

tcg crest

Inventing Harmonious Future

Centre for High Impact Neurosciences, Technology and Applications (CHINTA)

Innovating and solving challenges in discovery neuroscience

Background and Vision of CHINTA

Background

- Neurodegenerative and Neuropsychiatric diseases are global public health threats
- Drug therapies to prolong, maintain and improve quality of life are required urgently
- Failures to discover new medicines reflect Bottlenecks at pivotal stages of drug development
- Absence of interdisciplinary approaches in neuroscience discovery

Vision

- Translational Neuroscience from discovery to delivery
- Interdisciplinary by necessity
- Seek opportunities for translating research into multiple domains

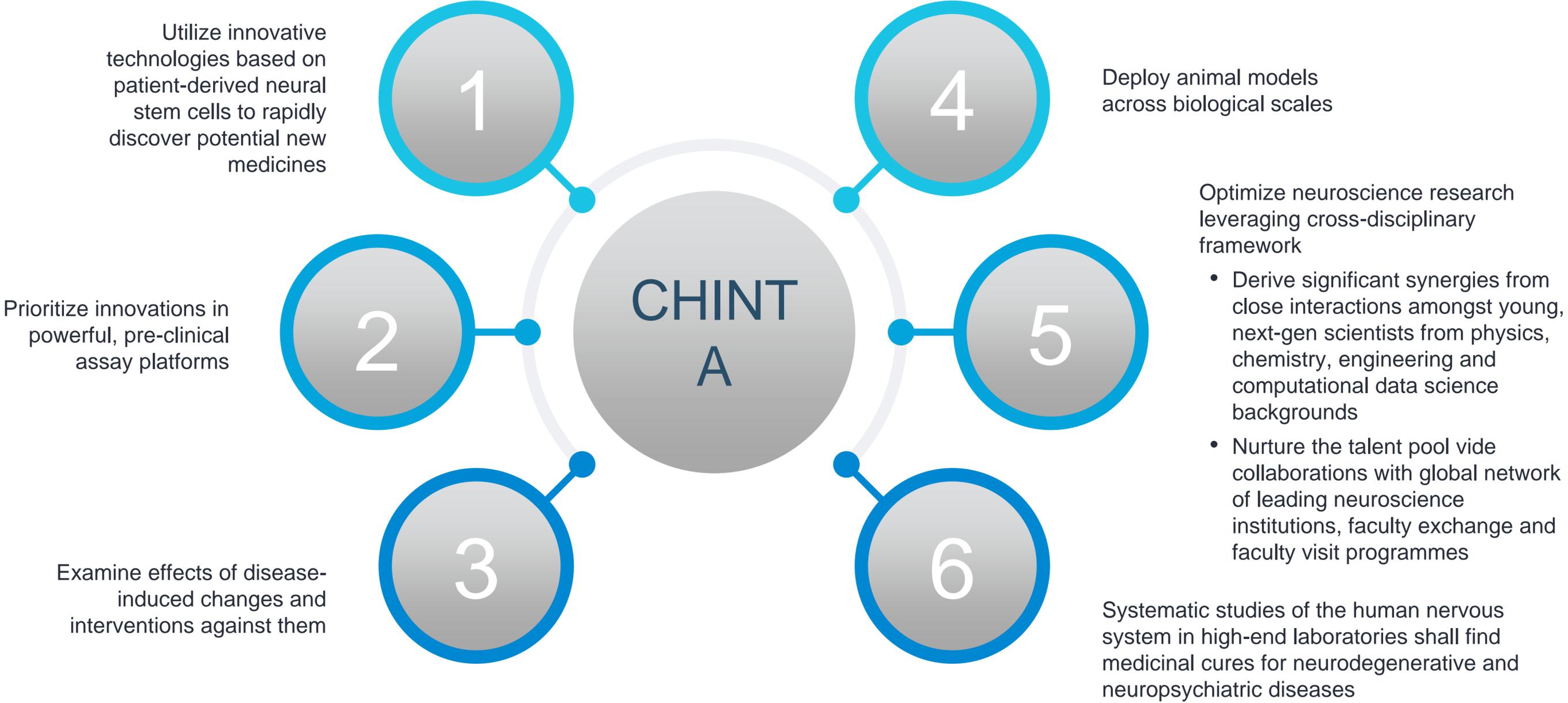


Prof. Sumantra Shona Chattarji
Director – CHINTA

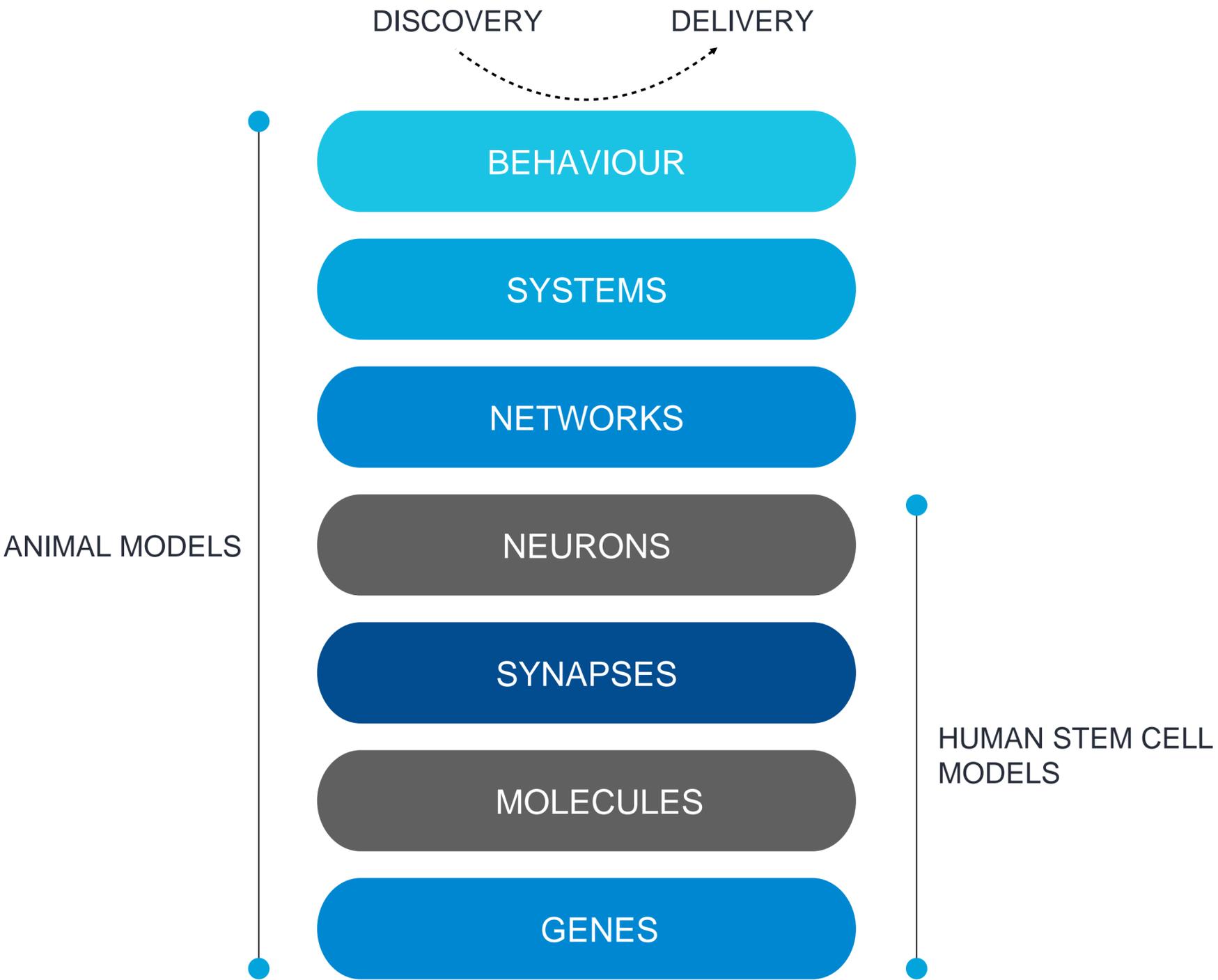
Received his Master's Degree in Physics from the Indian Institute of Technology, Kanpur and went on to do a PhD in Neuroscience from Johns Hopkins University and Salk Institute. After postdoctoral research in Yale University and MIT, he started his own laboratory at the National Centre for Biological Sciences, Tata Institute of

Fundamental Research, Bangalore, in 1999. His research has shown that prolonged stress leaves its mark by enhancing both the psychological and structural basis of synaptic connectivity in the amygdala, thereby triggering the emotional symptoms observed in stress-related psychiatric disorders.

Goals & Objectives of CHINTA

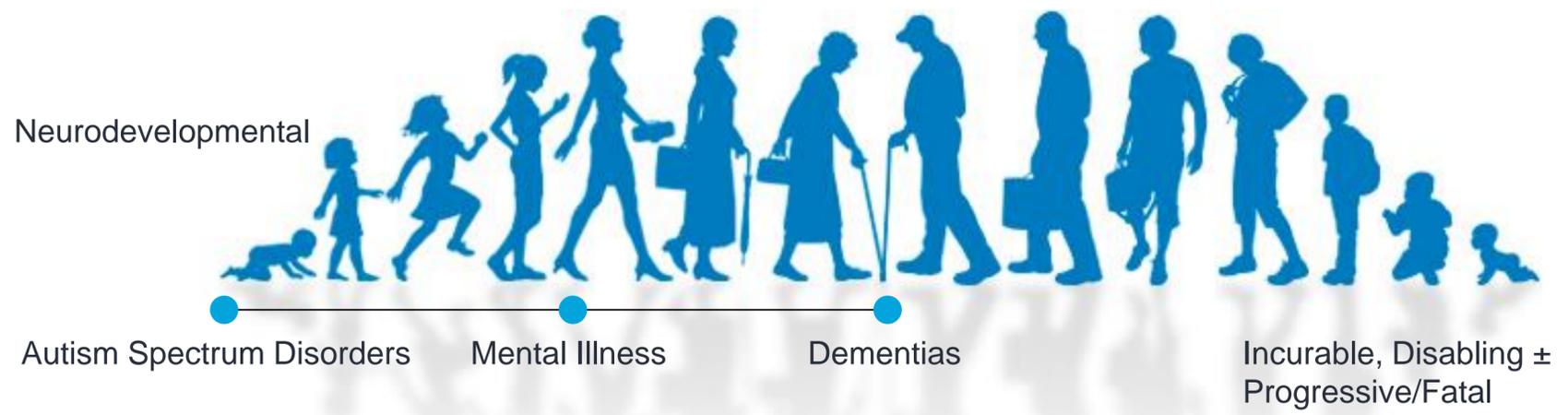


Core Scientific Priorities of CHINTA



Neurological Disorders

NEUROLOGICAL DISORDERS ACROSS THE LIFE-COURSE Neurodegenerative



NEURODEVELOPMENTAL
(ASD/ID)

1. MIND Institute/UC Davis
2. Kolkata: IAC, Apollo#
3. Mumbai: Ummeed, FX Society
4. Chennai: MNC/KVR, CMC Vellore
5. Univ. of Edinburgh
6. Ashoka University*

DEEP PHENOTYPING
(Psychiatry#/Neurology^/Psychology*)

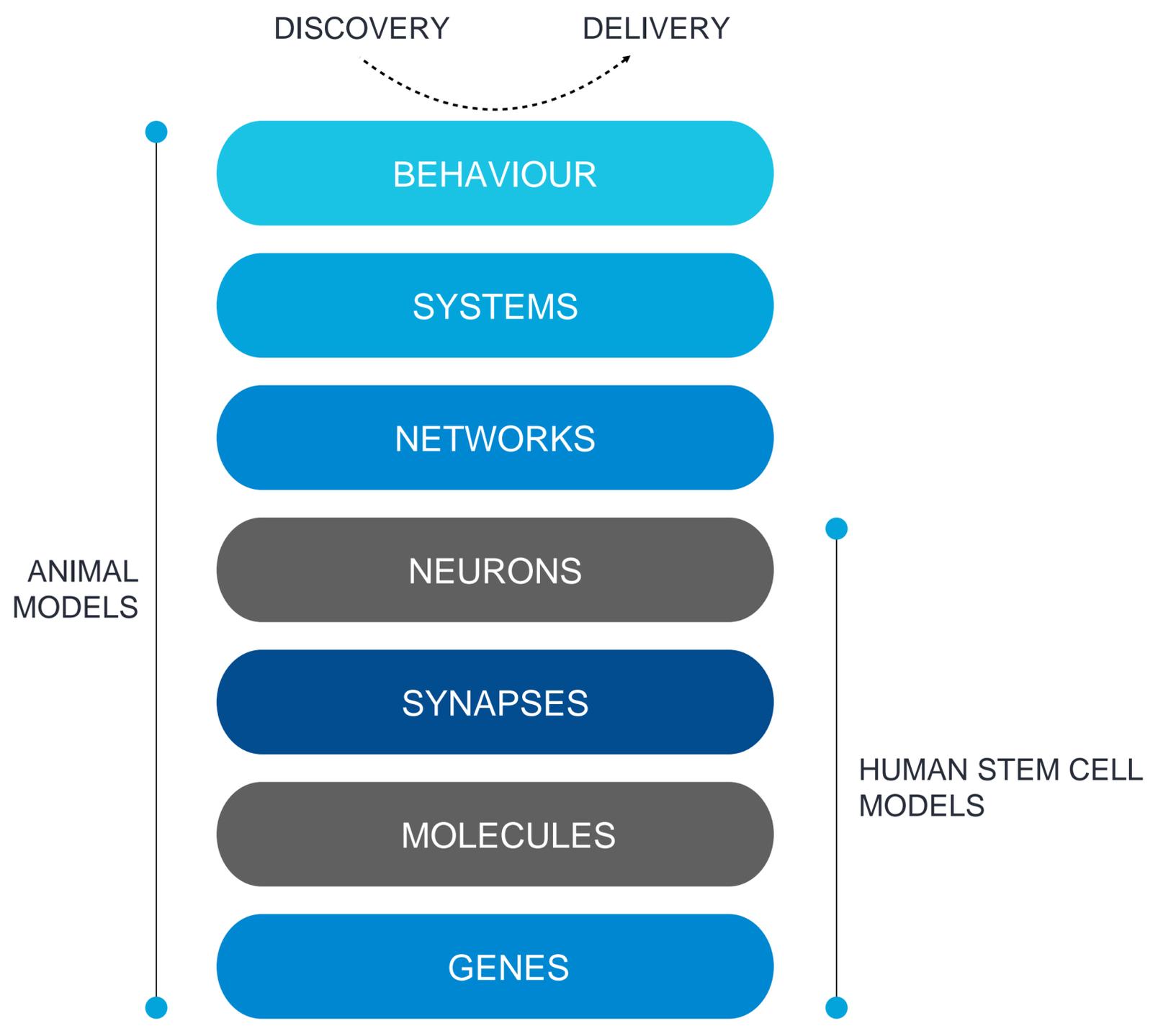
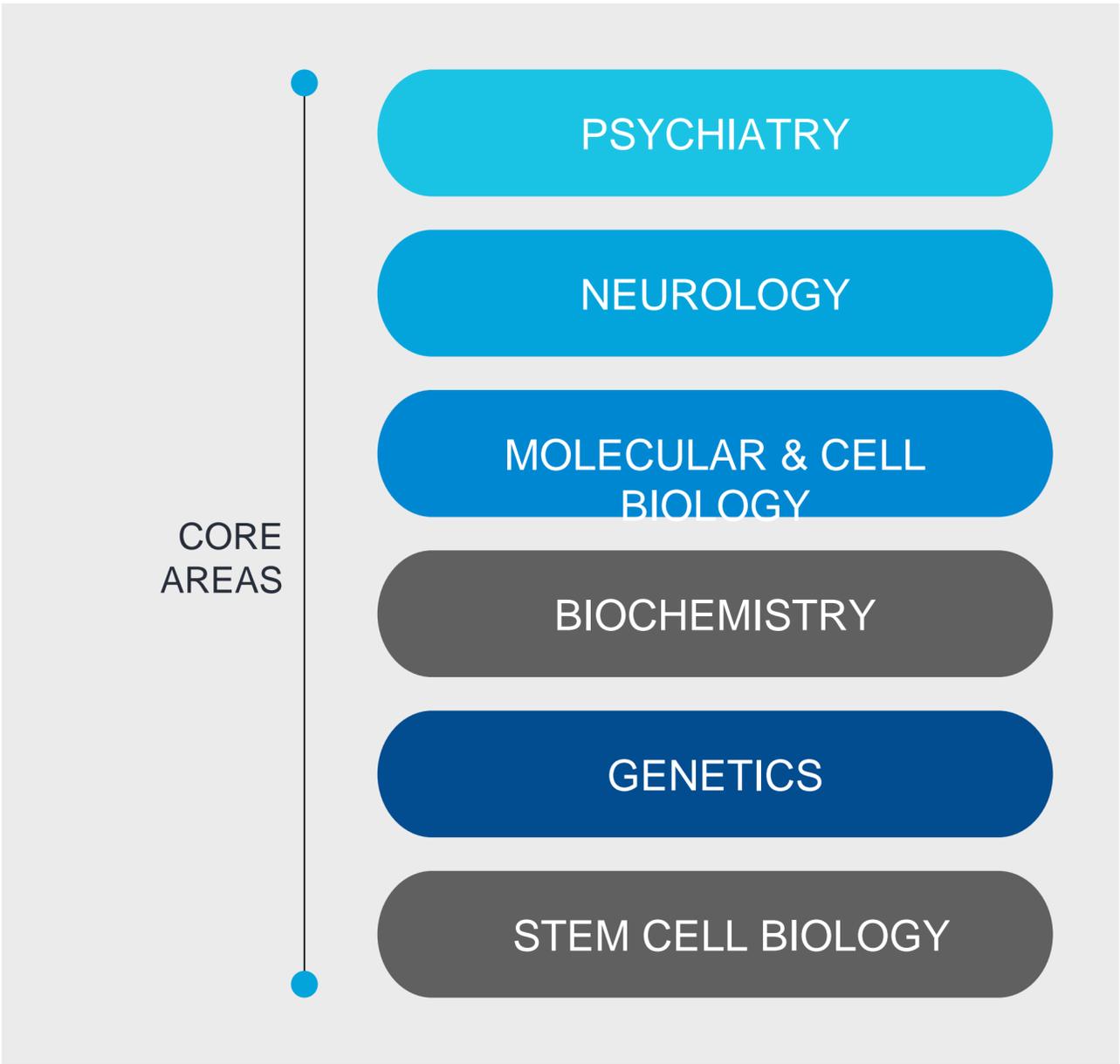
- A) Identify Affected Individuals
- B) Clinical Diagnosis
- C) Behavioural Characterization
- D) Neural Characterization
- E) Blood/Genetics

NEURODEGENERATIVE
(AD/PD/ALS)
University of Edinburgh
Kolkata: INK^

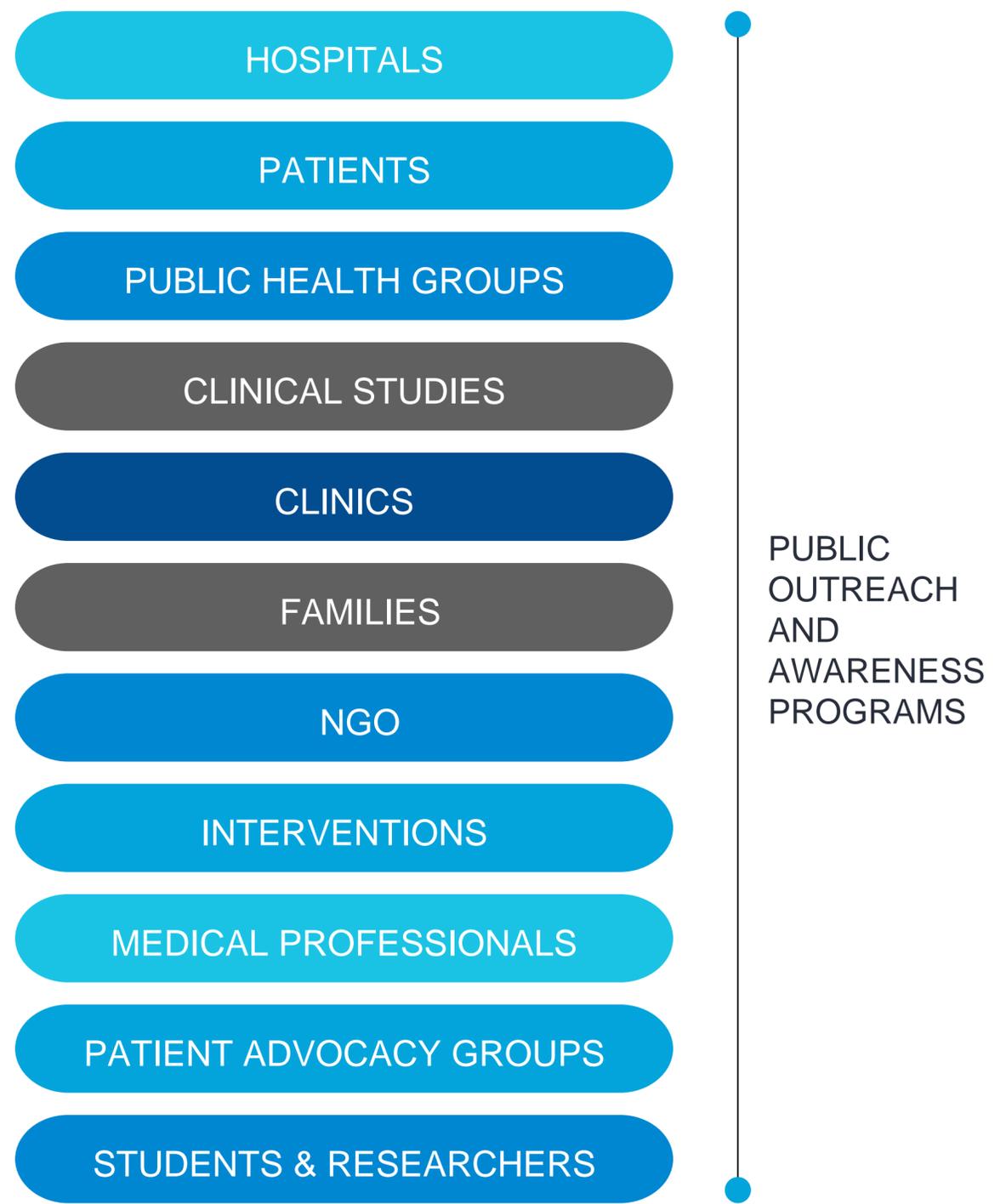
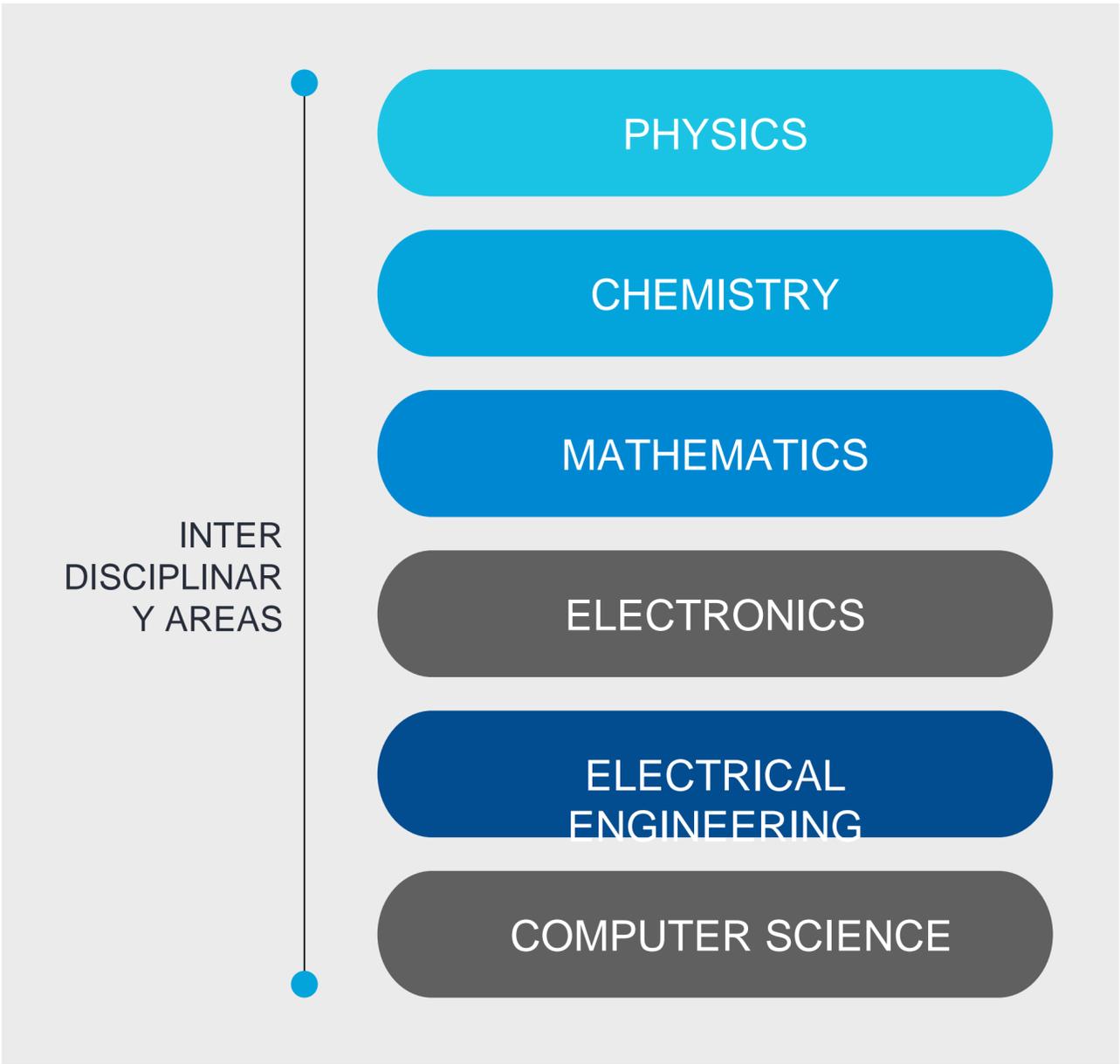
Patient-derived neural stem cells,
assay platforms for drug discovery
in Indian samples



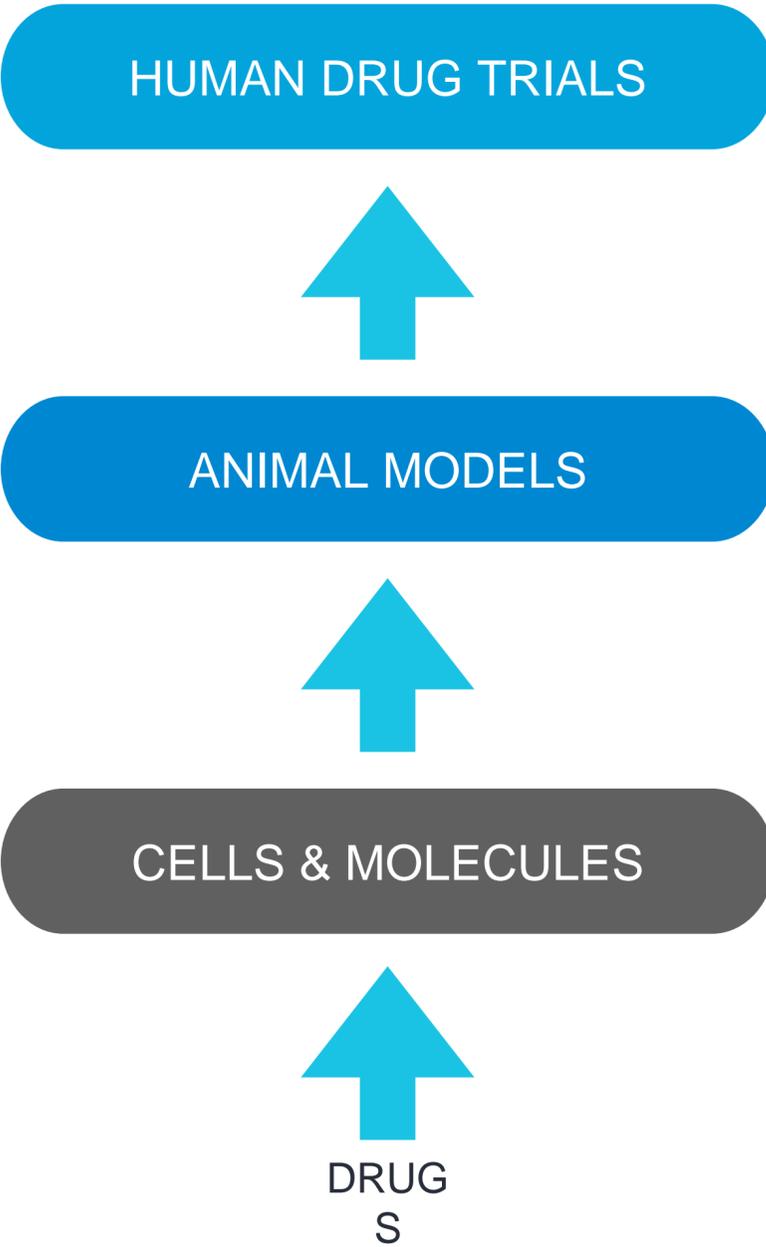
Focus Areas of CHINTA



Focus Areas of CHINTA

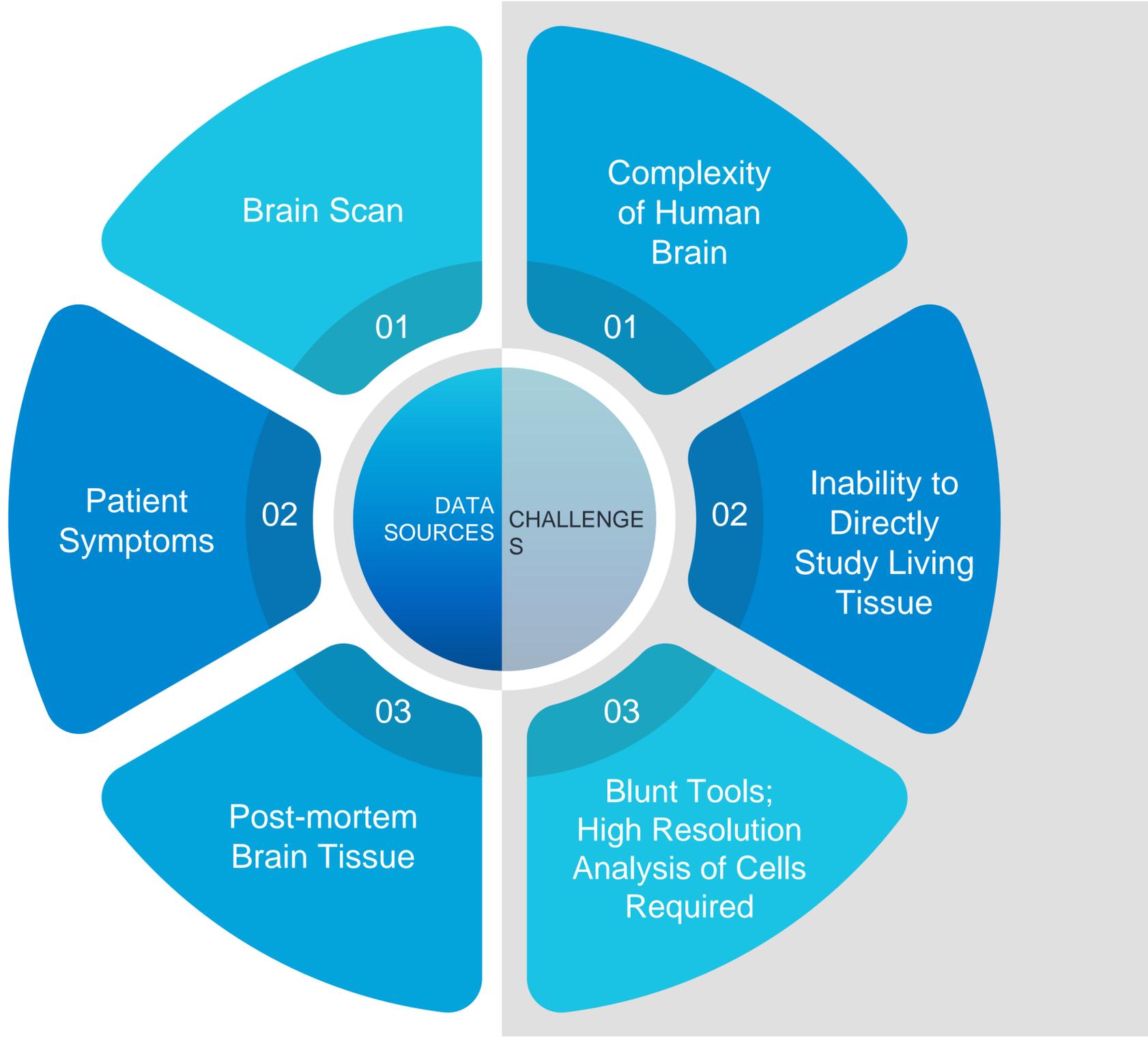


Factors Contributing to Failure to Deliver New “Brain” Medicines

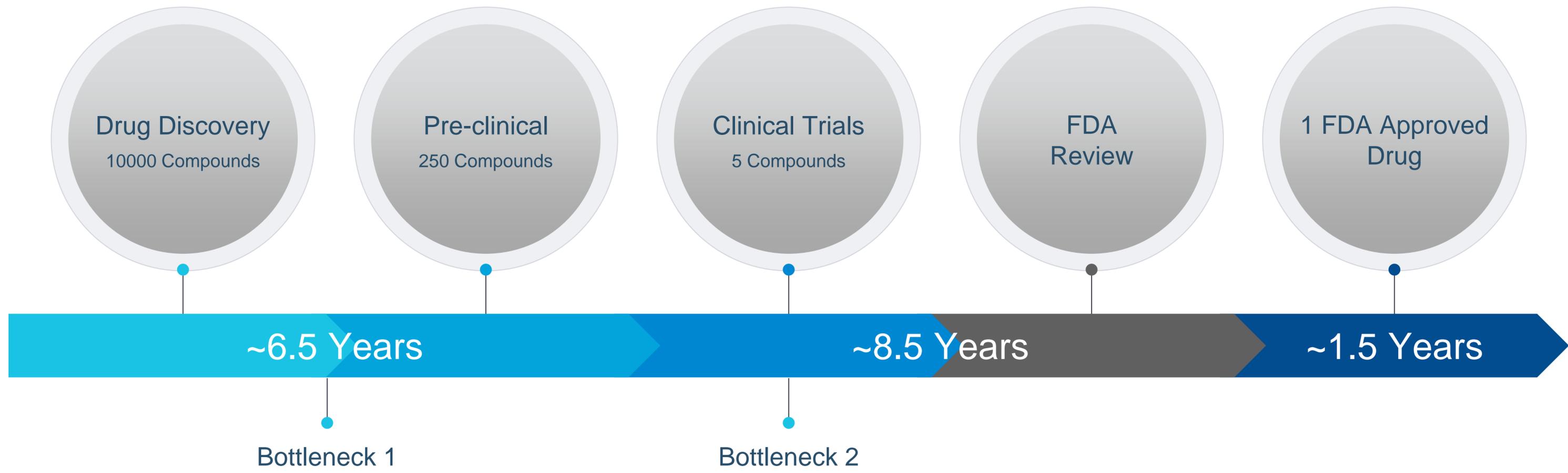


LIMITATIONS OF RODENT SYSTEMS TO ACCURATELY MODEL BRAIN DISEASES

Factors Contributing to Failure to Deliver New “Brain” Medicines

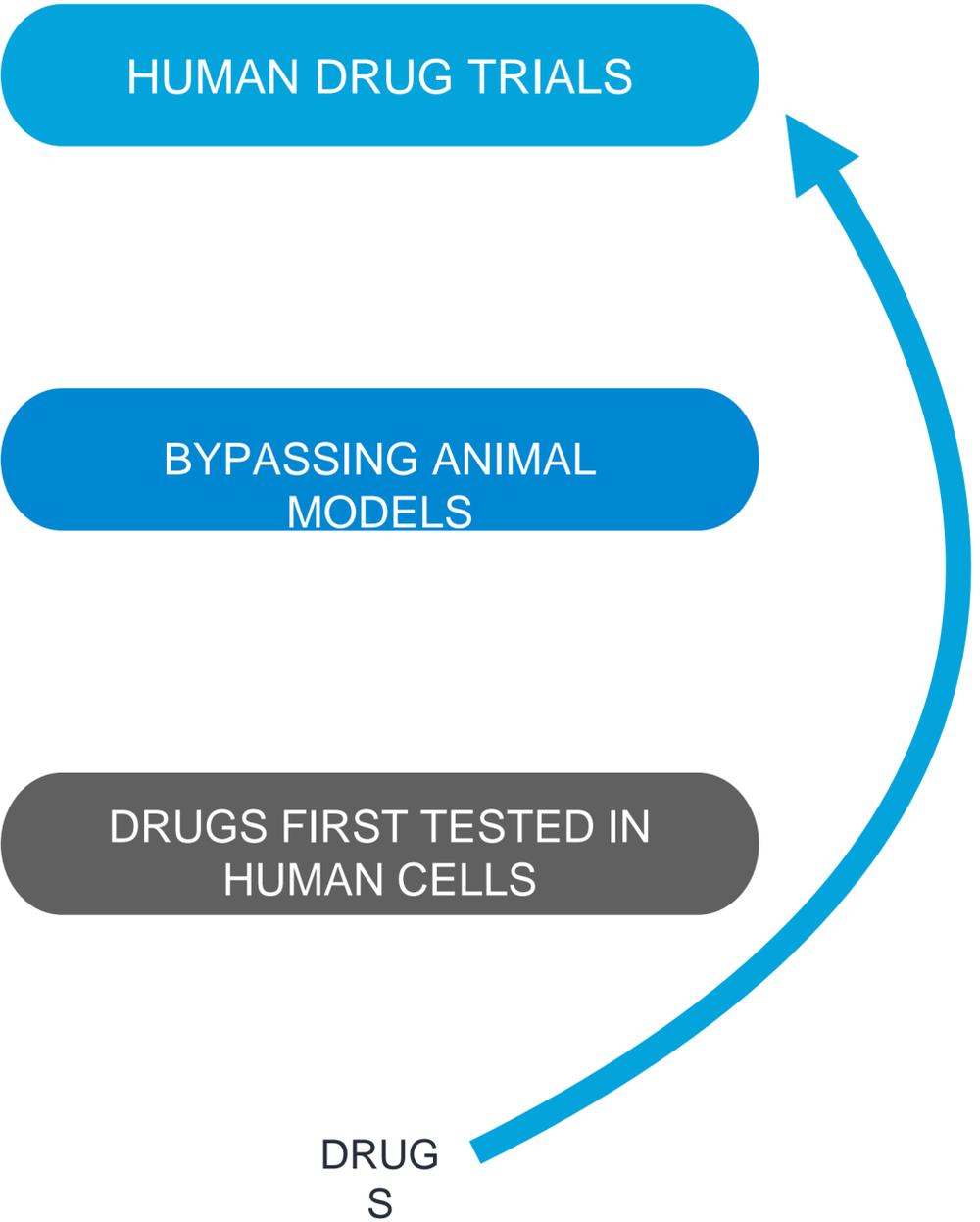


Factors Contributing to Failure to Deliver New “Brain” Medicines



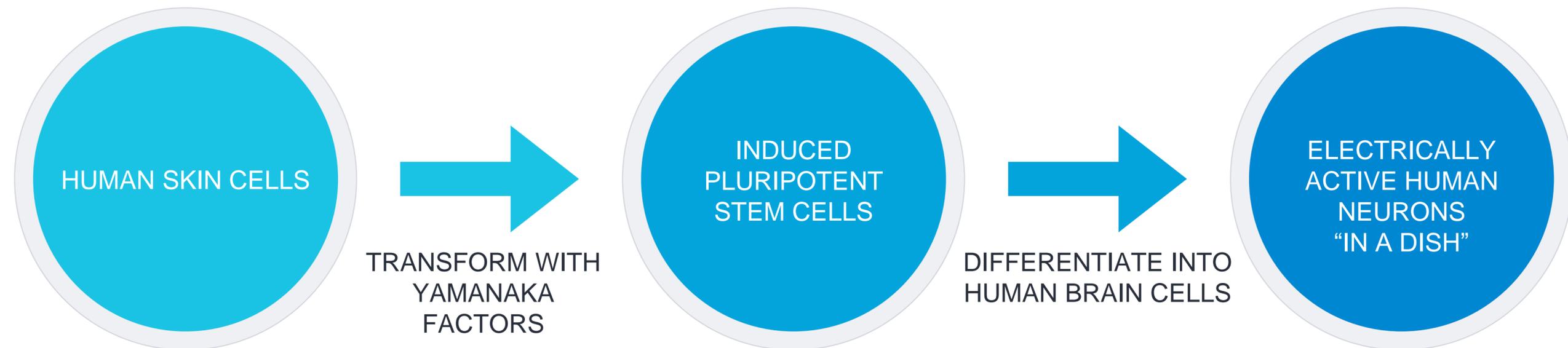
TIMELINE FOR DRUG DISCOVERY AND DEVELOPMENT

CHINTA's Proposed Path to Faster Delivery of Brain Medicines



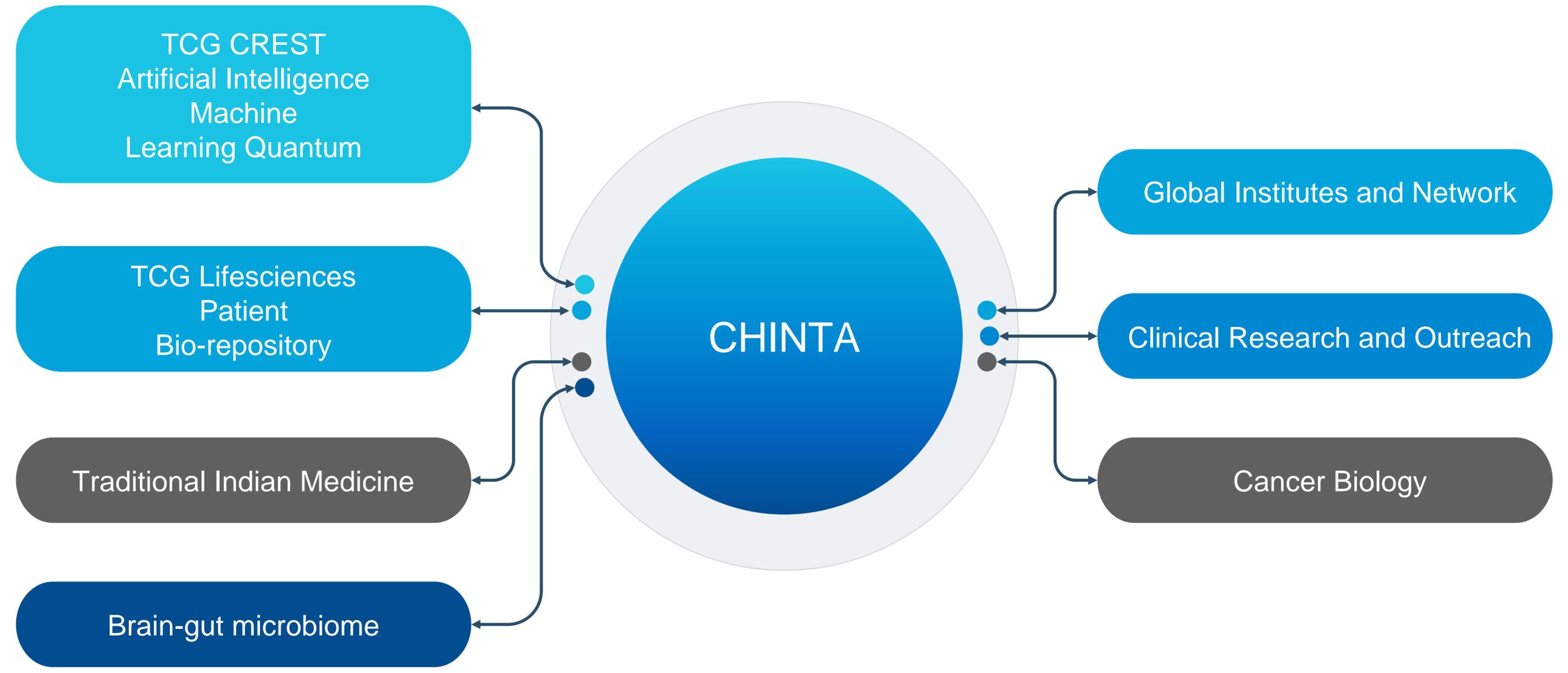
PROPOSED WAY TO OVERCOME THE PROBLEM

CHINTA's Proposed Path to Faster Delivery of Brain Medicines

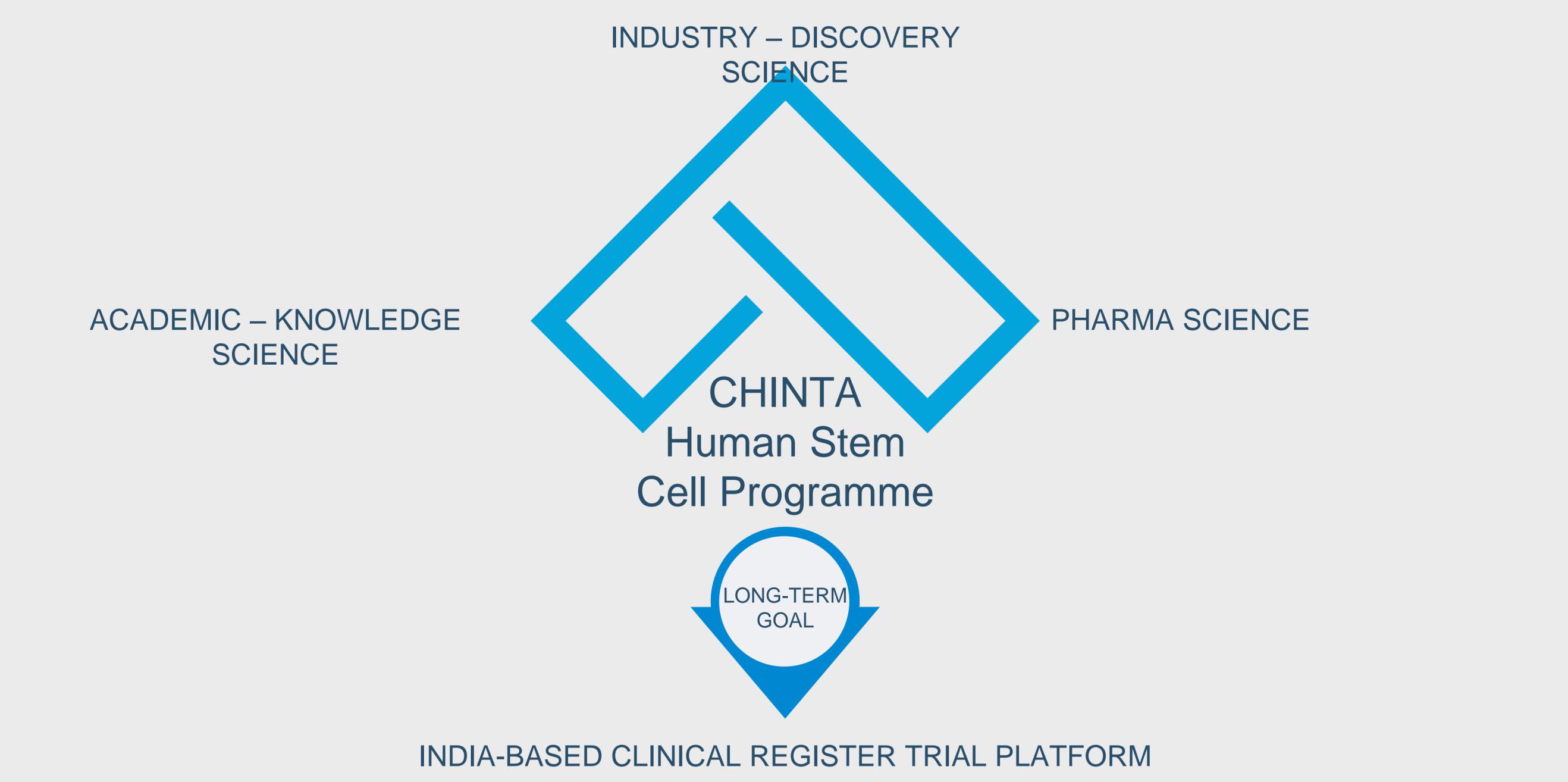


GENERATING BRAIN CELLS FROM HUMAN SKIN CELLS

CHINTA – Collaboration Network



CHINTA – Path Forward



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