

CENTRE FOR BRAIN RESEARCH



ANNUAL REPORT 2025-26

About the cover

DEMYSTIFYING BRAIN AGING

The human head, rendered as a keyhole, opens onto an inner cosmos, symbolising the vast and largely unexplored complexity of the aging brain. The ascending staircase reflects CBR's continuing journey to unravel its mysteries and pave the way for healthier brain aging.





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Centre for Brain Research



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DIRECTOR'S MESSAGE

Aging Brain Research in the Indian context is at a crucial juncture as the population demographics shift to include more elders with each passing year. Understanding the mechanisms of neurodegeneration in elderly populations and translating scientific discoveries into population-level impact is at the core of our Centre's vision.

As we move further into CBR's second decade, the past year marks a significant phase in the Centre's evolution. Over the past eleven years, we have built strong foundations in cohort studies, laboratory science, research infrastructure, and partnerships. These efforts are enabling new insights into brain aging and neurodegenerative disorders in the Indian context. While data generation and capacity-building remain priorities, our focus is increasingly on translating these rich datasets into discoveries and impactful advances in aging brain research.

Our flagship initiative, the CBR-SANSCOG study, supported by the Pratiksha Trust, continues to mature as a valuable longitudinal platform for studying cognitive aging in rural India. Spanning over 200 villages in Karnataka, the study is generating extensive multimodal data through sustained participant follow-up and community engagement. Our urban cohort, CBR-TLSA, supported by the Tata Trusts, also reached a key milestone, with follow-up completion rates exceeding 94 per cent. The expansion of the cohort from 1,000 to 2,000 participants is a testament to the study's long-term potential.

Another notable development during the year was the inauguration of the CBR Biomarker Centre of Excellence, established in partnership with the UK Dementia Research Institute and supported by Gates Ventures and Pratiksha Trust. The Centre brings state-of-the-art, high-throughput proteomics capabilities to CBR and expands our capacity for biomarker research in neurodegenerative diseases. This proteomics endeavour is an important step in building the multi-omics capabilities of the Centre, extending the genomics expertise built predominantly through the GenomeIndia project.

GenomeIndia, the nationally coordinated whole-genome sequencing initiative funded by the Department of Biotechnology, Government of India, and led by CBR, has created an unprecedented resource on India's genetic diversity and will facilitate future efforts in precision medicine and population health.

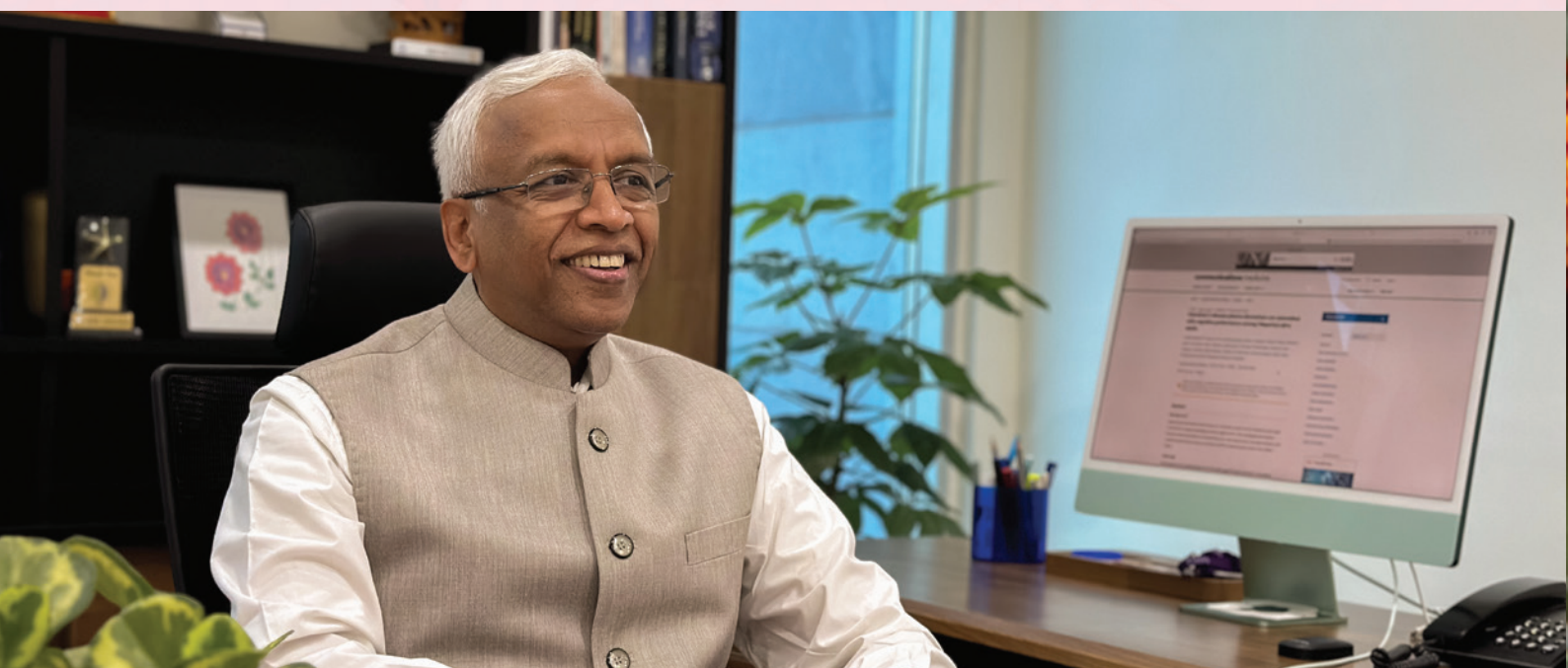
Collaboration is central to CBR's vision. We have had the pleasure of welcoming distinguished experts as Visiting Faculty members, fostering mentorship and scientific exchange. During the year, we also formalised partnerships with several national and international institutions and hosted a Cohort Networking Meeting to strengthen collaborative frameworks for brain aging research in India.

Investing in people remains a key focus for the Centre. We celebrated the successful defence of the first two doctoral dissertations completed at CBR with the degrees awarded by the Manipal Academy of Higher Education (MAHE). The CBR-UK DRI Postdoctoral Fellowship Programme and the Amba Subba Rao Fellowship for Women Researchers exemplify our commitment to nurturing early-career talent. The CBRAIN Internship Programme continues to attract bright young minds from across the country. Outreach activities formed an integral part of our work, including 'Cerebral Safari' during IISc Open Day, programmes marking World Alzheimer's Month, and contributions to national discussions on dementia strategy and public health.

None of this would have been possible without the dedication and hard work of our scientists, students, technicians, field teams, IT staff, and administrative colleagues. I am deeply grateful to our donors, funders, CBR Society and Governing Board, Advisory Committees, and, above all, the thousands of participants and families whose confidence in our mission is invaluable.

As we look ahead, we see exciting opportunities to harness AI for research on the aging brain. The growing availability of multimodal datasets, together with emerging analytical approaches, opens innovative avenues for scientific enquiry. We also look forward to strengthening a national network of aging cohorts and partner institutions to build robust, India-specific evidence on brain health across diverse populations and inform public health endeavours. Our goal is to ensure that discoveries emerging from our laboratories and cohort studies translate into better approaches for prevention, diagnosis, and care.

May we all age healthily!



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RESEARCH
Science
one







FLAGSHIP
RESEARCH
PROJECTS

Flagship Research Projects

SRINIVASPURA AGING, NEURO SENESCENCE AND COGNITION (CBR-SANSCOG) STUDY



The CBR-SANSCOG study is a large-scale, prospective aging cohort study conducted in a rural Indian population in the villages of Srinivaspura taluk, Kolar district, Karnataka. Designed to enrol approximately 10,000 participants, the study seeks to understand the differential trajectories of healthy and pathological aging and identify the risk and protective factors associated with dementia and related neurodegenerative disorders. Funded by Pratiksha Trust, CBR-SANSCOG follows an interdisciplinary, multimodal approach, integrating detailed clinical, neurocognitive, biochemical, genetic, and neuroimaging assessments with long-term longitudinal follow-up.

As one of CBR's flagship research initiatives, the study has established a unique platform for investigating brain aging in rural India while generating a rich resource for biomarker discovery, translational research, and dementia prevention strategies. With the completion of recruitment in February 2025, there is stronger focus on systematic monitoring of cognitive and health trajectories over time. During 2025-26, the home assessment protocol was introduced to facilitate assessments of participants who are unable to visit the study centre, thereby strengthening long-term participant retention and ensuring continued engagement with the cohort. In addition, the short follow-up protocol was initiated to capture longitudinal changes in cognitive and clinical measures at defined intervals.

Summary of participant recruitment and assessments:

Parameter	April 2025 - March 2026	Overall
Participants consented	-	12091
Villages recruited from	-	209
Baseline assessments	-	10012
Follow-up assessments (V2)	3088	6859
Follow-up assessments (V3)	855	1694
Follow-up assessments (V4)	231	271
Overall follow-up assessments	4174	8824
Brain MRI	616	3430
Participants who refused follow-up assessments	1408	1408
Blood sample collection camps	89	453
Sample collection completed	3245	16757
Feedback/consultation sessions completed	206	693
Village surveys	0	50
Awareness programs	3	208
Community engagement events	4	13

The past year also marked the continued maturation of the cohort as a valuable research resource. The extensive clinical, neuropsychological, neuroimaging, biochemical, and genetic data generated through CBR-SANSCOG continue to support a wide range of interdisciplinary research programmes across the Centre. During the year, findings from the cohort contributed to several high-impact publications investigating genetic determinants of cognition, cardiometabolic risk factors, cognitive reserve, homocysteine, sarcopenia, and other factors influencing brain aging and dementia in the Indian population. These studies underscore the importance of generating population-specific evidence to better understand dementia risk in diverse Indian communities.

The combination of comprehensive phenotyping, multimodal investigations, and sustained participant engagement positions CBR-SANSCOG as a significant resource that will continue to advance research on healthy aging and the prevention and early diagnosis of dementia and other neurodegenerative conditions.

TATA LONGITUDINAL STUDY OF AGING (CBR-TLSA)

Research in Alzheimer’s Disease (AD): Understanding Mechanisms for Early Diagnosis and Treatment



CBR-TLSA is a landmark longitudinal cohort study established in 2015 with funding support from the Tata Education Trust. The study aims to identify the risk and protective factors associated with cognitive decline and Alzheimer’s disease (AD), thereby generating evidence to develop strategies for healthy aging and dementia prevention in India.

SUMMARY OF TOTAL ASSESSMENTS PERFORMED DURING THE OVERALL AND REPORTING PERIOD FOR CBR-TLSA

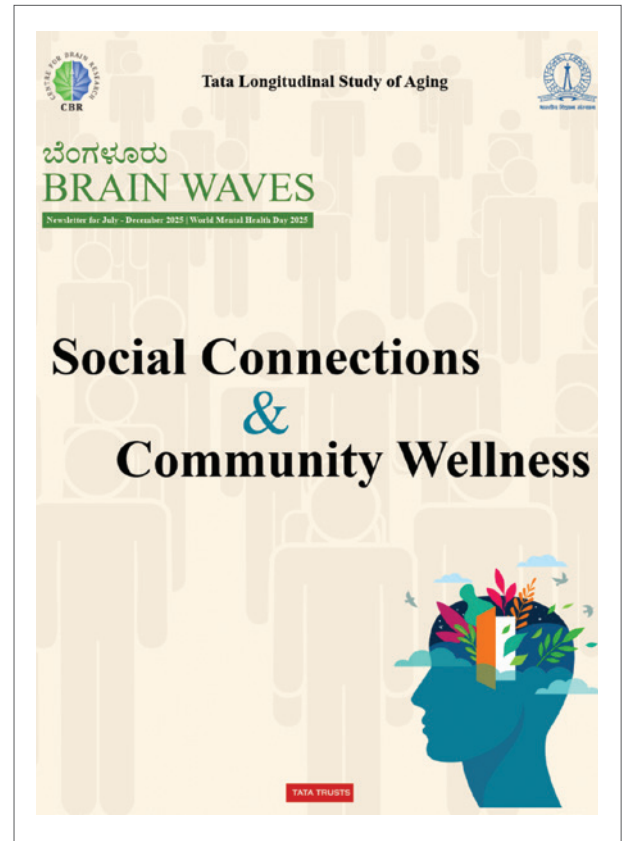
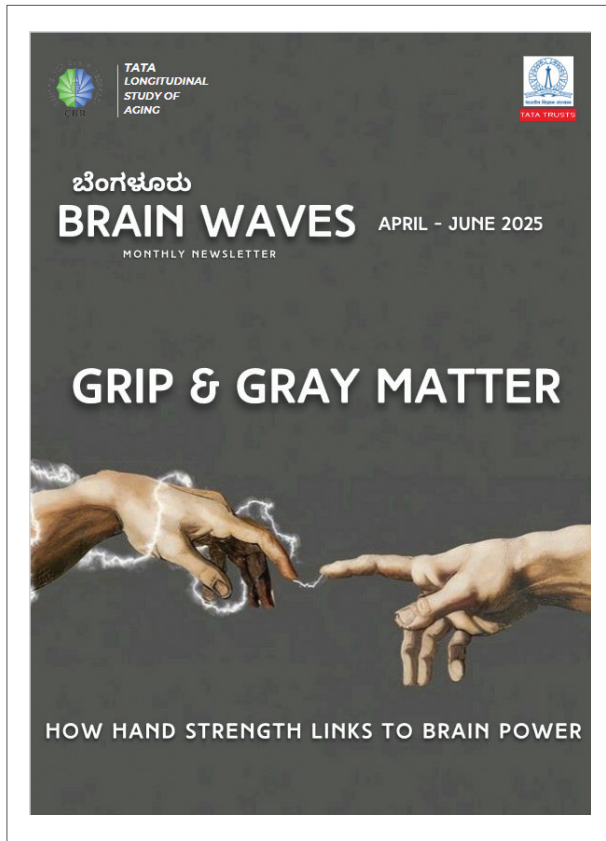
	Overall										Reporting period									
	June 2015 to March 2026										April 2025 to March 2026									
Number of clinical assessments	V1	V2	V3	V4	V5	V6	V7	V8	V9	Total	V1	V2	V3	V4	V5	V6	V7	V8	V9	Total
	1726	1466	1142	852	471	219	158	78	26	6137	56	207	211	332	227	48	67	48	26	1221
Number of blood investigations	V1	V2	V3	V4	V5	V6	V7	V8	V9	Total	V1	V2	V3	V4	V5	V6	V7	V8	V9	Total
	1597	1358	1082	815	454	205	143	66	22	5742	48	175	204	323	218	43	62	41	22	1136
Number of MRI scans	V1	V2	V3	V4	V5	V6	V7	V8	V9	Total	V1	V2	V3	V4	V5	V6	V7	V8	V9	Total
	1214	702	547	379	245	86	81	47	20	3321	44	138	133	199	124	26	32	26	20	742

[Abbreviations: V1- Baseline, V2- Follow-up 1, V3- Follow-up 2, V4- Follow-up 3, V5- Follow-up 4, V6- Follow-up 5, V7- Follow-up 6, and V8 - Follow-up 7]

During the past year, the study continued longitudinal follow-up of the existing cohort through scheduled assessments conducted across Visits 2 to 10. Concurrently, Phase II recruitment progressed steadily to support the planned expansion of the cohort from 1,670 to 2,000 active participants. Recruitment primarily focused on spouses and relatives of existing participants to strengthen long-term participant retention and facilitate future follow-up assessments.

During 2025-26, a total of 1,221 assessments (56 baseline and 1,165 follow-up assessments), 1,136 blood investigations (48 baseline and 1,088 follow-up investigations), and 742 MRI scans (44 baseline and 698 follow-up scans) were completed.

Participant engagement remained an important component of the study. The monthly newsletter initiative continued throughout the year, providing study updates and sharing scientific information related to healthy brain aging. The newsletters also served to strengthen long-term participant engagement and encourage continued participation in the study.



TRANSLATIONAL RESEARCH

Findings from the CBR-TLSA cohort continue to inform complementary laboratory investigations aimed at understanding the biological mechanisms underlying dementia. Rodent models of cerebrovascular dysfunction developed at CBR are being used to investigate the molecular basis of vascular pathology and identify potential therapeutic targets.

During the reporting period, studies demonstrated that the interaction between AD pathology and vascular dysfunction is strongly influenced by age. While younger APPswe mice showed only partial vascular dysfunction with minimal cognitive impairment following a vascular insult, older mice exhibited persistent memory deficits, greater blood-brain barrier disruption, and pronounced neuroinflammatory responses, suggesting that aging and vascular pathology act synergistically to accelerate AD progression.

Additional studies examined mechanisms of vascular repair following transient cerebrovascular injury. In non-Alzheimer's disease mice, vascular dysfunction and memory deficits induced by a single endothelin-1 (ET-1) infusion recovered

within 30 days, resembling transient ischaemic attacks in humans. Transcriptomic analyses identified the upregulation of angiogenesis-related molecules, including Apelin and von Willebrand factor (vWF), as potential mediators of vascular repair. Ongoing work is validating these findings and investigating the downstream signalling pathways involved in endothelial recovery under conditions that mimic cerebral small vessel disease.



Collectively, these studies strengthen the evidence that vascular dysfunction is an important contributor to AD progression and support the development of therapeutic strategies targeting cerebrovascular health to delay or prevent cognitive decline.



GENOMEINDIA: CATALOGUING GENETIC VARIATIONS IN INDIANS



The GenomeIndia project represents the most comprehensive survey of human genetic variation in India to date, providing whole-genome sequencing data from 9,768 healthy individuals belonging to 83 ethnolinguistically and geographically diverse populations across the Indian subcontinent. The study addresses a major gap in global genomics: despite containing nearly one-fifth of humanity and harbouring extraordinary cultural and demographic diversity, India has remained substantially underrepresented in large-scale genomic reference resources. CBR serves as the coordinating centre for the GenomeIndia project and is one of the major data generation and analysis centres of the national consortium. CBR has played a central role in whole-genome sequencing, data generation, variant analysis, and the development of genomic resources arising from the project.

The primary objective of the project is to create a high-resolution atlas of Indian genetic diversity that will improve our understanding of population history, disease genetics, pharmacogenomics, and the future implementation of precision medicine in South Asia. Through deep whole-genome sequencing and extensive population sampling, the project has generated a dataset that captures both large non-tribal populations and highly isolated tribal groups, thereby encompassing the full spectrum of India's demographic diversity.

A central finding of the study is the enormous amount of previously undocumented genetic variation. Across the cohort, approximately 129.9 million high-confidence biallelic variants were identified, including nearly 44 million variants that were absent from existing global databases. This highlights the continued underrepresentation of South Asian populations in current genomic resources and substantially expands the known landscape of human genetic variation.

The population genetic analyses reveal a striking contrast between large and small populations. Large non-tribal populations generally exhibit signatures of demographic expansion and greater genetic admixture. In contrast, many tribal

wide association studies and other large-scale genetic analyses in Indian and South Asian populations.

Beyond its immediate scientific contributions, GenomeIndia has important implications for global genomic equity. By making allele frequency resources and genetic variant datasets available through the Indian Biological Data Centre (IBDC), the project provides a valuable platform for future studies on disease genetics, population history, rare variants, pharmacogenomics, and polygenic risk prediction.

YOUNG AND LATE-ONSET PARKINSON'S DISEASE (YLOPD) STUDY



The Young and Late-Onset Parkinson's Disease (YLOPD) study is a longitudinal research initiative on Parkinson's disease (PD), supported by the SKAN Research Trust and conducted in partnership with NIMHANS. The study aims to recruit individuals with young-onset and late-onset PD and follow them longitudinally to understand the natural history of disease progression. By integrating detailed clinical assessments with molecular, genetic, and experimental investigations, the study seeks to identify biological mechanisms underlying PD and generate population-specific insights relevant to the Indian population.

A major component of the project focuses on understanding the genetic architecture of PD in India. Through whole-genome sequencing and comprehensive genomic analyses, the study aims to identify both common and rare genetic variants associated with young- and late-onset Parkinson's disease, characterise population-specific risk loci, and integrate these findings with other

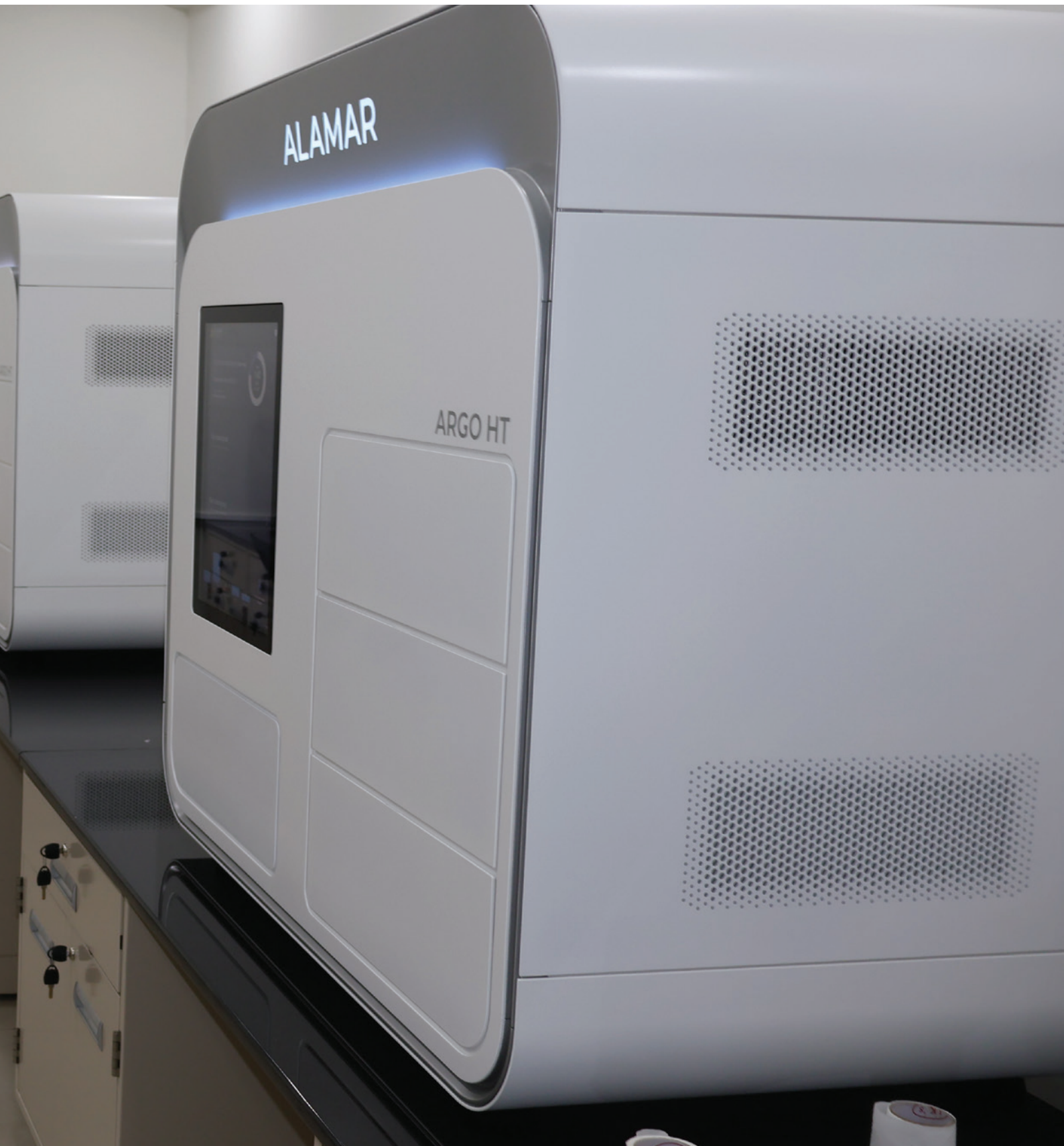
Indian genomic datasets. This effort is expected to establish one of the largest genomic resources for PD in the Indian population.

During 2025-26, substantial progress was made in the genomic characterisation of the cohort. Whole-genome sequencing and variant analysis identified pathogenic variants in known Mendelian PD genes, including several previously unreported (novel) mutations, highlighting the unique genetic architecture of PD in Indian populations. Structural variant analyses further identified disease-associated deletions, including PRKN deletions in individuals with young-onset PD. Polygenic risk score analyses demonstrated a higher cumulative genetic risk among affected individuals and provided insights into the interplay between rare pathogenic variants and the broader genetic background. Collectively, these findings indicate that the genetic spectrum of PD in Indian populations differs from that reported in European populations, underscoring the importance of ancestry-specific genomic studies.

In parallel, mechanistic studies using experimental mouse models investigated the molecular basis of PD progression. The work demonstrated progressive degeneration of dopaminergic neurons and nerve terminals, accompanied by increasing accumulation of α -synuclein, a hallmark of PD pathology. Interestingly, despite the loss of dopaminergic terminals, dopamine D1 and D2 receptor expression remained largely preserved, suggesting that functional impairment results primarily from reduced dopamine availability rather than receptor downregulation. These findings provide new insights into the mechanisms underlying motor and non-motor symptoms during disease progression and may help identify therapeutic targets.

Together, these findings contribute to a better understanding of Parkinson's disease biology in Indian populations and will inform future studies on disease mechanisms and therapeutic strategies.









RESEARCH AND INNOVATION SNIPPETS

1.

Prof. Thomas Gregor Issac

ASSOCIATE PROFESSOR

UNDERSTANDING HEALTHY AGING IN INDIA: INTEGRATING CLINICAL, COGNITIVE, BIOCHEMICAL, AND PHYSIOLOGICAL FACTORS



Prof. Issac's lab focuses on clinical research to investigate the risk factors and early markers of neurocognitive disorders in the Indian context. The lab is involved in a longitudinal cohort study to determine the risk and protective factors for neurocognitive disorders in a healthy aging population in India.

The team works at the intersection of diverse areas, including clinical, cognitive, genetic, and neuroimaging research, to understand the factors contributing to neurocognitive disorders. In addition, the lab studies biochemical and physiological markers of cognitive impairment in cognitively healthy older adults.

During 2025-26, Prof. Issac's lab conducted a meta-analysis on homocysteine as a risk factor for cognitive impairment. The study highlighted that elevated homocysteine levels are strongly associated with dementia, with a less consistent association observed in individuals with mild cognitive impairment (MCI). Among cognitively unimpaired individuals, the findings were heterogeneous, with higher homocysteine levels associated only with performance on certain cognitive tests in the Indian population. The meta-analysis also found that homocysteine levels are significantly higher in individuals with Alzheimer's disease, with a large effect size. [Sandhya, G., et al., Indian Journal of Clinical Biochemistry, 2026]

The lab also investigated the association between sarcopenia, an age-related loss of muscle mass, and cognition. The findings indicated associations between sarcopenia and cognitive performance in tasks assessing attention and verbal fluency. Sarcopenia was also found to be associated with age, gender, body mass index (BMI), and levels of low-density lipoprotein (LDL), triglycerides, and total cholesterol. [Joseph, A., et al., Annals of Indian Academy of Neurology, 2025]



2.

Prof. Bratati Kahali

ASSOCIATE PROFESSOR

GENOMIC DETERMINANTS OF COGNITIVE FUNCTION AND COMPLEX TRAITS: STUDIES IN DIVERSE POPULATIONS



Prof. Kahali's lab focuses on investigating the genetic architecture of cognitive, cardiometabolic, and anthropometric phenotypes in diverse human populations. The lab's current research centres on the longitudinal studies conducted by CBR, in addition to global cohorts such as UK Biobank, LASI-DAD, and All of Us, among others. The overarching goal is to investigate the causal relationships between multiple cardiometabolic traits and cognitive decline through the lens of human genetics and population diversity.

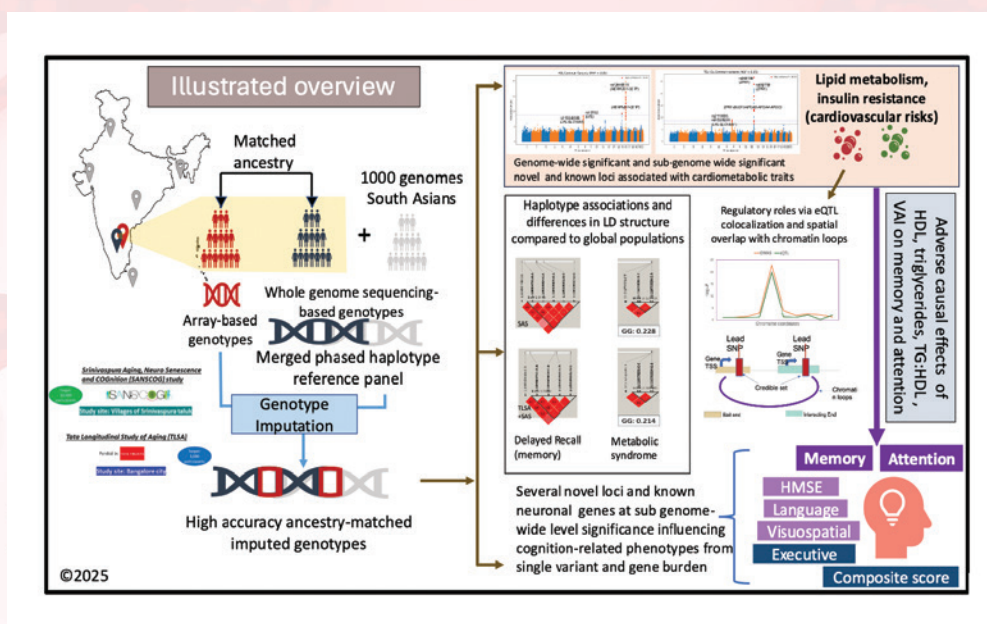
The lab also focuses on identifying clinically relevant pathogenic variants specific to the Indian population and developing a pan-Indian, ancestry-specific haplotype reference panel.

This work has been enabled through the national GenomeIndia project, for which CBR serves as the coordinating centre, with Prof. Kahali's lab (Institute PI) functioning as one of the major data generation and analysis centres.

During 2025-26, the lab published a study describing both novel and established genetic loci influencing cognition and cardiometabolic traits in 5,111 individuals from the CBR-SANSCOG cohort. An ancestry-matched haplotype reference panel was developed that outperformed existing global panels in genotype imputation accuracy. Using Mendelian Randomization, the study identified adverse causal effects of cardiometabolic traits on cognition, particularly involving genetic instruments within the APOC3-APOA4-APOA5-ZPR1-BUD13 cluster. It was also the first to report cardiometabolic associations involving genes such as APP, BACE1, and AMIGO1 in a large, rural, health-disparate Indian cohort, alongside well-established loci including APOA4, ZPR1, BUD13, GCKR, APOA5, CETP, and GLP1R. The study further demonstrated haplotypic differences in associations with delayed recall and metabolic syndrome, highlighting the unique genetic architecture of Indian populations, particularly within health-disparate groups. [Chakraborty, S., et al., Alzheimer's & Dementia: The Journal of the Alzheimer's Association, 2025]

As part of the GenomeIndia project, the lab identified 129.9 million genetic variants, of which approximately 44 million had not been previously reported. The study also identified multiple population-specific medically relevant and deleterious variants, underscoring the importance of incorporating local genetic architecture and underrepresented South Asian genomes into global reference resources. [Bhattacharyya, C., Subramanian, K., et al., Nature Genetics, 2025]

The lab also devoted considerable effort to the development and refinement of a pan-Indian, ancestry-specific haplotype reference panel, which further improved genotype imputation accuracy compared with existing global panels. The work included rigorous performance assessments at the variant, individual, and population levels, and demonstrated the limited transferability of Eurocentric polygenic scores to Indian populations.



3.

Prof. Ravi Muddashetty

ASSOCIATE PROFESSOR

DEFECTS IN SYNAPTIC SIGNALLING CONTRIBUTING TO THE PATHOLOGY OF DEMENTIA



Prof. Muddashetty's lab is interested in identifying the focal points of synaptic signalling that are disrupted during dementia. Modulating these pathways and signalling hubs may provide novel targets for the treatment of dementia. The lab has identified that activity-mediated protein synthesis, calcium signalling, and bioenergetics are intricately linked and have a strong effect on synaptic plasticity, and consequently on memory and cognition.

Prof. Muddashetty's lab has elucidated the link between synaptic protein synthesis and calcium signalling, and how this link is disrupted in Alzheimer's disease (AD).

Recently, the lab identified AMP kinase (AMPK) as the key signalling hub that integrates synaptic signalling with bioenergetics and showed that many synaptic defects in AD are mediated through defects in AMPK signalling. Using human stem cell models along with mouse models, the lab has shown that protein synthesis and AMPK signalling are modifiable targets that can rescue many of the synaptic defects

observed in AD neurons. AMPK signalling also links dementia to comorbidities such as diabetes and therefore opens up the possibility of treating dementia through modifiable risk factors. Beyond this, the lab has extensively studied RNA-mediated pathology in AD and identified key epitranscriptomic modifications that are altered in the AD brain. Currently, the lab is investigating how these modifications can serve as powerful biomarkers for dementia.

In the last year, the lab made significant progress in three major areas, which are described below.

RESCUE OF APOE4-INDUCED PROTEIN SYNTHESIS DEFECTS IN NEURONS BY MGLUR STIMULATION

APOE4 is a major genetic risk factor for AD and dementia. Prof. Muddashetty's lab had previously shown that APOE4 disrupts calcium signalling in neurons, resulting in inhibition of basal and activity-mediated protein synthesis [Ramakrishna et al., 2021]. The current work shows that the loss of protein synthesis affects synaptic activity, which is a cellular correlate of memory and cognition. In an interesting

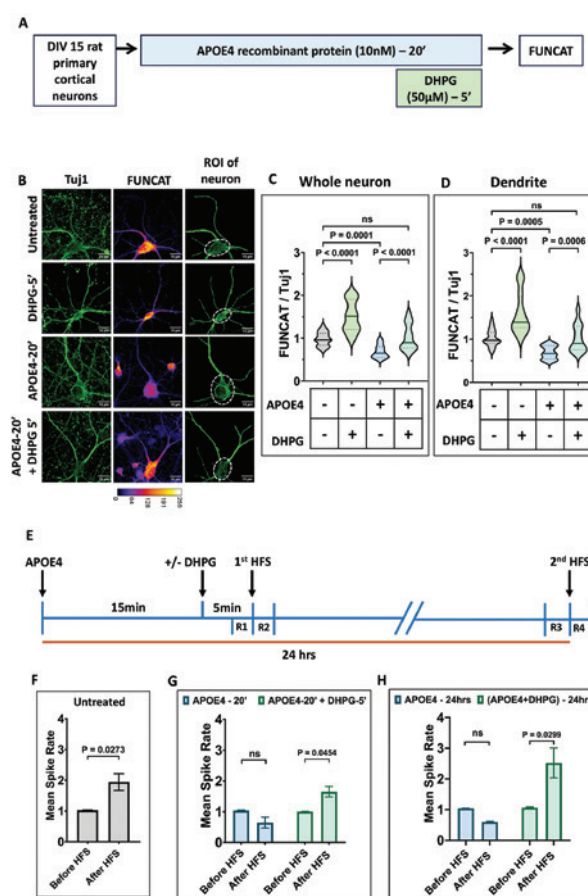


Fig. 1: **mGluR stimulation rescues the APOE4 induced protein synthesis inhibition.**

A. Representative images showing FUNCAT signal (De novo protein synthesis) in neurons treated with APOE4 or DHPG (mGluR agonist) alone or in combination.

B. Quantification showing that DHPG treatment rescues the APOE4 induced protein synthesis inhibition in whole neurons and

C. in dendritic compartments.

finding, the lab demonstrated that activating a parallel synaptic pathway by stimulating Group I metabotropic glutamate receptors (mGluRs) rescued the APOE4-induced protein synthesis inhibition in neurons [Radhakrishna, B. K., et al., Life Science Alliance, 2025]. More importantly, this stimulation also rescued APOE4-induced defects in synaptic activity. The key signalling pathway activated by this treatment is the mTOR pathway, a common signalling pathway implicated in several cancers and metabolic disorders, thereby opening up the possibility of exploring this pathway as a therapeutic target for dementia (Fig. 1 and 2).

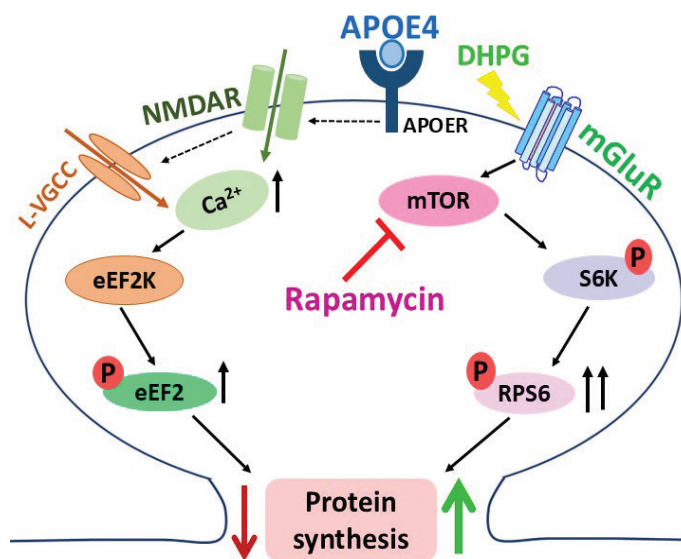


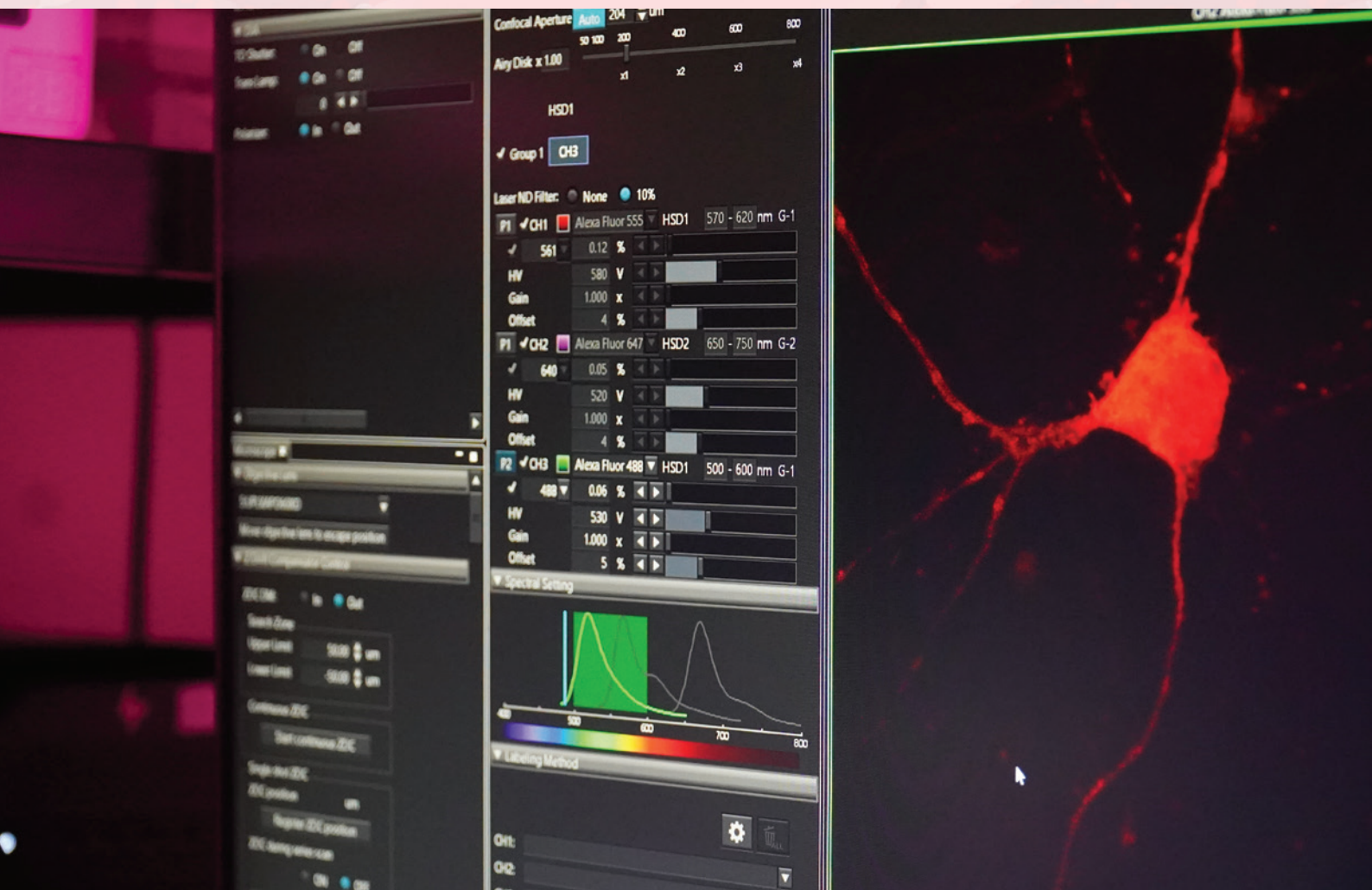
Fig 2: **Model representing the mGluR-mediated rescue of APOE4 induced protein synthesis inhibition.**

RNA-MEDIATED PATHOLOGY IN DEMENTIA

RNA-mediated pathology in dementia is a relatively less-studied area. Prof. Muddashetty's lab has been working on identifying the role of the epitranscriptome (particularly modifications on ribosomal RNA) in neurons for several years. Last year, the lab published a key finding that established the role of 2'-O-methylation on ribosomes during neuronal differentiation [D'Souza, M. N., et al., RNA Biology, 2025]. This work paved the way for understanding the role of epitranscriptomic defects in AD. Using animal and human stem cell models of AD, the lab demonstrated altered 2'-O-methylation of ribosomes in the synaptic compartment of AD neurons. Complementing this work, the lab identified reduced expression of several snoRNAs (small nucleolar RNAs, which guide 2'-O-methylation) in an AD mouse model, highlighting their potential as biomarkers for AD and dementia.

THE ROLE OF AMP KINASE AND BIOENERGETIC DEFECTS CONTRIBUTING TO AD PATHOLOGY

In an interesting finding, Prof. Muddashetty's lab identified AMP kinase (AMPK) as a major signalling hub affected by multiple factors that contribute to AD and dementia. AMPK acts as a converging point for APOE4-, amyloid-, and ROS-mediated pathology, and exerts its effects on protein synthesis, bioenergetics, and autophagy, thereby contributing to the synaptic defects underlying major dementia phenotypes. The lab successfully modulated AMPK activity pharmacologically, resulting in the rescue of several synaptic defects observed in mouse and human stem cell models of AD. This is a promising finding since AMPK is a downstream effector in metabolic disorders such as diabetes, and several FDA-approved drugs are already available that directly or indirectly target AMPK function, thereby opening a new avenue for exploring AD therapy. To take this work further, the lab has generated several stem cell models from the CBR-TLSA cohort with mild cognitive impairment and comorbidities such as diabetes and hypertension. Current work is focused on using these cellular platforms, along with familial AD cell lines, to test the effect of AMPK modulation in rescuing dementia phenotypes.



4.

Prof. Neelam Sinha

ASSOCIATE PROFESSOR

MULTIMODAL DATA ANALYSIS FOR ALZHEIMER'S RESEARCH: EEG, MRI-SNP



Prof. Sinha's lab focuses on advancing Alzheimer's disease (AD) research through the integration of diverse data sources into unified machine learning frameworks. AD research demands a holistic approach that extends beyond single-modality analysis. Genetic markers, including APOE variants and single nucleotide polymorphisms (SNPs), provide critical insights into individual susceptibility, while structural MRI and EEG reveal anatomical and functional disruptions, respectively. Considered independently, each modality captures only fragments of the disease process. Through multimodal fusion, however, these diverse signals are integrated into a unified framework, enabling machine learning models to enhance predictive accuracy and improve interpretability. This approach strengthens individualized risk assessment and supports population-level studies, thereby paving the way for earlier interventions and more effective strategies for the management of AD.

The lab proposed a multimodal fusion framework that combines structural MRI and SNP data to model spatial-genetic interactions for Alzheimer's classification.

The proposed framework was applied to the ADNI dataset, which contained MRI scans and corresponding genetic data. A Transformer encoder extracted SNP features, while PeleeNet captured MRI features. Multimodal fusion was achieved using a Transformer-based Cross Fusion Module. Expression quantitative trait locus (eQTL) analysis using BRAINEAC and GTEx revealed downregulated genes (ANXA5 and MTR) and novel signals (SDK1, MTMR14, LINGO2, and PLXND1) linked to apoptosis, immune response, and synaptic function. A chromosome 19 cluster near APOE suggested shared transcriptional and epigenetic regulation. This multimodal approach enhances diagnostic precision and biological interpretability, offering a pathway towards early intervention and biomarker discovery in AD.

Another study aimed to classify patients with AD and frontotemporal dementia (FTD) from healthy controls (CN) using non-linear EEG features. The lab explored various classification tasks, including binary classifications (CN vs. AD, CN vs. FTD, and FTD vs. AD) as well as multi-class classification, employing machine learning models such as XGBoost, multi-layer perceptron, k-nearest neighbours, and support vector machines. To better understand the models' decision-making process, the lab employed explainable AI (XAI) using SHAP (SHapley Additive exPlanations) analysis.



5.

Dr. Chinnakkaruppan Adaikkan

ASSISTANT PROFESSOR

SYNCHRONISING BRAIN GAMMA RHYTHMS TO IMPROVE NEURODEGENERATIVE DISEASE OUTCOMES



Dr. Adaikkan's lab studies brain gamma rhythms and neurodegenerative diseases and develops gamma synchronisation methods to improve dementia outcomes. Gamma rhythms, or gamma oscillations, are enhanced during attention, memory formation, and memory retrieval. Gamma oscillations are generated through the synchronisation of spiking activity across several neuronal subtypes.

Dr. Adaikkan's lab addresses two major questions:

- What are the spike-timing relationships of neuronal subtypes and neurotransmitter dynamics during physiological and sensory stimulus-induced gamma oscillations in the neocortex?
- What are the circuit and molecular mechanisms underlying the beneficial effects of non-invasive brain stimulation-induced gamma oscillations in Alzheimer's disease (AD)?

How close are we to improving the lives of people affected by debilitating neurodegenerative diseases and dementia? This question is both urgent and timely, given that millions of people worldwide are living with dementia. At the same time, dementia is a disease of the brain - an extraordinarily complex organ characterised by extensive nonlinear interactions.

Over the past several decades, technological and conceptual advances have greatly expanded our understanding of the mechanisms underlying neurodegenerative diseases. Several pathological features of the brain are now known to be associated with dementia, including amyloid accumulation, tau pathology, neuroinflammation, degeneration of neurons and synapses, neurotransmitter imbalances, and defects in neuronal gamma synchronisation.

Using a reverse-engineering approach, the lab applies external stimuli to synchronise neuronal spiking in patterns that mimic the physiological gamma rhythms associated with memory processes. It then evaluates how such neuronal synchronisation influences brain function and cognition in dementia. Specifically, one aspect of the work combines conditional genetics in mice with optical imaging to measure acetylcholine, dopamine, serotonin, norepinephrine, glutamate, and GABA dynamics during externally induced gamma synchronisation in AD model mice. In a complementary line of investigation, the lab combines neuronal subtype-specific optogenetics with neurophysiological approaches to examine the parameters of gamma synchronisation that regulate neuronal spiking patterns in AD model mice. The findings suggest that repeated gamma synchronisation produces beneficial effects across multiple brain cell types and reduces key AD-associated pathologies.

Importantly, several of the major findings observed in preclinical animal models have also been replicated in human subjects with mild to moderate dementia. The lab is continuing to refine the gamma synchronisation approach with the goal of improving not only molecular brain pathology and cognitive function but also sleep.

Overall, driven by technological innovation and emerging conceptual frameworks, ongoing research efforts around the world provide a growing sense of optimism that meaningful relief for people living with dementia may be within reach.

6.

Dr. Smitha Karunakaran

ASSISTANT PROFESSOR

NEUROMODULATORY AND ASTROCYTIC MECHANISMS OF EARLY ALZHEIMER'S VULNERABILITY AND RESILIENCE



Dr. Karunakaran's lab investigates how early changes in neuromodulatory circuits and glial cells shape vulnerability or resilience to Alzheimer's disease (AD) and cognitive aging. The lab focuses particularly on the locus coeruleus-norepinephrine system, hippocampal catecholaminergic inputs, and astrocyte-neuron interactions that support memory stability, salience processing, and adaptive responses to amyloid stress. Using mouse models, behavioural assays, confocal imaging, molecular profiling, magnetic resonance spectroscopy, and pharmacological and environmental interventions, the group investigates why early pathology affects males and females differently, and how apparently normal memory can become fragile under interference or stress. The long-term goal is to identify preclinical circuit and cellular signatures that can guide stage-appropriate strategies to preserve cognitive function before overt neurodegeneration occurs.

Dr. Karunakaran's lab published three studies in 2026 that converge on a common theme: in AD, early changes in neuromodulatory and astrocytic

systems can occur before obvious neurodegeneration, and these changes differ by sex and brain region.

The first study focused on the locus coeruleus (LC), a brainstem noradrenergic nucleus affected early in AD. In 2- to 3-month-old APP/PS1 mice, female APP/PS1 animals showed higher brainstem A β 42 oligomers and an astrocyte-associated metabolic signature by proton magnetic resonance spectroscopy. Molecular analyses revealed increased GFAP, complement C3, and NF- κ B2 in the pons, with LC-restricted GFAP elevation but no increase in astrocyte number, astrocyte hypertrophy, or microglial activation. This suggests an early “primed” astrocyte state rather than classical gliosis. Environmental enrichment normalized several LC/pontine astrocytic and noradrenergic changes, indicating that these early alterations are modifiable. [Kushwaha, S., Roy Choudhury, R., et al., *Alzheimer's & Dementia: The Journal of the Alzheimer's Association*, 2026]

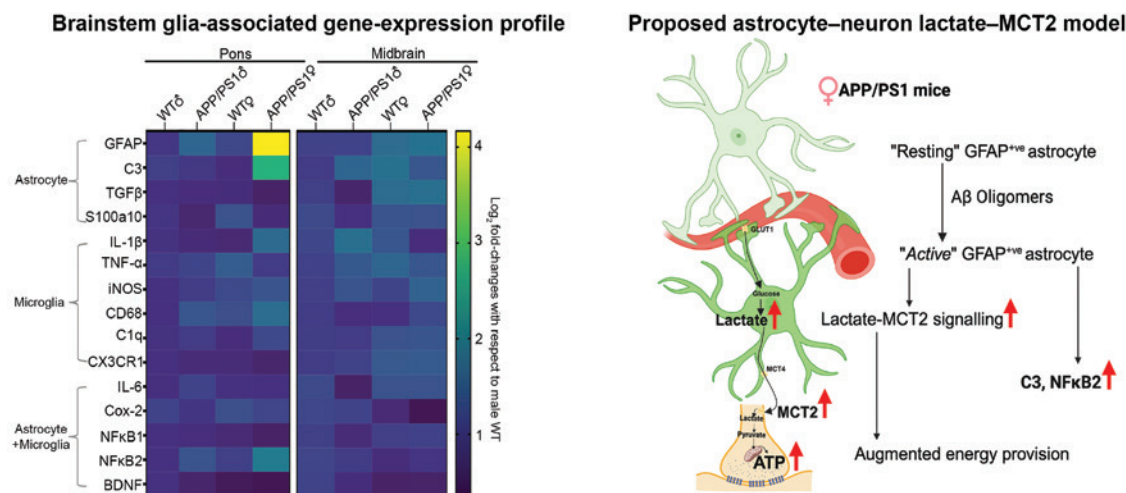
The second study, published in *Behavioural Brain Research*, examined why standard memory tests may miss early vulnerability. Using a proactive-interference version of novel object recognition in 2-month-old APP/PS1 mice, the group found that male, but not female, APP/PS1 mice lost stable recognition memory when prior object information competed with new learning. This behavioural vulnerability was associated with reduced tyrosine hydroxylase-positive catecholaminergic terminals in the dorsal hippocampus. Enhancing β -adrenergic signalling with isoproterenol restored interference-resistant recognition in male APP/PS1 mice, linking dorsal hippocampal catecholaminergic tone to memory stability.

The third study, published in *Neuroscience Letters*, tested the effects of prolonged β -adrenergic stimulation. Chronic oral isoproterenol reduced hippocampal β 2-adrenergic receptor protein and increased β -arrestin-1, while ERK signalling remained detectable. Wild-type mice mounted a GFAP response, whereas APP/PS1 mice showed more limited astrocytic responsiveness. This work highlights that neuromodulatory interventions may be beneficial only under the appropriate disease state, dose, and therapeutic time window, as sustained stimulation can also drive receptor desensitization.

Together, these publications support the idea that preclinical AD vulnerability is not a single event, but reflects coordinated changes in LC-brainstem astrocytes, hippocampal catecholaminergic input, and β -adrenergic signalling.

The work identifies early, sex-specific and region-specific circuit-glial signatures that may guide future strategies to preserve cognitive resilience before overt disease onset.

Glial inflammatory signatures and astrocyte–neuron metabolic coupling in female APP/PS1 mice



Based on findings from Kushwaha, Roy Choudhury et al., *Alzheimer's & Dementia*, 2026

Early astrocyte-linked changes in the brainstem of female Alzheimer's-model mice

This figure summarizes early brainstem changes observed in female APP/PS1 mice, a mouse model used to study AD. The heat map on the left shows changes in selected genes linked to astrocytes, microglia, and inflammation in two brainstem regions: the pons and the midbrain. Darker blue indicates lower relative levels, while green and yellow indicate higher levels. Female APP/PS1 mice showed the strongest changes in the pons, including increased expression of astrocyte-linked and inflammatory markers such as GFAP, C3, and NF-κB2.

The diagram on the right illustrates a proposed model for what these early changes may mean. Amyloid-related stress may shift astrocytes, which are important support cells in the brain, into a "primed" state. Rather than simply increasing in number or showing classical scarring-like changes, these astrocytes may alter both inflammatory signals and metabolic support to nearby neurons. One possible support mechanism is the transfer of lactate, an energy-rich fuel, from astrocytes to neurons through lactate transporters such as MCT2. Neurons can then use lactate to help generate ATP, the cell's main energy source. Overall, the figure highlights the idea that early Alzheimer's vulnerability may involve subtle changes in brain support-cell function before major nerve-cell loss is evident.



7.

Dr. Jonas S. Sundarakumar

ASSISTANT PROFESSOR

COGNITIVE RESERVE AND LIFESTYLE DETERMINANTS OF HEALTHY BRAIN AGING IN INDIA



Dr. Sundarakumar's major research goals are to identify the risk and protective factors for dementia in the Indian population, particularly in the much under-researched rural Indian population. He is the Principal Investigator of the CBR-SANSCOG study, and his lab has a special interest in understanding the cardiometabolic and lifestyle-related risk factors for dementia in this population.

Understanding how specific cardiovascular risk factors affect cerebrovascular function and, in turn, influence cognitive performance will help in designing targeted preventive and interventional strategies to reduce the burden of dementia.

Dr. Sundarakumar's group also focuses on studying cardiac autonomic functions and understanding the impact of cardiac dysautonomia on brain aging and

cognitive impairment, while exploring its potential as an early biomarker for dementia and related disorders. In addition, the lab investigates how lifestyle-related factors such as sleep quality, diet, physical activity, physical and psychological frailty, and social relationships influence brain health in the aging Indian population.

The lab has conducted the first study from India to develop and compare measures of cognitive reserve (CR) for aging rural and urban populations. The study incorporated factors particularly relevant to the Indian context, including years of education (YOE), multilingualism (ML), social network diversity (SND), and job skill level (JSL), to estimate cognitive reserve using data from two ongoing aging studies in southern India: the rural CBR-SANSCOG cohort and the urban CBR-TLSA cohort. The study assigned weights to four evidence-based cognitive reserve factors based on their ability to predict cognitive performance. Several machine learning models were evaluated, with linear regression selected as the best-performing model. [Burra, R., et al., Alzheimer's Research & Therapy, 2026]

The findings demonstrated that the contribution of cognitive reserve factors differs between rural and urban Indian populations. In the rural cohort, years of education, multilingualism, and social network diversity were significant contributors (Rural $CR = 0.085 + YOE + 0.184 + ML + 0.030 + SND$), whereas years of education, multilingualism, and job skill level were significant contributors in the urban cohort (Urban $CR = 0.064 + YOE + 0.184 + ML + 0.197 + JSL$).

These findings suggest that targeted interventions aimed at enhancing population-specific cognitive reserve factors could provide a scalable and cost-effective approach to reducing dementia risk.



8.

Dr. Shweta Ramdas

ASSISTANT PROFESSOR

MITOCHONDRIAL DNA VARIATION AND TRANSPOSABLE ELEMENT FUNCTION IN INDIAN POPULATIONS



Dr. Ramdas's lab focuses on understanding the contribution of two components of the genome—the mitochondrial genome and transposable elements—to aging phenotypes and genome function.

The lab uses bioinformatic approaches and large population-scale datasets to investigate these questions, while also developing computational tools to study these genomic variations.

NuMTs (nuclear mitochondrial DNA segments) are small fragments of mitochondrial DNA that become integrated into the nuclear genome of cells. Although long-read sequencing has made it easier to detect these insertions, there have been no dedicated tools to identify them from long-read sequencing data. In collaboration with IIT Delhi, Dr. Ramdas's lab developed a new

bioinformatics tool called ANOMALY to identify NuMTs from long-read sequencing datasets. This tool will facilitate studies investigating the role of NuMTs in aging, particularly in the brain. [Mahar, N. S., et al., NAR Genomics and Bioinformatics, 2026]



Dr. Sivaprakasam Ramamoorthy

ASSISTANT PROFESSOR

MOLECULAR BASIS OF DEMENTIA PROGRESSION IN ALZHEIMER'S DISEASE



Alzheimer's disease (AD) progresses at different rates in different individuals, and the reasons underlying this variability are not fully understood. Dr. Ramamoorthy's lab focuses on understanding the molecular factors that drive faster cognitive decline and memory loss.

In one study, the lab found that patients with AD who had more severe dementia exhibited higher levels of small, soluble tau aggregates called tau oligomers. These were strongly associated with memory impairment and loss of synapses, the connections that allow brain cells to communicate. These toxic tau species were found to be more damaging than the larger tau deposits traditionally observed in the brain. The study also showed that tau oligomers can be released in tiny membrane-bound particles called extracellular vesicles, which may facilitate the spread of pathology between brain cells. [Rahman, M. W., et al., Journal of Biological Chemistry, 2025]

In a second study, the lab investigated why some patients with AD experience a much faster rate of cognitive decline than others. By analysing clinical and postmortem brain data, the study found that patients with both AD and Lewy body pathology (abnormal accumulation of the protein α -synuclein) experienced more rapid cognitive decline. These patients also had higher levels of soluble tau oligomers and showed evidence that α -synuclein aggregates can promote tau aggregation through a process known as cross-seeding. In addition, the study identified significant disturbances in energy metabolism and mitochondrial function in these rapidly progressing patients. [Sharma, P., et al., Autophagy, 2025]

Together, these findings suggest that toxic soluble protein aggregates, interactions between different disease-associated proteins, and metabolic dysfunction contribute to dementia progression. Understanding these mechanisms may help identify new biomarkers and therapeutic targets for slowing or preventing neurodegenerative diseases.



10.

Dr. Latha Diwakar

SENIOR SCIENTIFIC OFFICER

DECIPHERING MOLECULAR MECHANISMS OF VASCULAR DYSFUNCTION CONTRIBUTING TO DEMENTIA



Dr. Diwakar's group focuses on understanding the molecular mechanisms by which cerebrovascular dysfunction contributes to dementia. Cerebrovascular lesions, seen as white matter hyperintensities (WMHs) on MRI scans of older adults, arise from microinfarcts and microbleeds and contribute to cognitive decline and dementia. These small vessel insults are associated with prolonged vascular risk factors such as hypertension, diabetes, hypercholesterolaemia, and hyperhomocysteinaemia. Loss of blood-brain barrier (BBB) integrity resulting from these insults leads to increased vascular permeability and reduced cerebral blood flow, both of which are associated with cognitive decline, including in Alzheimer's disease (AD). Evidence from several longitudinal studies, including those conducted at CBR, highlights the role of these vascular risk factors in cognitive decline.

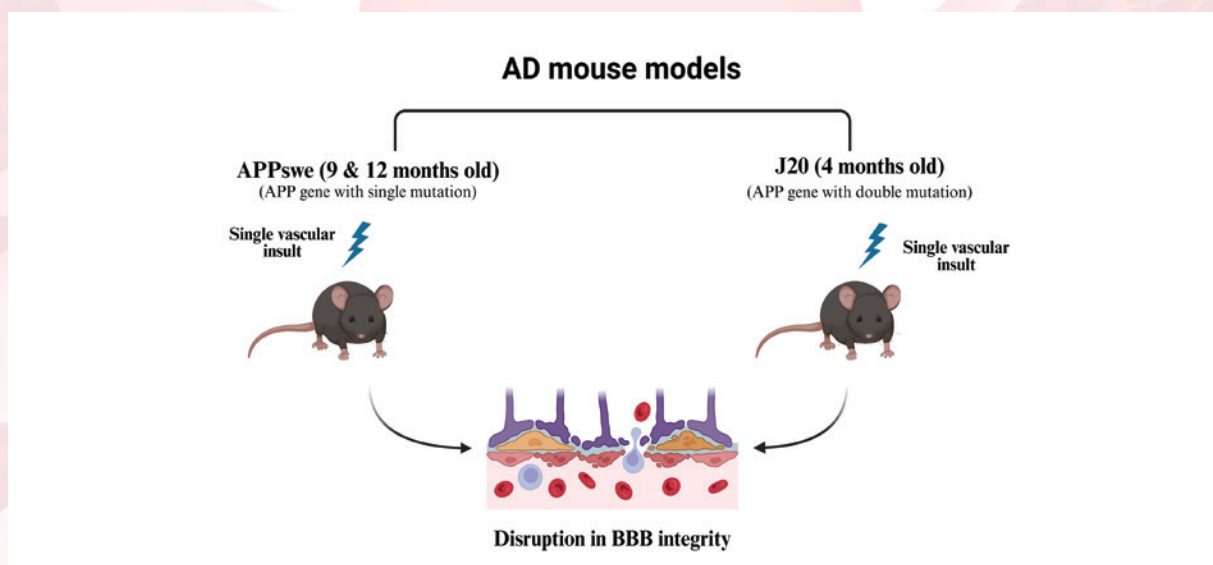
Dr. Diwakar's lab investigates the molecular drivers underlying pathological changes in the BBB and how these changes affect synaptic function and

neurodegeneration. The lab also explores the role of APP and APOE4 mutations in causing structural alterations to the BBB that exacerbate AD pathogenesis. Cerebrovascular dysfunction impairs waste clearance, leading to increased amyloid accumulation and neuroinflammation. The research aims to identify molecular markers associated with structural changes in the BBB during the progression of vascular pathology and to delineate fluid biomarkers of vascular dysfunction relevant to AD and related disorders.

To better understand vascular dysfunction, particularly small vessel disease manifested as WMHs on MRI, Dr. Diwakar's lab translated these observations into a mouse model and developed a model of vascular dementia. The study demonstrated that repeated vascular infarcts lead to irreversible cognitive dysfunction, similar to that observed in vascular dementia. Importantly, when amyloid burden is already high in the brain, even a single vascular insult results in irreversible memory deficits. These findings suggest that individuals with vascular risk factors, even subtle ones, who also carry genetic risk factors for AD are likely to be at a substantially higher risk of developing dementia.

The lab is currently investigating the molecular mechanisms by which vascular damage leads to memory dysfunction, both in the presence and absence of amyloid pathology.

The findings support a synergistic interaction between vascular dysfunction and AD genetics that accelerates amyloid pathology, emphasizing cerebrovascular integrity as a critical determinant of AD progression and a potential therapeutic target.



Mice carrying a higher AD genetic burden exhibit early and pronounced blood-brain barrier disruption following a single vascular insult, underscoring their heightened vulnerability.

Dr. Reddy Peera Kommaddi

SENIOR SCIENTIFIC OFFICER

SEX-SPECIFIC DIFFERENCES IN THE PROGRESSION OF ALZHEIMER'S DISEASE PATHOLOGY



Dr. Kommaddi's lab focuses on understanding the early molecular mechanisms underlying sex-specific differences in the progression of Alzheimer's disease (AD) pathology that contribute to neurodegeneration and memory loss.

AD is the most common form of dementia, and nearly two-thirds of patients with AD are women. Women have a greater lifetime risk of developing AD than men. The increased burden of AD in women is not solely due to their longer lifespan, but also because the pathophysiological changes associated with AD begin long before clinical symptoms appear. Estrogen is widely recognised for its neuroprotective role in maintaining synaptic plasticity, reducing inflammation, and enhancing neurotransmitter systems involved in learning and memory. The decline in estrogen levels following menopause reduces protection against amyloid-beta accumulation, increases neuroinflammation, and impairs synaptic function. This decline is associated with faster cognitive deterioration and a higher risk and severity of AD in older women compared with men. However, the sex-specific biological mechanisms underlying synaptic and cognitive impairment before the onset of clinical symptoms remain unknown.

Dr. Kommaddi's lab is investigating how female sex hormones regulate memory and how selective estrogen receptor modulators (SERMs) influence memory and synaptic biochemical pathways during AD progression.

The lab is studying synaptic signalling pathways in female AD mouse models using a combination of behavioural, RNA sequencing, and biochemical approaches. The identification of novel molecules through RNA sequencing, network analysis, and circuit analysis will improve understanding of the biological mechanisms underlying sex-specific differences in AD and may facilitate the development of preventive and therapeutic interventions. The development of functional biomarkers targeting estrogen-regulated genes may also improve the early detection and risk assessment of AD. In addition, the lab has identified a novel molecular target that may be exploited to restore cognition and promote neuroprotection through estrogen receptor-mediated mechanisms in symptomatic female AD mouse models.

Overall, this research aims to identify estrogen-sensitive diagnostic biomarkers for the early detection and monitoring of cognitive decline, while supporting the development of novel therapeutics that mimic the neuroprotective effects of estrogen without its associated adverse effects in AD and other neurodegenerative disorders.



THE BEAUTIFUL BRAIN

**The illustrations of
Santiago Ramón y Cajal**
Spanish neuroscientist

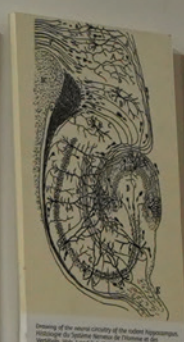


Santiago Ramón y Cajal (May 1, 1852 – October 17, 1934) was a Spanish neuroscientist considered to be the father of modern neuroscience. He received the Nobel Prize in Physiology or Medicine in 1906 jointly with Camillo Golgi in recognition of their work on the structure of nervous system.

His myriad creations with pencil and ink took on a poetic quality and rendered precision to the fine anatomy of nervous system which still inspires scientists today.

In his book 'Advice for a Young Investigator' he wrote,

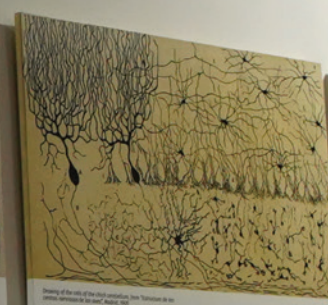
"The investigator should display some happy combination of these traits: an artistic temperament that impels him to search for and admire the number, beauty, and harmony of things; and—in the struggle for life that ideas create in our minds—a sound critical judgment that is able to reject the rash impulses of daydreams in favor of those thoughts most faithfully embracing objective reality."



Drawing of the arbor vitae of the cerebellum. *Atlas de Anatomie du Système Nerveux de l'Homme et des Vertébrés*, 1909, 1912, 2nd ed., Barcelona, 1911



Santiago Ramón y Cajal, *arbor vitae* of the cerebellum, 1909



Drawing of the arbor vitae of the cerebellum. *Atlas de Anatomie du Système Nerveux de l'Homme et des Vertébrés*, 1909, 1912, 2nd ed., Barcelona, 1911



Santiago Ramón y Cajal, *arbor vitae* of the cerebellum, 1909



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Santiago Ramón y Cajal, *arbor vitae* of the cerebellum, 1909



Santiago Ramón y Cajal, *arbor vitae* of the cerebellum, 1909



Santiago Ramón y Cajal, *arbor vitae* of the cerebellum, 1909





RESEARCH PUBLICATIONS

Research Publications

DURING 2025-26, CBR'S RESEARCH ACTIVITIES YIELDED A DIVERSE BODY OF SCHOLARLY WORK PUBLISHED IN REPUTED PEER-REVIEWED JOURNALS, UNDERSCORING THE CENTRE'S GROWING CONTRIBUTIONS TO THE SCIENCE OF BRAIN AGING AND RELATED DISORDERS. THE PUBLICATIONS SPAN MULTIPLE DISCIPLINES AND METHODOLOGIES, REFLECTING THE COLLABORATIVE AND INTERDISCIPLINARY NATURE OF RESEARCH AT CBR.

THE LIST OF PUBLICATIONS IS PRESENTED BELOW.

1. Bhattacharyya, C., Subramanian, K., Uppili, B., Biswas, N. K., Ramdas, S., Tallapaka, K. B., Arvind, P., Rupanagudi, K. V., Maitra, A., Nagabandi, T., De, T., Singh, K., Sharma, P., Sharma, N., Raghav, S. K., Prasad, P., Soniya, E. V., Jaleel, A., Sathi, S. N., ... Genomelndia Consortium, Narahari, Y., Ravindranath, V., Thangaraj, K., Sowpati, D. T., Faruq, M., Basu, A., & Kahali, B. (2025). Mapping genetic diversity with the Genomelndia project. *Nature Genetics*, 57(4), 767-773. <https://doi.org/10.1038/s41588-025-02153-x>
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3. Chakraborty, S., Subramanian, K., Rajesh, A., Majumder, R., Rupanagudi, K. V., Mensegere, A., TLSA study team, Issac, T. G., SANSCOG study team, Sundarakumar, J., & Kahali, B. (2025). Genome-wide study links cardiometabolic factors to cognition via APOA4-APOA5-ZPR1-BUD13 and other loci in rural Indians. *Alzheimer's & Dementia: The Journal of the Alzheimer's Association*, 21(7), e70429. <https://doi.org/10.1002/alz.70429>
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vulnerability in Alzheimer patients. **Autophagy**, 21(12), 3024-3038. <https://doi.org/10.1080/15548627.2025.2552905>

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EVENTS AND INITIATIVES

Events and Initiatives

The past year was one of purpose and progress for CBR, distinguished by a rich programme of scientific engagements and the strengthening of collaborative ties at both national and international levels. Taken together, these activities reflect the Centre's growing reach and its sustained commitment to advancing the understanding of brain aging and contributing to the broader societal conversation on dementia and brain health.

BUILDING RESEARCH CAPACITY

During 2025-26, CBR strengthened the foundations of its long-term research enterprise through the expansion of research infrastructure, the launch of fellowship and training programmes, and continued support for early-career researchers.

CBR BIOMARKER CENTRE OF EXCELLENCE

A landmark development in CBR's scientific journey, the CBR Biomarker Centre of Excellence was inaugurated on 28 October 2025 by Dr. Kris Gopalakrishnan, in the esteemed presence of Prof. Govindan Rangarajan, Prof. K. VijayRaghavan, and many valued collaborators and well-wishers of CBR. The Centre has been established through a unique collaborative endeavour with the UK Dementia



Research Institute (UK DRI), with generous support from Gates Ventures. The Centre is designed to serve as a sophisticated platform for the discovery and validation of fluid-based biomarkers for neurodegenerative diseases, while also investigating digital biomarkers to enable a more holistic understanding



of disease onset and progression. By combining state-of-the-art fluid biomarker assays, high-throughput proteomics, and AI-driven analytics with diverse aging cohorts from India and the UK, the Centre aims to accelerate breakthroughs in early diagnosis of neurodegenerative conditions. The initiative benefits from the scientific leadership of Prof. Henrik Zetterberg (UK DRI and University of Gothenburg) and Prof. Siddharthan Chandran (Director and CEO, UK DRI), both of whom serve as Visiting Faculty at CBR.

Participating virtually at the inauguration, Dr. Niranjan Bose, Managing Director of Health and Life Sciences Strategy at Gates Ventures, expressed



great enthusiasm for the programme, noting that India's speed, frugality, ingenuity, and richness in cohort diversity uniquely position it to lead multimodal approaches to the detection of neurodegenerative conditions.

Dr. Gopalakrishnan highlighted the Centre's role in leveraging India's scientific talent and international collaboration to address the challenges of brain aging and expressed confidence that the Centre will drive innovations 'from India, for the world.'

The Centre features state-of-the-art automated, high-throughput precision proteomics systems capable of ultra-high sensitivity and multiplexed analyses to support broad biomarker profiling and validation, significantly expanding CBR's capacity for multi-omics research.

CBR-UK DRI POSTDOCTORAL FELLOWSHIP PROGRAMME

The launch of the CBR-UK DRI Postdoctoral Fellowship Programme on 12 September 2025 marked a significant step in translating CBR's partnership with the UK DRI into a sustained investment in scientific talent. The programme is designed to expand research capacity and nurture the next generation of leadership in dementia and brain health research and is open to early-career researchers with no more than six years of postdoctoral experience, with no restrictions on age or nationality. The fellowship has a four-year tenure and is based at CBR. Fellows receive joint supervision from researchers at CBR and the UK DRI and have the opportunity to spend up to three months per year at a UK DRI centre. The focus areas span biomarker discovery and validation, digital health and cognitive monitoring, and artificial intelligence and health data science.

Applications for the inaugural cohort were evaluated by an expert panel comprising scientists from both institutions. Following a rigorous selection process that included online interviews, the first cycle of the programme culminated in the selection of two postdoctoral fellows who will contribute to collaborative research between CBR and the UK DRI, with a focus on the discovery and validation of biomarkers for the early diagnosis of neurodegenerative conditions.

AMBA SUBBA RAO FELLOWSHIP FOR WOMEN RESEARCHERS

On 26 September 2025, CBR launched the Amba Subba Rao Fellowship for Women Researchers. A generous philanthropic donation from the family of Late Smt. Amba Subba Rao will support early-career women scientists affiliated with CBR. The programme offers competitive, one-time fellowships (administered annually) which may be used flexibly for purposes such as conference participation, collaborative or training visits, childcare support during such visits, or publication costs, to strengthen the awardees' contributions as young researchers. The inaugural call for applications was announced in February 2026, inviting PhD students and postdoctoral researchers at CBR to apply. Following independent review by an expert committee, three PhD students were recommended for the award.

PRATIKSHA TRUST EMSTAR PROGRAMME

CBR serves as the Secretariat of the Pratiksha Trust Extra-Mural Support for Transformational Aging Brain Research (EMSTAR) programme, which provides 5-year research grants to investigators working on high-risk, high-reward projects in brain aging and neurodegeneration. During the year, CBR facilitated a series of online review meetings between the four grantee teams and the Project Review Committee. These meetings enabled Principal Investigators and Co-Investigators to present progress from the first two years of their projects and receive guidance from the Committee.

CBRAIN INTERNSHIP PROGRAMME

The CBR Research and Innovation (CBRAIN) Internship Programme, now in its fourth cycle, continued to attract exceptional young talent from across the country. The 2025 edition was launched in early May 2025, following the strong response to the first two cycles. Nearly 9,200 applications were received from hundreds of institutions (research organisations, universities, medical colleges, and public health institutes) across India. Following a rigorous selection process, 7 internships were awarded for the 2025 cohort, a three-month programme designed to immerse young researchers in cutting-edge, multidisciplinary

research on normal and pathological brain ageing. Building on this momentum, the fourth cycle was launched on 09 March 2026 and received over 4,400 applications. Following a rigorous selection process, 13 internships were offered. The 2026 cohort focuses on cohort data curation and analysis.

DOCTORAL MILESTONES: CBR'S FIRST PHD GRADUATES

The year 2025-26 marked a key milestone for CBR with the successful defence of its first two doctoral dissertations with the degree awarded by the Manipal Academy of Higher Education (MAHE).

The first doctoral dissertation from CBR, titled 'Study of Actin Modulators at the Synapse and Their Role in Alzheimer's Disease', was successfully defended on 23 June 2025 by Ms. Haseena P. A., under the guidance of Dr. Reddy Kommaddi. The thesis examined the role of synaptic F-actin dynamics in Alzheimer's disease (AD), identifying disrupted PSD95-actin coupling as a key contributor to synaptic impairment in AD brains. Proteomic



and imaging analyses revealed dysregulated synaptic proteins and glutamatergic receptor levels. Notably, F-actin stabilisation was shown to restore PSD95-actin association, improve synaptic function, and rescue memory deficits, highlighting synaptic actin modulation as a promising therapeutic strategy in early-stage AD.

The second doctoral dissertation, titled 'Insights into Human Genetic Variation in the Indian Population through Large-Scale Whole Genome Sequencing Analysis', was successfully defended on 03 July 2025 by Ms. Krithika S., under the guidance of Prof. Bratati Kahali. The study sequenced 3,559 Indian genomes, uncovering millions of genetic variants spanning common, rare, novel, and population subgroup-specific alleles. Over 500 pathogenic and clinically significant mutations were identified, including variants associated with metabolic syndrome, cholesterol disorders, and hereditary blindness. These findings capture India's rich genetic diversity and lay a foundation for studying complex disease risk in historically underrepresented populations through ethnolinguistically informed genomic research.

COLLABORATIONS AND STRATEGIC PARTNERSHIPS

Collaboration lies at the heart of CBR's strategy for advancing brain health research in India. The past year saw a significant expansion of CBR's national and international partnerships, formalised through Memoranda of Understanding and research agreements, as well as through exploratory engagements with institutions and organisations that share CBR's mission.

BUILDING A COLLABORATIVE FRAMEWORK FOR BRAIN AGING

A central thrust of CBR's strategic vision is the development of a national-level network that brings together diverse institutional partners, including community-based cohort studies, clinical cohorts, and hospitals, to address the most pressing challenges in neurodegeneration research. This network aims to enable secure multi-institutional collaboration while preserving participant privacy. It will be built around shared infrastructure for emerging multi-omics technologies, a collaborative data and analytics framework, multimodal non-invasive digital modules for early screening, and capacity development in critical areas. Rich datasets generated through such collaboration are expected to yield composite risk scores and India-specific normative values of significant scientific and clinical value.



To communicate this vision and explore the modalities of the framework, CBR convened a Cohort Networking Meeting titled 'Building a Collaborative Framework for Brain Aging' on 28-29 October 2025. The meeting, supported by Bristol Myers Squibb (BMS), brought together a diverse group of stakeholders and potential partners from across the research, clinical, and industry ecosystem.





FORMALISATION OF PARTNERSHIPS

In pursuit of this collaborative agenda, CBR signed Memoranda of Understanding with several premier institutions during the year:

- Madras Diabetes Research Foundation (MDRF), Chennai [25 October 2025]
- Centre for Chronic Disease Control (CCDC), New Delhi [28 November 2025]
- Parkinson's Disease and Movement Disorders Clinic, Bengaluru [12 December 2025]
- Hyderabad Eye Institute, the Operating Trust of LV Prasad Eye Institute (LVPEI), Hyderabad [29 December 2025]
- USC Dornsife College of Letters, Arts and Sciences, University of Southern California, to formalise collaboration on the Longitudinal Ageing Study in India - Diagnostic Assessment of Dementia (LASI-DAD) [21 January 2026]

Two further strategic partnerships were established to strengthen CBR's national and international research collaborations:

- On 03 December 2025, CBR signed an MoU with Trinity College Dublin, including its Global Brain Health Institute (GBHI), to promote academic cooperation through joint research, training and education initiatives, and scholar exchange programmes, with a shared focus on dementia and brain health.
- On 17 December 2025, CBR signed a research agreement with Shanmukha Innovations Pvt. Ltd., Bengaluru, to collaboratively develop cost-effective diagnostic assays and a reader system for blood-based neurodegenerative biomarkers, towards accessible, affordable dementia diagnostics for the Indian context.

IISc-NIIGATA UNIVERSITY JOINT NEUROSCIENCE SYMPOSIUM

CBR participated in the inaugural IISc-Niigata University Joint Neuroscience Symposium, held at Niigata University, Japan, on 8-9 September 2025. The primary objective of the visit was to initiate a research partnership among CBR, the Centre for Neuroscience (CNS) at IISc, and the Brain Research Institute (BRI) at Niigata University. Prof. G. Rangarajan and Prof. P. S. Anil Kumar, Chair and Member of the CBR Governing Board respectively, as well as faculty members from CNS, were part of the delegation. The symposium, titled 'From Molecules to Mind: A Multimodal Approach to Brain Health and Disease', served as a platform

for participants to share their research interests, showcase expertise, and identify areas of mutual collaboration. Discussions on focused research projects aligned with CBR's mandate are currently underway.



EXPLORATORY VISITS AND INSTITUTIONAL ENGAGEMENTS

In May 2025, Director Prof. Hari undertook a series of collaborative visits to leading academic and research institutions in India and the United States to share CBR's research initiatives and explore opportunities for partnership. Institutions visited included the International Institute of Information Technology Hyderabad (IIITH), Bristol Myers Squibb Business Services (Hyderabad), Emory University, the University of Texas at Dallas, the University of North Texas, the Center for Brain Health at UT Dallas, and the Glenn Biggs Institute for Alzheimer's and Neurodegenerative Diseases at UT Health San Antonio. The visits focused on areas such as biomarkers for early detection of mild cognitive impairment (MCI) and clinical and translational neuroscience, laying the groundwork for potential joint projects, data sharing, and long-term partnerships.

PERIODIC CBR EVENTS

CBR SCIENTIFIC ADVISORY COMMITTEE MEETINGS

The CBR Scientific Advisory Committee (SAC), chaired by Prof. Srinath Reddy, convened at CBR on 25-26 June 2025 to review the progress of flagship and faculty-driven research projects. New project proposals were also considered during the meeting. The Committee appreciated the Centre's research progress and offered substantive recommendations for further enhancement.

A further meeting of the CBR Scientific Advisory Committee was held on 18 December 2025. Members received updates on research progress, recent developments, and the Centre's strategic direction, and offered valuable feedback to strengthen ongoing and future initiatives.





CBR DAY

CBR Day was celebrated on 12 August 2025, commemorating eleven years since the Centre's inception, in the gracious presence of Dr. Kris Gopalakrishnan. The occasion brought together the CBR community to reflect on the Centre's journey and look ahead with renewed purpose.

A special lecture was delivered by Prof. Arun S. P., Chair of the Centre for Neuroscience, IISc. His talk on the neural basis of real-world vision offered illuminating insights from his laboratory's work exploring how the brain solves vision - through the study of perception in humans, neural activity in monkeys, and comparisons between biological brains and machine learning algorithms. Long-serving members of the CBR team were recognised and honoured by Dr. Gopalakrishnan for their invaluable contributions and commitment to the



Centre's mission. A painting challenge themed 'Mindscales - Painting the World Inside' was organised to explore and celebrate the creative dimensions of the CBR community.



CBR DISTINGUISHED VISITOR PROGRAM (CBR-DVP) LECTURES

The CBR Distinguished Visitor Program (CBR-DVP), generously supported by philanthropist Ms. Nirmala Govindan, continued to bring world-class scientists to CBR for public lectures and interactions with the research community.

The second lecture of the CBR-DVP was delivered on 25 August 2025 by Prof. Barbara Bendlin, University of Wisconsin-Madison. In her talk, titled 'Gut Microbiome Alterations in Alzheimer's Disease', Prof. Bendlin shared cutting-edge





findings from international studies on how gut bacteria influence inflammation, brain health, and Alzheimer's disease biomarkers. The talk underscored the gut-brain connection as a promising avenue for understanding neurodegeneration and for exploring new approaches to prevention and therapy.

The third CBR-DVP Lecture was delivered by Dr. Tanveer Syeda-Mahmood, IBM Fellow and Adjunct Professor at Stanford University, on 12 January 2026. Her lecture, titled 'Multimodal Fusion for Disease Understanding', emphasised the importance of integrative frameworks that combine genomic, imaging, and clinical data to advance the study of complex biological systems across a range of diseases. The presentation highlighted emerging neural architectures for multimodal data fusion and their translational potential in enabling advances in precision medicine. The Distinguished Visitors also engaged with early-career researchers, offering valuable insights from their career trajectories.

INSTITUTIONAL ETHICS COMMITTEE MEETINGS

The CBR Institutional Ethics Committee, chaired by Prof. Srikala Bharath, former Professor of Psychiatry and Consultant at NIMHANS, met regularly during the year to assess ongoing research activities for ethical compliance, review new project submissions, and provide guidance on best practices in research involving human participants, biological materials, and data. Meetings were held on 23 April 2025, 13 August 2025, 29 January 2026, and 12 March 2026 (online).

OTHER SCIENTIFIC MEETINGS AND ENGAGEMENTS

WORKSHOP ON BRAIN HEALTH IN PRACTICE

On 26 April 2025, CBR hosted and co-organised the Dementia India Alliance's workshop on 'Brain Health in Practice'. The event brought together healthcare professionals, researchers, students, senior citizens, and dementia caregivers to discuss the urgent realities of dementia care in India. It highlighted the often-overlooked burden on caregivers, the importance of early screening, and the role of knowledge and empathy in reducing stigma. The workshop also emphasised building brain reserve and resilience through lifestyle factors including hobbies, social connections, lifelong learning, quality sleep, proper nutrition, and regular exercise.

DISTINGUISHED LECTURE ON ELECTROGRAPHIC SEIZURE DETECTION

On 30 April 2025, CBR and the Axis Bank Centre for Mathematics and Computing, IISc, co-organised a Distinguished Lecture by Prof. V. John Mathews, Professor of Electrical Engineering and Computer Science at Oregon State University, USA. The lecture, titled 'Electrographic Seizure Detection and Forecasting for People with Epilepsy', was attended by members of CBR and several departments of IISc.

THIRD ANNUAL BDBIO SYMPOSIUM

CBR, in collaboration with the Axis Bank Centre for Mathematics and Computing at IISc, co-organised the third annual Symposium on Big Data Algorithms for Biology (BDBio) during 29-31 May 2025. The event featured sessions showcasing research in bioinformatics, computational biology, systems biology, and statistical and deep learning approaches. The programme included invited talks by leading scientists from academia and industry, early-career presentations, a poster session, and a pre-symposium workshop.

CBR-CRISPRBITS WORKSHOP ON GENE EDITING

On 06 August 2025, CBR and CRISPRBITS jointly organised an educational workshop on CRISPR gene-editing technology for students and early-career researchers. CRISPR, the subject of the 2020 Nobel Prize in Chemistry, has transformed molecular biology and forms the basis of diverse gene-editing applications in humans and other organisms, including molecular diagnostics. The workshop provided an accessible and rigorous introduction to this technology and its applications.

BOOK TALK: WHY MACHINES LEARN

On 03 September 2025, CBR hosted 'Why Machines Learn', a book talk by renowned science communicator Dr. Anil Ananthaswamy. The talk was followed by a panel discussion featuring Dr. Sandeep Bhupatiraju from The World Bank and Prof. Siddhartha Gadgil and Dr. Soma Biswas from IISc, moderated by CBR faculty members Prof. Thomas Gregor Issac and Dr. Shweta Ramdas. The event explored the evolution of artificial intelligence, its underlying architecture, and its implications for science and society. It was well received by a broad audience drawn from across IISc.



DISTINGUISHED LECTURE BY PROF. CHARLES CANTOR

On 26 March 2026, in collaboration with the Division of Biological Sciences at IISc, CBR hosted a distinguished lecture by Prof. Charles Cantor, Professor Emeritus of Biomedical Engineering at Boston University and co-founder of the Human Genome Project. Titled 'Is Deuterium the Key to Controlling Age-Related Loss of Brain Function?', the lecture explored the potential of deuterated analogs of dietary polyunsaturated fatty acids to reduce oxidative damage in neural membranes, with implications for slowing the progression of neurodegenerative diseases. During his visit, Prof. Cantor also interacted with CBR researchers, received an overview of the Centre's mission and key initiatives, and shared insights from his extensive experience in academia and biotechnology.



REPRESENTATION AT EXTERNAL SCIENTIFIC FORUMS AND CONFERENCES

During the year, the CBR team actively participated in a range of national and international scientific forums, conferences, and strategy discussions, reflecting the Centre's growing engagement with the wider research and healthcare community. These included:

- **ALZHEIMER'S ASSOCIATION INTERNATIONAL CONFERENCE (AAIC)**, Toronto, Canada [27-31 July 2025]: CBR researchers presented posters on findings from its longitudinal cohorts and complementary projects, covering topics from cognitive reserve and genetic markers of dementia risk to the effects of diabetes, lipid dysregulation, and stress hormones on cognition. For the first time, CBR also set up an exhibitor booth at AAIC to engage with the global Alzheimer's research community and showcase upcoming initiatives, including the CBR Biomarker Centre of Excellence.

- **SYMPOSIUM ON DATA FOR PUBLIC GOOD**, hosted by the Centre of Data for Public Good (CDPG), IISc, Bengaluru [14-15 October 2025]
- **NIMHANS-EMORY UNIVERSITY WORKSHOP AT NIMHANS**, Bengaluru, featuring distinguished speakers from NIMHANS, the Emory Goizueta Brain Health Institute, Emory University School of Medicine, and Universidad de San Andrés, Argentina [12 November 2025]
- **JSS-SNCI-CON 2025**, the international conference on 'Sustainable Brain Health: Advances in Neurochemistry and Neuropharmacology' and the 39th Annual Meeting of the Society for Neurochemistry India (SNCI), JSS College of Pharmacy, Mysuru [17 November 2025]
- **DEMENTIA AND NEURO REHABILITATION WORKSHOP**, organised by Cognitive Neurology Clinic, Bengaluru, with support from Manipal Hospital and Annasawmy Mudaliar General Hospital [24-25 November 2025]
- **NATIONAL CONSULTATIVE MEET ON DEMENTIA STRATEGY**, jointly organised by the Institute of Human Behaviour and Allied Sciences (IHBAS) and Dementia India Alliance, in association with the India International Centre and the National Human Rights Commission, New Delhi [29 September 2025]. The meeting brought together clinicians, researchers, institutional leaders, policymakers, and community advocates, with representation from the Ministry of Health and Family Welfare, Ministry of Social Justice and Empowerment, ICMR, NIMHANS, AIIMS, and other key stakeholders, spanning the full spectrum of dementia care in India.
- **DELHI BIOPHARMA STRATEGY SESSION**, convened by the USA-India Chamber of Commerce (USAIC), a high-level discussion on accelerating innovation in India's BioPharma and healthcare sector [02 December 2025]
- **DEMCON 2025**, the second national dementia conference organised by the Dementia India Alliance, hosted at GITAM Institute of Medical Sciences and Research, Visakhapatnam [05-06 December 2025]. The conference, themed 'Dementia Care: From Awareness to Action', brought together senior citizens, caregivers, clinicians, researchers, policymakers, industry representatives, and students.
- **SCAN ANNUAL SYMPOSIUM 2026**, titled 'Neurodegenerative Disorders in India: Current Practices and Challenges', Sunita Sanghi Centre of Aging and Neurodegenerative Diseases, IIT Bombay [09-10 January 2026]
- **EYE AND BRAIN HEALTH SYMPOSIUM**, LV Prasad Eye Institute, Hyderabad [02 February 2026]

- **THE INAUGURAL AATRE RESEARCH CONFERENCE (ARC)**, organised by the Institute of Smart Structures and Systems (ISSS) in honour of Padma Vibhushan Prof. V. K. Aatre [12-14 February 2026]
- **NATIONAL SCIENCE DAY PROGRAMME**, organised by the IIT Alumni Centre at the JN Tata Auditorium, IISc campus, Bengaluru [28 February 2026]
- The inaugural **INTERNATIONAL CONFERENCE ON CLINICAL NEUROPSYCHOLOGY AND CLINICAL NEUROSCIENCES** (ICNCNC 2026), NIMHANS, Bengaluru [05-07 March 2026]
- **AD/PD 2026**, the International Conference on Alzheimer's and Parkinson's Diseases and Related Neurological Disorders, Copenhagen, Denmark [17-21 March 2026]
- **LAUNCH OF CALM-BRAIN**, a multimodal neuropsychiatric research database developed by the Rohini Nilekani Centre for Brain and Mind (CBM), Bengaluru [25 March 2026]

CBR also supported several science and technology events within the IISc campus ecosystem as a contributing sponsor, including Pravega 2026, IISc's cultural tech fest [06-08 February 2026], and Rhapsody 2026, IISc's annual sci-tech, cultural, and sports fest [18-22 March 2026].

OUTREACH AND PUBLIC ENGAGEMENT

VISIT BY SCHOOL STUDENTS

As part of the 'Mukhya Mantrir Bigyan Pratibha Sandhan' programme, approximately 40 talented Class XI science students from Assam visited CBR on 18 August 2025 for an educational tour of its facilities and an interactive session with the CBR team. The visit was facilitated by the Assam Science, Technology and Environment Council (ASTEC) and coordinated by the Karnataka State Council for Science and Technology (KSCST), with support from the IISc Public Relations Office. The engagement offered a window into the world of brain research for a new generation of young scientists.



WORLD ALZHEIMER'S MONTH: THE MEMORY DIALOGUE

To mark World Alzheimer's Month, CBR co-organised a public awareness event on 13 September 2025, in partnership with Dementia India Alliance, Nightingales Medical Trust, and Vayah Vikas. Titled 'The Memory Dialogue: Science, Care and Community', the event featured two thematic sessions focused on prevention strategies in dementia and care. This was followed by a 'Brain Health Fair' that offered memory screening, brain-healthy lifestyle advice, and resources for caregivers, making scientific knowledge accessible to a broad community audience.

CEREBRAL SAFARI AT IISC OPEN DAY

CBR's showcase at the IISc Open Day on 07 March 2026, titled 'Cerebral Safari', attracted over 4,000 visitors spanning a wide range of age groups. As part of the institute-wide showcase, CBR presented informative posters on its ongoing programmes and future directions, alongside an engaging exhibit on the human brain. The showcase featured interactive elements including neuroscience quiz sessions, live demonstrations of real-time brain activity monitoring using an EEG headband, and hands-on educational activities designed for both children and older adults. The event provided a valuable platform for public engagement and significantly increased awareness of CBR's research and its societal relevance.







DISTINGUISHED VISITORS TO CBR

Over the course of 2025-26, CBR welcomed a large number of distinguished visitors from leading academic, clinical, research, and industry institutions in India and abroad. Many of these visits led to substantive discussions on collaborative research, and several resulted in formal partnerships or ongoing engagements. Some visitors also delivered technical talks that were open to faculty, staff, and students from across IISc.

Prof. Jayant Modak, Dean, Faculty of Engineering, IISc; Prof. S. Asokan, Dean, Faculty of Science, IISc; Prof. Arvind Ayyer, Convener, IISc Mathematics Initiative

A delegation led by Prof. Jouko Lampinen, Dean, School of Science, Aalto University, Finland

Dr. Sindhuja Tirumalai Govindarajan, Postdoctoral Researcher, Perelman School of Medicine, University of Pennsylvania, USA

Prof. V. John Mathews, College of Engineering, Oregon State University, USA

Dr. Prashanth L. K., Consultant Neurologist and Movement Disorders Specialist, Parkinson's Disease and Movement Disorders Clinic, Bengaluru

Two batches of mid-career healthcare professionals from the Advanced Management Programme for Healthcare, Indian School of Business, Mohali

Prof. Nino Ramirez, Director, Norcliffe Foundation Center for Integrative Brain Research, Seattle Children's Hospital, USA

Dr. Nandini Arunkumar, Program Officer, Alzheimer's Disease, NIH-National Institute on Aging (NIA), USA

Mr. Akash Kulgod, Co-founder and Chief Executive Officer, Dognosis, Bengaluru
A delegation from Tata Consultancy Services, led by Chief Technology Officer Dr. Harrick Vin

Prof. Arvind Rao, School of Public Health, University of Michigan, USA
Dr. Jagannath Nayak, Senior Scientist, Defence Research and Development Organisation (DRDO), Hyderabad

Dr. Radha S. Murthy, Director, Dementia India Alliance, Bengaluru
Dr. Shriya Palchaudhuri, Associate Director (External Engagements), Centre for Brain and Mind, Bengaluru

A delegation led by Prof. Jean-Baptiste Poline, Department of Neurology and Neurosurgery, and School of Computer Science, McGill University, Montreal, Canada

Dr. Kirthana Kunikullaya, Associate Professor of Physiology, Sri Chamundeshwari Medical College, Bengaluru

A senior leadership team from Abbott Laboratories

Prof. Maneesh Sahani, Gatsby Computational Neuroscience Unit, University College London, UK

Prof. Rajesh P. N. Rao, Paul G. Allen School of Computer Science and Engineering, University of Washington, Seattle, USA

Prof. Sushma Nagaraja Grellscheid, Computational Biology Unit, University of Bergen, Norway

Prof. Avindra Nath, Chief, Section of Infections of the Nervous System; Clinical Director, National Institute of Neurological Disorders and Stroke, NIH, USA

Prof. Madhav Thambisetty, Clinical and Translational Neuroscience Section, NIA, National Institutes of Health, USA

Dr. Hari Menon, Director, India Country Office, Gates Foundation;

Dr. Harish Iyer, Director, Health R&D, Digital Innovations, and AI, Gates Foundation

Prof. Ole Andreassen, Center for Precision Psychiatry, Oslo University Hospital and University of Oslo, Norway

Prof. Srinivas Subramaniam, Department of Chemistry and Biochemistry, Florida Atlantic University, USA

Prof. Barbara Bendlin, Wisconsin Alzheimer's Disease Research Center, School of Medicine and Public Health, University of Wisconsin-Madison, USA

Prof. Henrik Zetterberg (Group Leader), Dr. Amanda Heslegrave (Principal Research Fellow), Mr. Owen Swann (Research Technician), UK DRI at University College London, UK

Prof. Arun S. P., Centre for Neuroscience, IISc

A team from Atmantan Wellness Centre, led by Co-founder and Director Mr. Nikhil Kapur, Pune

Prof. Eric Grivel, Bordeaux University, Talence, France

Dr. Krishnan Nandabalan, President and CEO, InveniAI LLC, Connecticut, USA

Prof. Kamesh Namuduri, College of Engineering, University of North Texas, USA

Prof. Sundaram Vanka, Indian Institute of Technology Hyderabad, Hyderabad

Prof. K. L. V. Sai Prakash Sakuru, National Institute of Technology Warangal

Dr. Ashwini Rajasekaran, Founder, BioSignatures Tech, FSID, IISc

Mr. Anil Ananthaswamy, Science Writer

Dr. G. G. Gangadharan, Ayurvedacharya

Dr. Rahul Kulshreshtha, Head of Innovation, Swissnex in India, Consulate General of Switzerland, Bengaluru

Prof. Sreeganga S. Chandra, Yale School of Medicine, Yale University, USA

Dr. Kirsten Tief-Kuery, Vice-President, EMEA region, Olink

Dr. Aishu Sukumar, Associate Director, Alzheimer's Disease, Gates Ventures, USA

Prof. Anurag Agrawal, Ashoka University, Sonapat

Mr. Bas Weerman, Center for Economic and Social Research, University of Southern California, USA

Prof. Bharat Thyagarajan, Department of Laboratory Medicine and Pathology, University of Minnesota, USA

Prof. Caroline Relton, University of Bristol, UK

Prof. George Davey Smith, MRC Integrative Epidemiology Unit, University of Bristol, UK

Dr. Kenneth Rhodes, Vice-President, Neuroscience, Bristol Myers Squibb, USA

Dr. Sally John and Dr. Elena Dale, Bristol Myers Squibb, UK

Prof. Rhoda Au, Boston University, USA

Prof. Siddharthan Chandran, Prof. Valentina Escott-Price, and Prof. Suvankar Pal, UK
Dementia Research Institute, UK

Dr. Sathish Thirunavukkarasu, Emory School of Medicine, USA

Dr. Joiston Pereira, Senior Trade Advisor, Healthcare and Life Sciences (South India),
British High Commission in India

Dr. V. Mohan, Madras Diabetes Research Foundation, Chennai

Prof. Suvarna Alladi, NIMHANS, Bengaluru

Dr. Lampros Kourtis, Program Director, Diagnostics Accelerator SpeechDx, Gates
Ventures

Dr. Mahesh P. A., Department of Pulmonary Medicine, JSS Medical College and Hospital,
Mysuru

Dr. Manoj Komath and Dr. Ramshekhar N. Menon, Sree Chitra Tirunal Institute for
Medical Sciences and Technology, Thiruvananthapuram

Prof. Mathew Varghese, St. John's Medical College, Bengaluru

Dr. Rajesh Dikshit, Tata Memorial Centre and Homi Bhabha, National Institute, Mumbai

Dr. Ramesh Kekunnaya, Network Director, Technology Innovation, and Dr. Ritesh Narula,
LV Prasad Eye Institute, Hyderabad

Dr. Ratnavalli Ellajosyula, Cognitive Neurology Clinic, Bengaluru

Dr. Kaustubh Patil, Applied Machine Learning Group, Institute of Neuroscience and
Medicine, Forschungszentrum Jülich, Germany

Prof. Allan Levey, Director, Goizueta Alzheimer's Disease Research Center, Emory
University, USA

Dr. Richa Batra, Independent Consultant, Duke University and Weill Cornell Medicine,
USA

Prof. Sanjay Kinra, Head, Department of Non-Communicable Disease
Epidemiology, London School of Hygiene and Tropical Medicine, UK

Prof. Dinesh Bhatia, Erik Jonsson School of Engineering and Computer Science,
University of Texas at Dallas, USA

Lt. Gen. V. J. Sundaram (Retd.), Defence Research and Development Organisation (DRDO)

Prof. James B. Rowe, Director, Cambridge Centre for Frontotemporal Dementia and Related Disorders, University of Cambridge, UK

A delegation from the Centre for Chronic Disease Control, New Delhi, led by Executive Director Prof. Dorairaj Prabhakaran

Dr. Annu Yadav, Strategic Account Manager, South East Asia and India, Illumina

Dr. Pradeep Paul G., Senior Epidemiologist, University of Adelaide, Australia

A delegation led by Prof. Dr. Dr. Till Bärnighausen, Director, Heidelberg Institute of Global Health (HIGH), Heidelberg University, Germany

Mr. Jitendra Singh, Former Scientist, DRDO and NAL; Commercial Astronaut Candidate, Spaceflight Institute, France

Prof. Shrikanth Narayanan, Viterbi School of Engineering, University of Southern California, USA

Prof. Subhasish Mitra, Departments of Electrical Engineering and Computer Science, Stanford University, USA

Dr. Raunak Manekar, Birla Institute of Technology and Science Pilani, Goa Campus

Prof. Sridevi V. Sarma, Whiting School of Engineering, Johns Hopkins University, USA

A delegation from Cybaverse Foundation, a cybersecurity initiative by the Royal Family of Mysuru

Dr. Venkat Bhat, Department of Psychiatry, University of Toronto, Canada

Prof. Ravi Vaidyanathan, Team Leader, Robotics and AI Interface, UK DRI Care-Research and Technology Centre, Imperial College London, UK

Prof. Sunil Narayan, Head, Department of Neurology, Jawaharlal Institute of Postgraduate Medical Education (JIPMER), Puducherry

Dr. K. Sreekumaran Nair, Mayo Clinic, Rochester, Minnesota, USA

Prof. S. Lakshmivarahan, Gallogly College of Engineering, School of Computer Science, University of Oklahoma, USA

Dr. Venkat Padmanabhan, Managing Director, Microsoft Research India, Bengaluru

A delegation from the New Energy and Industrial Technology Development Organization (NEDO), Government of Japan, including Mr. Takefumi Tanabe (Director General), Mr. Masafumi Senda (Country Head, NEDO India Office), and Mr. Toshitake Omiya (Deputy Chief Representative)

Prof. Vikram Patel, Department of Global Health and Population, Harvard T. H. Chan School of Public Health, Boston, USA

Dr. Shivkumar Kalyanaraman, Chief Executive Officer, Anusandhan National Research Foundation (ANRF), Government of India, New Delhi

Dr. Ashvini Keshavan, Senior Clinical Research Fellow and Honorary Consultant Neurologist, Dementia Research Centre, UCL Queen Square Institute of Neurology, London, UK

Prof. Srikantan Nagarajan, Department of Radiology and Biomedical Imaging, University of California, San Francisco, USA

Prof. Ambuj K. Singh, Distinguished Professor of Computer Science, University of California, Santa Barbara, USA

Dr. Manish Gupta, Senior Director, and Dr. Vaibhav Rajan, Research Scientist, Google DeepMind, Bengaluru

Prof. Charles Cantor, Professor Emeritus of Biomedical Engineering, Boston University, USA

VISITOR REFLECTIONS

"Congratulations on the longitudinal study of aging! This comprehensive multimodal study will undoubtedly benefit the population of India, and likely change healthcare for millions around the world. Amazing."



- Dr. Kenneth Rhodes, Vice-President, Neuroscience,
Bristol Myers Squibb, USA [12 Apr 2025]



"Thank you for organizing this wonderful workshop. Look forward to the partnership & collaboration and all the innovation this effort is going to drive!"



- **Dr. Aishu Sukumar, Associate Director, Alzheimer's Disease, Gates Ventures, USA [28 Oct 2025]**

"Wonderful meeting. Great networking. Hospitality was wonderful. Congratulations to Prof. Hari & whole team. Looking forward to collaborating with CBR!"



- **Dr. V. Mohan, Chairman, Madras Diabetes Research Foundation (MDRF), Chennai [28 Oct 2025]**

"Kudos for the great facility for brain research, a one of its kind institute. Looking forward to collaborate."



- **Dr. Ramshekhar N. Menon, Sree Chitra Tirunal Institute for Medical Sciences and Technology, Thiruvananthapuram [28 Oct 2025]**

"What an exciting and promising opportunity for CBR to fill a global unmet need to understand neurodegenerative disease!"



- **Prof. Allan Levey, Director, Goizueta Alzheimer's Disease Research Center, Emory University, USA [11 Nov 2025]**

"Great institution, staff, facilities & excellent meeting with the team. Delighted to partner with CBR and look forward to productive collaboration & sustained partnership to improve population health in India."



- **Dr. Sailesh Mohan, Deputy Director, Centre for Chronic Disease Control, New Delhi [28 Nov 2025]**

"Thank you so much for the excellent learning about your most exciting and important research on cognitive health! We very much look forward to future collaborations on interventions for mental health in population cohort studies and randomized controlled trials."



- **Prof. Dr. Dr. Till Bärnighausen, Director, Heidelberg Institute of Global Health (HIGH), Heidelberg University, Germany [10 Dec 2025]**

"An incredible mission for understanding and supporting human aging. Excited at the possibilities of pushing the frontiers together!"



- **Prof. Shrikanth Narayanan, Niki and Max Nikias Chair in Engineering, University of Southern California, USA [11 Dec 2025]**

“Stunning facilities and direction! Focus on early-stage biomarkers at this scale is unprecedented! Best wishes.”



- **Prof. Ravi Vaidyanathan, Imperial College London and UK DRI Centre for Care Research & Technology, UK [05 Jan 2026]**

“A remarkable institution with the promise to transform healthy ageing in India and beyond.”



- **Prof. Vikram Patel, Paul Farmer Professor and Chair of Global Health and Social Medicine, Harvard Medical School, USA [09 Feb 2026]**

“Thank you for a fascinating introduction to your truly impactful work. Look forward to seeing what we can uncover.”



- **Dr. Ashley J. Llorens, Corporate Vice President and Managing Director, Microsoft Research Accelerator, USA [13 Feb 2026]**

“Valentines’ day. I♥CBR. Great work. Huge potential for impact. Please go for it.”



- **Dr. Shivkumar Kalyanaraman, Chief Executive Officer, Anusandhan National Research Foundation (ANRF), New Delhi [14 Feb 2026]**







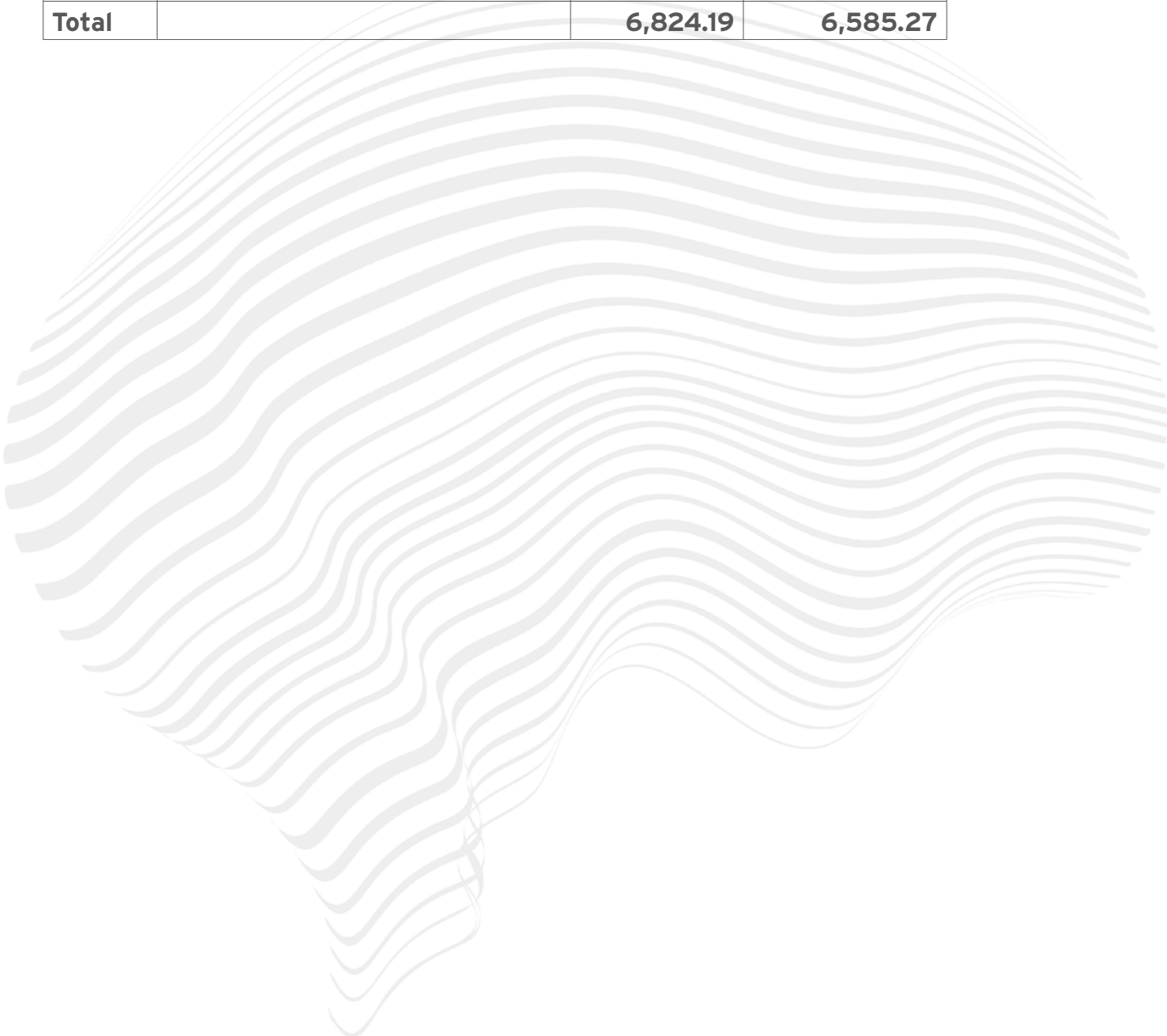
FINANCE

Finances

The total receipts for the year 2025-26 were Rs 6,824.19 lakh, while the total payments towards the various activities of the Centre amounted to Rs 6,585.27 lakh.

The Details of Receipts and Payments for the Year 2024-25 are as follows

Sl.No.	Particulars	Receipts (In Lakhs)	Payments (In Lakhs)
1	Donations from Pratiksha Trust towards Activities Account	5,400.00	5,159.23
2	Other Receipts	130.13	0.00
3	Funds from External Agencies	1,294.06	1,426.04
Total		6,824.19	6,585.27



Funds received from External Agencies during 2025-26

Funds received during 2025-26					
Description	Funding agency	Total amount sanctioned (₹lakh)	Existing projects (₹lakh)	New projects (₹lakh)	Total funds received (₹lakh)
CBR-Tata Longitudinal Study of Aging - Prof. K.V.S. Hari	Tata Education Trust	3,713.20	700.00	0.00	700.00
Intermediate Fellowship - Dr. Chinnakkaruppan Adaikkan	DBT/Wellcome Trust India Alliance	358.89	54.90	0.00	54.90
Early Career Fellowship - Dr. Justin Joseph	DBT/Wellcome Trust India Alliance	168.62	0.72	0.00	0.72
Intermediate Fellowship - Prof. Bratati Kahali	DBT/Wellcome Trust India Alliance	367.74	116.13	0.00	116.13
CBR-Distinguished Visitor Programme (CBR-DVP)	Mrs. Nirmala Govindan	30.00	10.00	0.00	10.00
Extramural Research Grant - Dr. Sivaprakasam Ramamoorthy	Indian Council of Medical Research	83.77	0.00	0.00	0.00
Start-up Research Grant (SRG) - Dr. Sivaprakasam Ramamoorthy	Anusandhan National Research Foundation	26.76	0.72	0.00	0.72
Research Grant (AARGD) - Dr. Sivaprakasam Ramamoorthy	Alzheimer's Association	165.26	58.09	0.00	58.09
Young Investigator Grant - Dr. Chinnakkaruppan Adaikkan	Brain & Behavior Research Foundation	57.36	14.96	0.00	14.96
Dr. Aashrai Gudlavalleti Memorial Award - Dr. Jonas Sundarakumar	PRASHO Foundation	5.00	0.00	5.00	5.00

Funds received during 2025-26					
Description	Funding agency	Total amount sanctioned (₹lakh)	Existing projects (₹lakh)	New projects (₹lakh)	Total funds received (₹lakh)
National Post Doctoral Fellowship (N-PDF) - Dr. Ashish Jain R	Anusandhan National Research Foundation	30.96	0.00	6.58	6.58
National Post Doctoral Fellowship (N-PDF) - Dr. Priyanka Singh	Anusandhan National Research Foundation	30.96	0.00	6.58	6.58
Prime Minister Early Career Research Grant (PM ECRG) - Dr. Hari Prasad	Anusandhan National Research Foundation	61.49	0.00	20.18	20.18
Charity - Amba Subba Rao Fellowship for Women Researchers	Executors for Will of Late Amba Subba Rao	50.00	0.00	50.00	50.00
Emerging Frontiers in Biotechnology Grant - Dr. Shweta Ramdas	Department of Biotechnology	91.78	0.00	76.34	76.34
Emerging Frontiers in Biotechnology Grant - Prof. Ravi Muddashetty	Department of Biotechnology	99.00	0.00	38.81	38.81
Research Grant - Prof. Ravi Muddashetty	Department of Biotechnology	42.15	0.00	18.10	18.10
Cognitive Science Research Initiative (CSRI) Postdoctoral Fellowship - Dr. Trisha Chattopadhyay	Department of Science and Technology	26.90	0.00	7.11	7.11
SRF Fellowship Grant	Department of Science and Technology	14.17	0.00	13.97	13.97
SRF Fellowship Grant	Department of Biotechnology	14.25	0.00	14.25	14.25

Funds received during 2025-26					
Description	Funding agency	Total amount sanctioned (₹lakh)	Existing projects (₹lakh)	New projects (₹lakh)	Total funds received (₹lakh)
Donations	via Charities Aid Foundation America (CAF America)	6.23	0.00	6.23	6.23
Support for Collaborative Meeting	Trinity College Dublin	1.30	0.00	1.30	1.30
Support for Cohort Networking Meeting	Bristol Myers Squibb, USA	54.68	0.00	54.68	54.68
Long Term International Fellowship (DHR-ICMR fellowship) - Dr. Jonas Sundarakumar	Indian Council of Medical Research	21.43	0.00	19.43	19.43
Total		5,521.90	955.50	338.56	1,294.06

Rural and urban lifestyle patterns are completely different. Rural lifestyle is healthier, but these individuals do not have access to state-of-the-art healthcare and education. On the other hand, urban life poses the risk of lifestyle diseases like hypertension, obesity, etc. Hence, our studies are conducted on diverse groups of individuals.

RURAL Indians

URBAN Indians



Working this study









GOVERNANCE STRUCTURE, FACULTY, AND STAFF AT CBR

Governance Structure, Faculty, and Staff at CBR

CBR SOCIETY

Centre for Brain Research (CBR) is a registered society under the Karnataka Societies Registration Act, 1960. The Society comprises eminent persons from diverse fields as its members. As of 31 March 2026, the members of the Society are as follows:

Prof. G. Rangarajan, Director, IISc (Ex officio) [Chair]
Chair, Governing Council, IISc (Ex officio)
Chief Secretary to Government of Karnataka (Ex officio)
Additional Chief Secretary to Government of Karnataka (Ex officio)
Principal Secretary (Finance) Government of Karnataka (Ex officio)
Secretary, Dept. of IT & BT, Government of Karnataka (Ex officio)
Dr. Kris Gopalakrishnan, Co-Founder, Infosys, and Trustee, Pratiksha Trust
Smt. Sudha Gopalakrishnan, Trustee, Pratiksha Trust
Shri. Dinesh Krishnaswamy, Co-Founder, Infosys
Shri. S. D. Shibulal, Co-Founder, Infosys
Prof. Y. Narahari, Dept. of Computer Science and Automation, IISc
Prof. Navakanta Bhat, Dean, Division of Interdisciplinary Sciences, IISc
Prof. Vijayalakshmi Ravindranath, Founding Director, CBR
Prof. D. N. Rao, Dept. of Biochemistry, IISc
Prof. Usha Vijayraghavan, Dean, Division of Biological Sciences, IISc
Prof. P. S. Anil Kumar, Dean, Administration & Finance, IISc
Prof. G. Mugesh, Dean, Division of Chemical Sciences, IISc
Prof. Supratim Ray, Chair, Centre for Neuroscience, IISc
Prof. H. P. Khincha, Dept. of Electrical Engineering (Retd), IISc
Dr. Ramesh Babu

Dr. Girija Ramesh Babu
Prof. Anurag Kumar, Dept. of Electrical Communication Engineering, IISc
Prof. N. Balakrishnan, Supercomputer Education and Research Centre, IISc
Dr. P. Satish Chandra
Prof. P. Kondaiah, Dept. of Molecular Reproduction, Development and Genetics, IISc
Prof. S. Mayor, National Centre for Biological Sciences
Smt. Sudha Murty, Founder-Chairperson, Infosys Foundation
Dr. U. B. Muthane
Prof. G. Padmanabhan, Emeritus Professor, Dept. of Biochemistry, IISc
Shri. S. V. Ranganath
Justice M. N. Venkatachaliah
Prof. Yogesh Shouche, Director, SKAN Research Trust
Prof. K. V. S. Hari, Director, CBR

GOVERNING BOARD

The affairs of CBR are administered, directed, and controlled by the Governing Board. The Governing Board of the Society shall consist of the following members:

1. Chair, who shall be, ex-officio, the Director of IISc
2. Four Members of the Society as may be nominated by Pratiksha Trust.
3. Five Members of the Society as may be nominated by the Council of IISc
4. Member Secretary, who shall be the Director of CBR

As of 31 March 2026, the composition of the Governing Board is as follows:

Prof. G. Rangarajan, Director, IISc [Chair]
Dr. Kris Gopalakrishnan, Co-Founder, Infosys, and Trustee, Pratiksha Trust
Shri. Dinesh Krishnaswamy, Co-Founder, Infosys
Shri. S. D. Shibulal, Co-Founder, Infosys
Smt. Sudha Gopalakrishnan, Trustee, Pratiksha Trust
Prof. Navakanta Bhat, Dean, Division of Interdisciplinary Sciences, IISc
Prof. Usha Vijayraghavan, Dean, Division of Biological Sciences, IISc
Prof. P. S. Anil Kumar, Dean, Administration & Finance, IISc
Prof. G. Mugesh, Dean, Division of Chemical Sciences, IISc
Prof. SP Arun, Chair, Centre for Neuroscience, IISc [till December 2025]
Prof. Supratim Ray, Chair, Centre for Neuroscience, IISc
Prof. K. V. S. Hari, Director, CBR [Member Secretary]

FINANCE COMMITTEE

CBR has a Finance Committee which meets every three months to review the financial positions of the Centre and make recommendations to the Governing Board. As of 31 March 2026, the members of the Finance Committee are:

Prof. G. Rangarajan, Director, IISc [Chair]
Prof. K. V. S. Hari, Director, CBR
Mr. K. C. Ganesh, Pratiksha Trust
Prof. P. S. Anil Kumar, Dean, Administration & Finance, IISc
Prof. B. Gurumoorthy, Director, FSID, IISc
Mr. T. S. Vishwanath, Manager (Admin), CBR [Secretary]

INSTITUTIONAL ETHICS COMMITTEE

Dr. Srikala Bharath, Consultant - Adult & Old Age Psychiatry Founder of STEPS 4 WellBeing Foundation & Former Professor of Psychiatry, NIMHANS, Bengaluru	Chairperson (Clinician)
Dr. Kiran Khanapure, Vikram Hospital, Bengaluru	Member (Clinician)
Prof. Girish Baburao Kulkarni, NIMHANS, Bengaluru	Member (Scientific Member)
Adv. Arvind Moorchung, Sr. Consultant	Member (Legal Expert)
Prof. Anitha Kurup, NIAS, Bengaluru	Member (Social Scientist)
Mr. Alagu Balaraman, CEO, Augmented SCM Pvt.Ltd.	Member (Lay Person)
Prof. Dipshikha Chakravorty, Dept. of MCBL, IISc	Member (Basic Medical Scientist)
Dr. Debasree Dutta, RGCB, Thiruvananthapuram	Member (Scientific Member)
Prof. Pankaj Seth, NBRC, Haryana	Member (Scientific Member)
Prof. Ramray Bhat, Dept. of DBG, IISc	Member (Basic Medical Scientist)
Prof. Thomas Gregor Issac, CBR	Member (Clinician)
Dr. Latha Diwakar, CBR	Member (Basic Medical Scientist)
Dr. Jonas Sundarakumar, CBR	Member Secretary (Clinician)

INTERNATIONAL SCIENTIFIC ADVISORY BOARD

Prof. Steven E Hyman, Broad Institute of Harvard and MIT [Chair]
Prof. John Morris, Washington University
Prof. Maria C. Carrillo, Chief Science Officer, Alzheimer's Association
Prof. Stanley Fahn, Columbia University
Prof. Sudha Seshadri, University of Texas Health Science Center at San Antonio
Prof. Carla Shatz, Stanford University
Prof. Mary Ganguli, University of Pittsburgh
Prof. Srinath Reddy, PHFI, New Delhi
Prof. B N Gangadhar, NIMHANS, Bengaluru
Prof. Bart De Strooper, Founding Director, UK Dementia Research Institute
Prof. Stacie Weninger, President of FBRI, USA
Prof. Vasant Honavar, Pennsylvania State University
Prof. K. V. S. Hari, Director, CBR

SCIENTIFIC ADVISORY COMMITTEE

Prof. Srinath Reddy, PHFI, New Delhi [Chair]
Prof. Ramesh Hariharan, CEO, Strand Genomics, Bengaluru
Prof. Ravindra M Pandey, AIIMS, New Delhi
Prof. Anurag Agrawal, IGIB, New Delhi
Prof. K Thangaraj, CDFD, Hyderabad
Prof. S Ganesh, IIT Kanpur, Kanpur
Prof. Pratima Murthy, Director, NIMHANS, Bengaluru
Prof. K. V. S. Hari, Director, CBR

INTERNAL COMMITTEE AGAINST SEXUAL HARASSMENT

Prof. Bratati Kahali, CBR [Chair]
Dr. Khader Valli Rupanagudi, CBR

Dr. Latha Diwakar, CBR
Ms. Pragati Shukla, Advocate
Mr. T. S. Vishwanath, CBR

INSTITUTIONAL BIOSAFETY COMMITTEE

Prof. K N Balaji, Dept. of MCB, IISc	: Chair
Prof. Anita Mahadevan, NIMHANS, Bengaluru	: DBT Nominee
Dr. Albert Stezin Sunny, CBR	: Biosafety Officer
Dr. Ravi Manjithaya, JNCASR, Bengaluru	: External Expert
Dr. Ravi Muddashetty, CBR	: Member
Dr. Bratati Kahali, CBR	: Member
Dr. Latha Diwakar, CBR	: Member
Dr. Khader Valli Rupanagudi, CBR	: Member
Dr. Smitha Karunakaran, CBR	: Member Secretary

FACULTY, STAFF, AND STUDENTS

FACULTY

Prof. Bratati Kahali, Associate Professor
Prof. Ravi Muddashetty, Associate Professor
Prof. Thomas Gregor Issac, Associate Professor
Prof. Neelam Sinha, Associate Professor
Dr. Smitha Karunakaran, Assistant Professor
Dr. Jonas Sundarakumar, Assistant Professor
Dr. Chinnakkaruppan Adaikkan, Assistant Professor
Dr. Sivaprakasam Ramamoorthy, Assistant Professor
Dr. Shweta Ramdas, Assistant Professor
Dr. Latha Diwakar, Senior Scientific Officer
Dr. Reddy P. Kommaddi, Senior Scientific Officer

VISITING FACULTY

Prof. Senthil Kumaran, AIIMS, New Delhi
Prof. Madhav Thambisetty, National Institute on Aging, NIH, USA
Prof. Rajesh P. N. Rao, University of Washington, Seattle, USA
Prof. Vijay Chandru, Co-founder of Strand Life Sciences and Picopeta Simputers Limited, Bengaluru
Prof. Siddharthan Chandran, Director & CEO, UK Dementia Research Institute
Prof. Henrik Zetterberg, Section Chief, Dept. of Psychiatry and Neurochemistry, University of Gothenburg

SENIOR RESEARCH ADVISOR

Prof. Vyjeyanthi Periyakoil, Stanford University School of Medicine, USA

PROGRAM LEADS

Dr. Sindura Ganapathi, Senior Advisor

Mr. Amit K. Gupta, Device System Expert

Dr. Murali Krishna, Senior Clinician Scientist

Dr. Srinivas R Kadaba, Head, Data and AI Platform

Dr. Nidhi Thakur, Lead - Strategy and Partnerships, National Network

Dr. Aneesh Kumar Asokan, Lead, Proteomics

SCIENTIFIC STAFF

Dr. Khader Valli Rupanagudi, Scientific Officer Grade I

Dr. Albert Stezin Sunny, Scientific Officer Grade I

Dr. Deepashri Agrawal, Scientific Officer Grade I

Dr. Shobha Anilkumar, Scientific Officer Grade I

Dr. Prathima Arvind, Scientific Officer Grade II

Dr. Madhankumar Anandhakrishnan, Grants Manager

RESEARCH STAFF

Dr. Abhishek M L, Physician

Dr. Shobith P, Medical Officer

Dr. Gnanavathi Reddy Jangam Chandra, Medical Officer

Dr. Amitha C M, Physician

Dr. Jaweriya Tarannum, Medical Officer

Dr. Venkatesh Shankar, Medical Officer

Dr. Tejashwini N A, Medical Officer

Dr. Kalyani Arvind Patankar, Radiologist

Dr. Hari Prasad, Senior Research Scientist

Dr. Palash Kumar Malo, Research Scientist

Dr. Trisha Chattopadhyay, Postdoctoral Fellow

Dr. Shreesha S Rao, Veterinarian

Dr. Ashish Jain, Postdoctoral Fellow

Dr. Dev Madhubala, Postdoctoral Fellow

Dr. Sujas Bhardwaj, Neuroimaging Scientist

Dr. Priyanka Singh, Postdoctoral Fellow

Dr. Banashree Mondal, Postdoctoral Fellow

Dr. Nivetha Murugesan, Postdoctoral Fellow

Dr. Humaira Siddiqua, Postdoctoral Fellow

Dr. Bipin Raj Shekhar, Postdoctoral Fellow
Dr. Rajprabu Rajendran, Postdoctoral Fellow
Dr. Devakumar H S, Clinician
Dr. Muthukumaran, Project Manager
Dr. Anupa Anirudhan, Project Manager
Dr. Ragothaman Sundararajan, Consultant - AI
Dr. Rakesh Manjappa, Medical Imaging Scientist
Ms. Jayashree Kalva, Project Manager
Mr. Raveendra Vukkala, Field Assistant
Ms. Arshiya Siddiqha, Research Assistant
Ms. Debasrija Mondal, Project Assistant
Ms. Hiba Ali, Project Associate I
Mr. Hitesh Pradhan, Data Scientist
Ms. Gayathri R, Junior Research Fellow
Mr. Anish C R, devOps and Data Engineer
Mr. Aravinthan S, Research Assistant
Ms. Deepa Roti, Research Fellow
Mr. Sabbarinathan Subramanian, Research Fellow
Mr. Rahul Mudukutore, Design Consultant
Ms. Mahima Bhat, Junior Research Fellow
Mr. Ananthapathmanabhan M S, Lead, Communications
Mr. Anand Kumarasamy, Sr Research Assistant
Ms. Vidhya R, Psychologist
Ms. Shree Srinivasan, Project Associate I
Ms. Anusha Hegde, Project Associate II
Ms. Aditi Kashyap, Psychologist
Ms. Meghana Srinivasan, Psychologist

PH.D. STUDENTS

Dr. Krithika S
Dr. Haseena P A
Ms. Bindushree K R
Ms. Srishti Kushwaha
Ms. Shreya Chakraborty
Ms. Mayank
Ms. Nimisha B
Ms. Nisa Manzoor Shah
Ms. Rupsa Roy Choudhury
Mr. Anant Gupta
Ms. Harsha Bhardwaj
Ms. Jani Siddhi Pushkarbhai
Mr. Mohammed Waseequr Rahman
Ms. Preeti Sharma
Ms. Priya Chatterjee

Ms. Sandhya G
Ms. Shruti Pandey
Ms. Syed Wasifa Qadri
Ms. Dwaiti Roy
Ms. Manasvi Chopra
Mr. Rajath D
Mr. Tanmay Panigrahi
Dr. Sumedha Mitra
Mr. Sauma Suvra Majumdar
Mr. Hitender Kumar
Ms. Simarpreet Kaur

TECHNICAL STAFF

Mr. Jothibas V, Information System Manager
Mr. Mohammed Hanif Kaba Mujawar, Senior Technical Assistant
Mr. Karthik S, Senior Technical Assistant
Mr. Sangeethkumar Saminathan, Senior Technical Assistant
Mr. Anand Kumar E, Technical Assistant
Mr. Vinayak Hosawad, Technical Assistant
Mr. Victor Arul Raj, Technical Assistant
Ms. Swathi R, Technical Assistant
Mr. Gopalakrishnan N, Junior Technical Assistant
Mr. Arun Kumar S, System Support Engineer
Mr. Divakar A, Lab Technician
Mr. Anees N K, Technician
Ms. Rakshitha K N, Radiography Technician
Mr. Rakesh Kh, Lab Technician
Mr. Goutham V, Lab Assistant
Mr. Mohana C, Senior Lab Assistant
Mr. Rajesh G, Senior Lab Assistant
Ms. Pavithra D P, Lab Assistant
Ms. Rupanagudi Sunitha, Lab Assistant
Ms. Rehab Hussain, Lab Assistant
Ms. Subhathra A, Data Analyst

FIELD STAFF

Ms. Maina T S, Office Supervisor
Ms. Savitha B P, Psychologist
Mr. Naresh G, Psychologist
Mr. Thenash R, Psychologist
Ms. Vijaya K, Psychologist
Ms. Rajamatha K, Psychologist

Ms. Swathi Prabhava, Psychologist
Mr. Rajesh, Field Supervisor
Mr. Harikrishna G, Field Data Collector
Mr. Yashwanthkumar K, Field Data Collector
Mr. Shashikumar, Field Data Collector
Mr. Shivaraj S, Field Data Collector
Mr. Gangaraja V, Field Data Collector
Mr. Nagesha C, Field Data Collector
Mr. Shankarappa N, Field Data Collector
Mr. Venkataramana K V, Field Data Collector
Ms. Chaithra B K, Field Data Collector
Ms. Veena P N, Field Data Collector
Ms. Veena R, Field Data Collector
Ms. Sunitha H S, Nurse
Ms. Shyalashree Deepak, Nurse
Ms. Swathishree A N, Nurse
Ms. Nethravathi, Nurse
Ms. Pavithra K V, Nurse
Ms. Gayathri P S, Nurse
Ms. Sushma C V, Nurse
Ms. Vedhavathi H S, Nurse
Ms. Poornima K T, Nurse
Ms. Sujatha S N, Nurse
Ms. Gayethramma, Nurse
Ms. Leelavathi, Nurse
Ms. Varalakshmi, Nurse
Ms. Aishwarya T G, Nurse
Ms. Swetha K, Nurse

ADMINISTRATIVE STAFF

Mr. T. S. Vishwanath, Manager (Admin)
Ms. Aruna Poojary, Senior Executive Assistant
Ms. Sudha Srikanth, Senior Executive Assistant
Ms. Sudha Rani P, Senior Executive Assistant
Mr. Ravikumar K L, Executive Assistant
Mr. Rahul Dev, Executive Assistant
Ms. Triveni S, Executive Assistant
Mr. M R Chandrashekar, Security Advisor
Mr. Krishna R, Horticulture Services

MARCHING FORWARD

DECADE
TW 

Established in 2014

CENTRE FOR BRAIN RESEARCH
INDIAN INSTITUTE OF SCIENCE





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