG CREST University's PhD student Ayan Das presented collaborative work between the Institute for Advancing Intelligence, Cancer related Advanced Research and Education, and TCG Lifesciences at AlxLife 2026, held at SASTRA Deemed University, Thanjavur. The research focused on discovering EGFR targeting drug resistance signatures in lung cancer using statistical machine learning and was selected for an oral presentation before researchers, academicians and professionals from across the country.

Read the full story here:

<https://www.tcgcrest.org/news/tcg-crests-collaborative-ai-driven-lung-cancer-research-was-presented-at-aixlife-2026-glimpses/>

INDUSTRIES & TIE-UPS

A. Research Collaborations

- ◆ Chennai Mathematical Institute (CMI), TIFR, Max Planck, University of Chicago and Imperial College London.
- ◆ IITs, UC San Diego, University of California Berkeley and Rice University.
- ◆ IISERs, University of Chicago, National University of Singapore, University of Tokyo and University of Edinburgh.
- ◆ Oerlikon Surface Solutions AG, University of Lausanne, Uppsala University and Swansea University.

B. Industry Engagement

- ◆ TCG Group Companies: Lummus Technology, Haldia Petrochemicals, MCPI Pvt Ltd, Labvantage Solutions, TCG Digital, TCG Lifesciences, TCG First LivingSpaces, TCG Real Estate and TCG Asset Management.
- ◆ Global Technology: Google DeepMind, Microsoft, Amazon, Dassault Systèmes, Forty Two Labs and Quilimanjaro Quantum Tech S.L.
- ◆ Banking, Financial Services and Consulting; PwC, EY, KPMG, RSM AE Technology LLC, HDFC Bank, IDFC First Bank, State Bank of India, Standard Chartered Bank, Citi Bank, HSBC, ICICI Bank and TATA AIG.
- ◆ Energy and Materials: Exide Energy Solutions Limited, LionVolt B.V., Thermax Ltd., Unigrid Inc. and Himadri Speciality Chemical Limited.
- ◆ Advanced Manufacturing and Mobility: Oerlikon Surface Solutions AG, Epsilon Advanced Materials Private Limited, KPIT Technologies Ltd and Universe Mobility Private Limited.

The FIAA Community

Learn. Collaborate. Innovate. Lead

INTERNATIONAL EVENTS

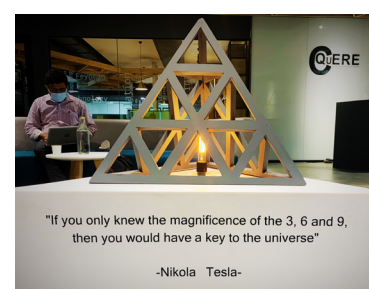


CONNECTED CAMPUSES

A Continuous
Knowledge Landscape

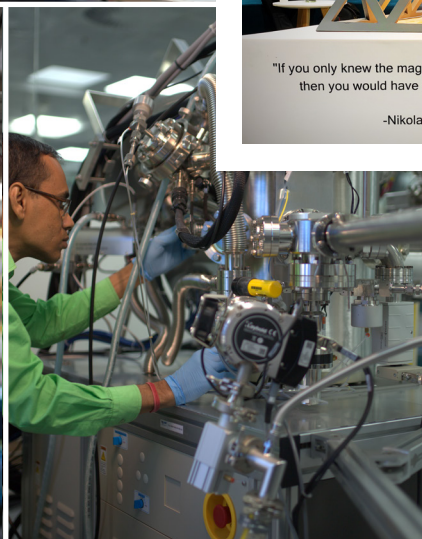
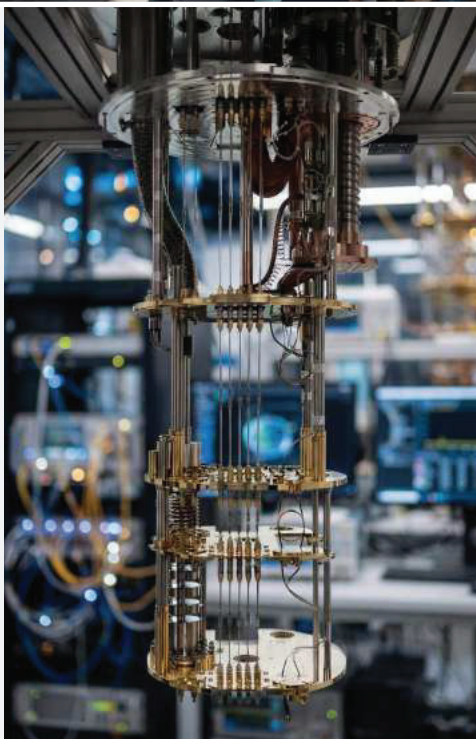
TCG CREST positions education as active participation, not passive instruction.

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



"If you only knew the magnitude of the 3, 6 and 9,
then you would have a key to the universe"

-Nikola Tesla-



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.

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 (3:25 AM) | Kolkata

SASARANA CHATTERJEE

TCG CREST, which was established in 2023, has quickly emerged as a key player in the global science and technology innovation landscape.

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

PRESS TRUST OF INDIA
India's premier news agency

Tired Of Work, Going Through A Burnout? Science May Soon Read Your Mind, Explain Experts

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

International Conferences organized by TCG CREST made national headlines.

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 08:54 PM

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

Breakthrough in sodium-ion cells

production going forward. It would focus only at manufacturing of cells, the full components of the battery. At a majority of the cells for Li-ion are produced in India are sourced from China.

উচ্চশিক্ষার সুযোগ বৃদ্ধি, দাবি সমীক্ষার

সমীক্ষা: ভারতীয় শিক্ষা বোর্ড, যার অধীনে ভারতের সর্বোচ্চ শিক্ষণীয় প্রতিষ্ঠানগুলি কাজ করে, একটি প্রতিবেদন প্রকাশ করেছে যে দেশের শিক্ষণীয় প্রতিষ্ঠানগুলি বিশ্বের সর্বোচ্চ শিক্ষণীয় প্রতিষ্ঠানগুলির তুলনায় কম মানের। প্রতিবেদনটিতে বলা হয়েছে যে দেশের শিক্ষণীয় প্রতিষ্ঠানগুলি বিশ্বের সর্বোচ্চ শিক্ষণীয় প্রতিষ্ঠানগুলির তুলনায় কম মানের। প্রতিবেদনটিতে বলা হয়েছে যে দেশের শিক্ষণীয় প্রতিষ্ঠানগুলি বিশ্বের সর্বোচ্চ শিক্ষণীয় প্রতিষ্ঠানগুলির তুলনায় কম মানের।

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.

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

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.

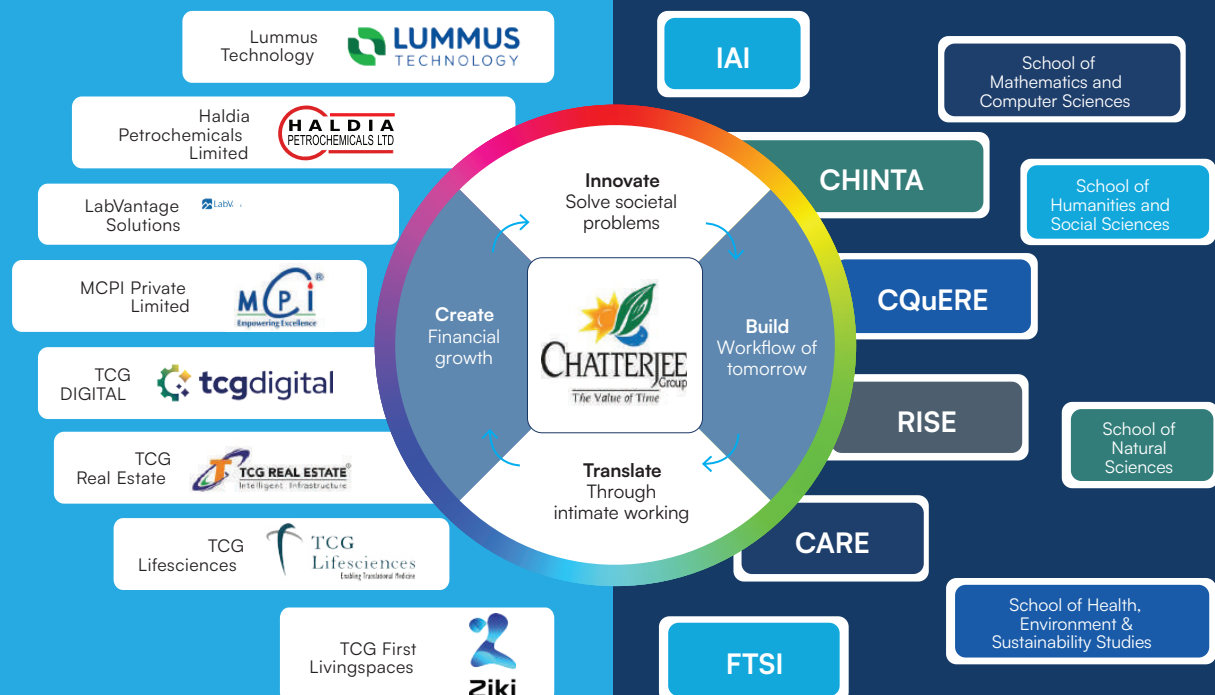
This approach creates a self-reinforcing cycle where commercial success and intellectual advancement fuel each other in a virtuous loop.

WEALTH TO KNOWLEDGE CYCLE

For Profit Entities — Partial List

TCG CREST: A Research University

Continuous reinvestment in learning and strategic applications



APPLICATIONS ARE
OPEN
FOR THE
SEPTEMBER 2026 COHORT

APPLY NOW



SCAN THE QR CODE
OR VISIT

<https://faatcgcrestdtbu.in/>

FOLLOW US FOR REGULAR UPDATES

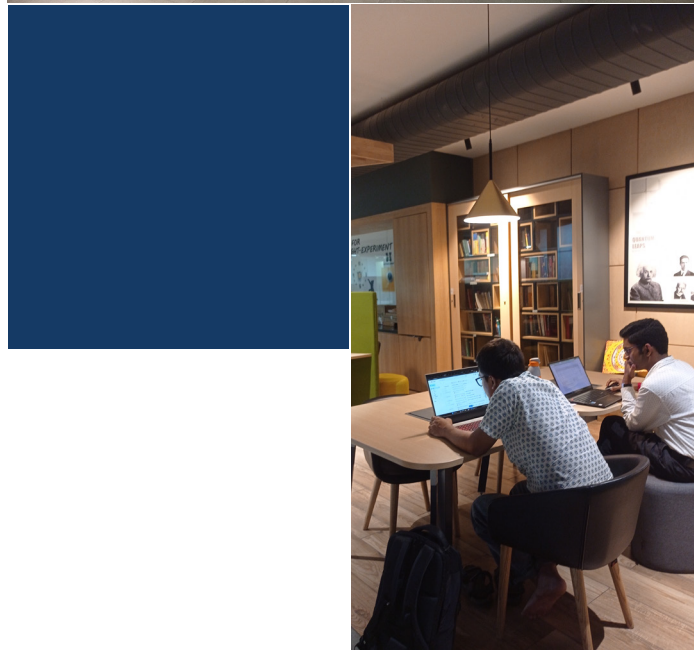
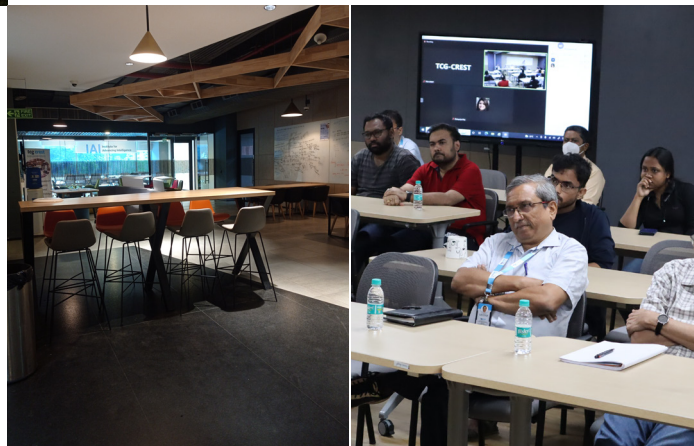




DISCOVER THE SPIRIT OF FIAA

Beyond Classrooms.
Beyond Expectations.

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

Distinct Category - Research



First Floor, Tower 1, Bengal Eco Intelligent Park (Techna),
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