31st Annual Meeting of ARVO-INDIA

ADVANCING INTERDISCIPLINARY VISION RESEARCH

SANKARA NETHRALAYA, CHENNAI

JULY 25TH, 2025

PRE-CONFERENCE WORKSHOP & SYNPOSIUM PROGRAM BOOK

Patrons

Dr. Girish Shiva Rao
President, MRF

Dr. T.S. Surendran
Chairman, MRF

Advisors

Dr. S. Krishnakumar
Head, Pathology

Dr. N. Angayarkanni
Director, Laboratory Services

Organizing Committee

Dr. Ronnie George
Organizing Chairperson

Dr. A R Anand
Organizing Secretary

Dr. Srujana Chitipothu
Co-Organizing Secretary

Dr. Sowmya Parameswaran
Co-Organizing Secretary

Registration and Program Committee

Dr. Sharada Ramasubramanyan

Dr. Srilekha Sundaramurthy

Dr. Dhanurekha Lakshmipathy

Scientific and Workshop Committee

Dr. Nivedita Chatterjee

Dr. S.R. Bharathidevi

Dr. Sripriya Sarangapani

Dr. Srividya Gurumurthy

Finance and Sponsorship Committee

Dr. Bharathselvi Muthuvel

Transport and Accommodation Committee

Dr. Narayanan Janakiraman

Dr. Sampathkumar Ranganathan

Volunteers

Ms. B. Saraswathi

Ms. Arya Sukumar

Mr. S. Rajesh

Mr. A. Kishore

Mr. Sathik Shahjahan

Ms. S. Jayavigneeswari

Ms. Lavanya Erudhayadas

Ms. B. Ramya Benita

Ms.M.A. Kanimozhi

Ms. M. Sindhu

Mr. Barath Gajendran

Ms. Lavanya Easwaran

Ms.Yuvashree Rajamanikkam

Ms. Syed Ali Fathima Afrin J

Ms. Krishna Haridas

Ms. Abirami Ramachandran

Mr. Maradani Bhavani Shankar

Ms. Kamini Khatak

Ms. D. Preethi

Ms. Pavithra Arumugam

CONTENTS

ARVO-INDIA
Indian Eye Research Group

31ST Annual meeting of ARVO INDIA

Preconference Workshop & Symposium

PROGRAM SCHEDULE

Time (in hrs)	Description	Venue
08:00-09:00	**Registration**	First Floor, KNBIRVO Block
09:00-13:00	**Workshop I** Mastering Next Generation Sequencing Workflow – A Hands-on Workshop	*Lectures:* Lecture Hall, First Floor, KNBIRVO Block *Practicals:* Core Lab Fourth Floor, KNBIRVO Block
10:00-13:00	**Workshop II** Trending Technologies in Multiomics	VD Swami Auditorium, Seventh Floor, KNBIRVO Block
13:00-14:00	**Lunch**	Sky Lounge, Eighth Floor, KNBIRVO Block
14:00-17:00	**Symposium/ Panel Discussion:** Lab to Launch: Fast-Tracking Innovation from Academia to Industry	VD Swami Auditorium, Seventh Floor, KNBIRVO Block
17:00-17:30	**Tea/ Coffee**	Sky Lounge, Eighth Floor, KNBIRVO Block

WORKSHOP- I

Mastering Next Generation Sequencing Workflow

A Hands-On Workshop

About the Workshop

- Accurate DNA library preparation is key to successful NGS.

- This hands-on workshop offers practical training using the NEB Next kit, helping participants understand each step and avoid common pitfalls.

Workshop I – Session Details		
Time (Hrs)	**Session Title**	**Details / Speaker**
9:00-9:05	Introduction	Brief introduction to the workshop and its objectives – Dr. Ashwani Kumar Kamal, New England Biolabs
9:05–9:15	Overview of The NGS Workflow – From Sample to Data	Role of Library preparation in the NGS Workflow – Dr. Ashwani Kumar Kamal
9:15–9:30	Introduction to NEBNext Library Prep Kit	Introduction to Key reagents, Kit components Quality control steps.
10:00–12:45	Hands-on Session	Demonstration and Library preparation by Participants 1. DNA Fragmentation and End Repair 2. Adapter Ligation and Bead Clean up 3. PCR Enrichment and Clean up
12:45–13:00	Troubleshooting and Best Practices	Interactive discussion on protocol pitfalls and remedial measures

WORKSHOP- II

Trending Technologies in Multiomics

Dry Demo & Talks

About the Workshop

- This workshop is conducted by 10X Genomics in collaboration with GeneX India Bioscience Pvt. Ltd,

- It offers a bird's-eye view of single-cell and spatial multiomics, helping participants understand the tips and tricks of achieving success with the latest technologies.

Workshop II – Session Details		
Time (Hrs)	**Session Title**	**Details / Speaker**
10:00–10:30	Introduction to Single Cell and Spatial Technologies	Dr. Avid Hussain, Country Business Manager, 10x Genomics
10:30–11:00	Tips and Tricks for Successful Single Cell and Spatial Experiments with 10x Genomics	Mr. Aravinda Lochan, Field Application Scientist, GeneX India Bioscience
11:00-12:00	Dry Demo – Overview of 10x Genomics Instruments	Introduction to Key reagents Kit components Quality control steps.
12:00-13:00	Data Visualization and Analysis Software Demo	Mr. Aravinda Lochan, Field Application Scientist, GeneX India Bioscience

SYMPOSIUM & PANEL DISCUSSION

Ready to transform your research into real-world impact?

"Lab to Launch: Fast-Tracking Innovation from Academia to Industry" is an exciting platform designed to spark innovation and entrepreneurial thinking in young researchers.

Learn how to scale your ideas with insights from industry leaders, trailblazing startups, and inspiring success stories.

This dynamic session features young entrepreneurs sharing their journeys, followed by an engaging panel discussion.

Join us to explore the path from lab bench to business launchpad — where bold science meets real-world success!

Symposium/Panel Discussion – Session Details		
Time (Hrs)	**Speaker**	**Title**
14:00-14:20	**Dr. Dhanajaya Dendukuri** CEO and Co-Founder Achira Labs Pvt Ltd., Bengaluru	From the lab to the clinic: Transitioning Point of care testing technologies in the Indian context
14:20-14:40	**Dr. Anirudh Ranganathan** Co-Founder, Director Sekkei Bio Pvt Ltd Chennai	Innovative drug discovery from a Startup perspective
14:40-15:00	**Dr.Kavitha Sairam** Founder, CEO FIBSOL Life sciences Pvt Ltd Director, 1000FARMS Agritech Chennai	Lab to market: Journey as an entrepreneur
15:00-15:20	**Mr. Suhridh Sundaram** Chief Operating Officer Avay Biosciences Pvt Ltd Bengaluru	From Prototypes to products- Insights into the early years of a startup
15:20-15:40	**Mr. Shivaramakrishnan** Co-Founder and CTO, Forest Studio Labs and Soul Scientific Pvt. Ltd. ; CTO Phyto Evolution Pvt Ltd Chennai	A meandering Traverse- from Nanoparticles to neurons and plants
15:40-16:00	**Dr.B.Deepa** Founder, Patent attorney Bhavesh Associates, Chennai	IPR an overview
16:00-17:00	**Panel Discussion**	Bridging the Gap: Turning Research Breakthroughs into Market-Ready Solutions

SYMPOSIUM ABSTRACTS

SYMPOSIUM TALK- 1

From the Lab to the Clinic – Transitioning Point-of-Care Testing Technologies in the Indian Context

Dr. Dhanajaya Dendukuri

CEO & Co-Founder; Achira Labs Pvt Ltd., Bengaluru

Achira Labs is an innovation-focused diagnostics company that leverages breakthroughs in microfluidic technologies, machine learning and hydrogel sensors. We have developed two technology platforms:

- Pocket-sized field device for single tests – ideal for ICU or remote camps. Available tests include CRP (infection), Cystatin-C (kidney/diabetes), hs-CRP (cardiac), HbA1c (diabetes), DengueNS1, TSH, with many more in the pipeline.
- Multiplexed sample-to-answer system using proprietary microfluidics and hydrogel sensors – a small table-top reader with credit-card sized panels for multiple markers. Current panels: respiratory (Flu, COVID, RSV), thyroid (TSH, T4, T3), and fertility (FSH, LH, E2, P4), with more under development.

In this talk, I will discuss the journey involved in transitioning new and innovative technologies from academic research through prototypes, clinical trials and regulatory approvals in the Indian context. Challenges related to integration and manufacturing of microfluidic technologies will also be discussed.

SYMPOSIUM TALK- 2

Innovative drug discovery from a startup perspective

Dr. Anirudh Ranganathan

Co-Founder, Director; Sekkei Bio Pvt Ltd

Chennai

Sekkei Bio is an innovation driven drug development company. Since inception, we have been striving to integrate science, technology, and talent to tackle global health challenges. Our moat is the use of proprietary technology platforms to rationally design and deliver new medicines with a strong focus on disrupting the biologics sector. The technologies include AI/Physics-based molecule design, oral peptide formulations and circular RNA. Our programs are aimed at alleviating critical global unmet needs, thus, benefiting millions globally.

Sekkei's headline program, is a once-daily insulin pill. Oral insulin has been a long-standing goal in diabetes research. An effective insulin pill could disrupt existing treatment regimens and positively impact millions of diabetics globally. Since diabetes is in-turn associated with several complications such as diabetic neuropathy, retinopathy and nephropathy, we are striving to bring innovative solutions to these dire unmet needs both India and globally. Our differentiated approach centres around the use of single molecules that specifically activate or inhibit multiple pathways identified to be highly relevant to these complex disease biologies. We have clear hypotheses driven approaches identified for both diabetic retinopathy and glaucoma. As an innovative biotech startup there are several challenges and hurdles to overcome to go from idea to molecule to medicine. Sekkei Bio's journey has been interesting and we remain committed to making a difference to patients' globally.

SYMPOSIUM TALK- 3

Lab to market: Journey as an entrepreneur

Dr. Kavitha Sairam

Founder, CEO

FIBSOL Life sciences Pvt Ltd

Director, 1000FARMS Agritech

Chennai

Sustainable livelihood demands that biotechnology be an integral part of the solutions offered. Technology is the only tool that enables credible and scalable solutions to various problems, such as the climate crisis, sustainable agriculture, and improved livelihoods, to name a few. Entrepreneurship in biology can help product development and commercialization of technologies, which can promote sustainability and climate resilience. FIB-Sol's model will be discussed on how such opportunities can be moulded into commercially viable projects.

SYMPOSIUM TALK- 4

From Prototypes to Products – Insights into the Early Years of a Startup

Mr. Suhridh Sundaram

Chief Operating Officer, Avay Biosciences Pvt Ltd, Bengaluru

The journey from building a prototype in a lab to delivering a functional product in the market is often romanticized — but rarely understood in its messy, uncertain, and rewarding reality. In this talk, Suhridh Sundaram, COO of Avay Biosciences, shares candid insights from the formative years of building a deep-tech life sciences startup. Drawing from personal experience navigating product development, team building, customer discovery, and operational chaos, the session will walk students through the real-world challenges that follow the excitement of an initial idea and moving from concept to commercialization in the Indian innovation ecosystem.

SYMPOSIUM TALK- 5

A meandering Traverse- from Nanoparticles to neurons and plants

Mr. Shivaramakrishnan

Co-Founder and CTO,

Forest Studio Labs and Soul Scientific Pvt. Ltd. ;

CTO Phyto Evolution Pvt Ltd, Chennai

Shivaramakrishnan's career bridges materials science, neurotechnology, AI, and plant biotechnology. He began with research on drug-delivery nanoparticles before co-founding an award-winning drone startup focused on aerial systems and embedded autonomy. His work at Soul Scientific and later at IIT Madras involved developing brain-computer interface systems—a progression that contributed to the collaborative launch of computational brain mapping platforms and biomedical NLP tools. Over time, his focus shifted toward more grounded and regenerative systems, leading to early explorations in plant electrophysiology. This pivot culminated in the founding of Forest Studio Labs2 and Phyto Evolution, ventures dedicated to in-vitro propagation and the restoration of highly endangered and rare plant species at a commercial scale. His journey offers insights into the challenges and value of working across boundaries—scientific, technological, and environmental—and underscores the importance of long term curiosity, integrative thinking, and the slow, deliberate building of systems that are both meaningful and enduring.

SYMPOSIUM TALK- 6

IPR - An overview

Dr.Deepa Bopanna

Founder, Patent attorney

Bhavesh Associates

An entity of Intellpat Patent Solution

Chennai

Email: intellpat@gmail.com

Intellectual property rights (IPR) grant inventors and creators exclusive legal control over their original ideas, inventions, and creative expressions, enabling them to reap commercial benefits and recover substantial R&D investments. IPR encompasses patents, trademarks, copyrights, industrial designs, geographical indications etc. Patents recognize inventions that satisfy global novelty, non-obviousness, and industrial applicability criteria. Intellectual property rights in ophthalmology encompass patents, trademarks, copyrights, and Industrial design that protect innovations in vision care, from anti-VEGF biologics and genetic engineering to advanced imaging systems, intraocular lenses, and surgical devices. Patents secure scientific inventions by meeting criteria of novelty, inventive step, and industrial applicability, while trademarks safeguard brand identity for pharmaceuticals, instruments, and clinical services. Effective IP management in ophthalmology drives collaboration between researchers, clinicians, and industry, catalyzing R&D investments and licensing partnerships. Strategic enforcement, policy alignment, and access-oriented licensing are essential to translate ophthalmic breakthroughs into affordable eye care solutions and bolster India's global competitiveness in vision health.

Keywords : Intellectual property (IP), Patents, Healthcare System, Ophthalmology