

# Kyoto University On-site Laboratory: INitiative for INtelligent ChemBioInformatics (IN-CBI)

## General Information

- ◆ Approved in FY 2024
- ◆ Establishment in October 2024
- ◆ Established by Institute for Integrated Cell-Material Science (iCeMS), Kyoto University Institute for Advanced Study (KUIAS), and backed by the Institute for Chemical Research (ICR)
- ◆ Partner Institution: Indian Institute of Technology Roorkee
- ◆ Location: (Cross-bound type)  
Indian Institute of Technology Roorkee, Roorkee, Uttarakhand, India (outbound)  
KUIAS, Kyoto, Japan (inbound)
- ◆ Purpose: Scripting an ecosystem to develop intelligent medical tools for age-related diseases
- ◆ Functions: Establishment of a hybrid (physical and virtual) platform between Kyoto University and premier Indian research institutions to efficiently identify and exchange outstanding students and early career researchers for education

## Positive ripple effects to the university's activities

- Collaborate with India's top-tier engineering and medical institutions to co-develop innovative chemical biology tools at Kyoto University.
- Cultivate a new generation of scientists through the exchange of top students and researchers, empowering them to contribute to the global scientific community.
- Create an environment in which Kyoto University can become a "first destination" for Indian students.

## Activity Overview

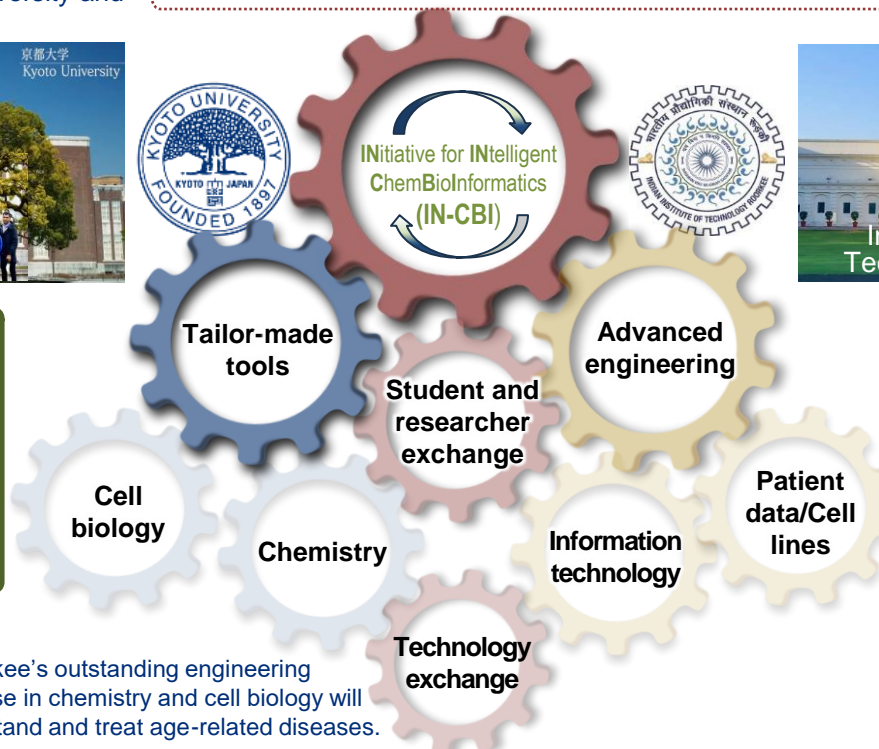
**A hybrid (physical and virtual) cross-bound on-site laboratory for accelerating the development of intelligent (=programmable molecular design) chemical biology tools with the aim of advancing precision medicine**

- Promoting research exchange and brain circulation as a hub between Kyoto University and the IIT network



### Physical

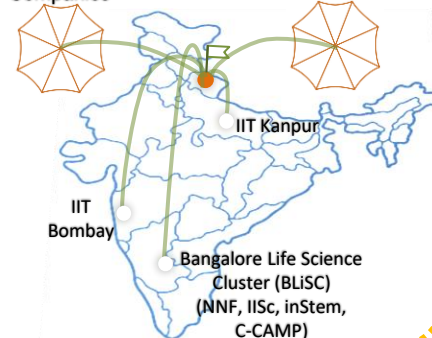
Provisional space by IIT Roorkee (3500 m<sup>2</sup>) and iCeMS (124 m<sup>2</sup>), cross-appointment of principal investigators, assignment of resident researchers by IIT and Kyoto University



### Virtual

All IIT alumni associations/  
Companies

AIIMS medical network



- ✓ Cross-border funding initiatives
- ✓ Sustainable mechanisms
- ✓ Network expansion
- ✓ Regional development contribution
- ✓ Engagement and outreach activities

- The synergistic effect of combining IIT Roorkee's outstanding engineering environment and Kyoto University's expertise in chemistry and cell biology will accelerate collaborative research to understand and treat age-related diseases.

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## Main activities in FY 2024

### ① Launch of IN-CBI and Joint Research

The IN-CBI On-site Laboratory was officially launched in November 2024 with a high-profile ceremony attended by representatives from Kyoto University, the Indian Institute of Technology (IIT) Roorkee, Narayana Nethralaya Foundation, the Indian Embassy, and Shimadzu Corporation.

IN-CBI initiated multiple collaborative projects by hosting 3 PhD students from these partners to generate circadian transcriptome profiles from human retina post-mortem samples



Participants including President Minato and IIT Roorkee Director Pant at the inauguration ceremony held on November 11, 2024

### ② Bridging Indo-Japan Collaboration and Young Researcher Exchange Programs

IN-CBI Head Namasivayam connected the Kyoto University and Japan Science and Technology (JST) delegates with the top scientists at IIT Bombay, IIT Roorkee, IIT Madras, and the Bengaluru bio cluster and delivered lectures to attract Indian students for the Sakura Science Program.



JST Delegates including Sakura Science Program Director Takashi Konishi at IIT Roorkee



Kyoto University Delegates at Indian Institute of Science



Professor from iCeMS and ICR with student participants of `Talent-spot 2025` in Mumbai, India



TN Government students getting Hands-on training at IN-CBI.

- iCeMS and the Institute for Chemical Research (ICR) co-hosted `Talent-spot 2025` in Mumbai and invited outstanding students to a joint internship program with Shimadzu.
- IN-CBI's Namasivayam and Fujiwara group trained 12 Indian inbound students from IITs, Hokkaido University, and the Tamil Nadu (TN) Government's skill development program on nanotechnology and mitochondrial imaging.