

**DAY 1: 21st February**

7:00-8:00 Breakfast (NCBS Main Canteen)

8:00-9:30 Registration (Ectoderm-inStem)

9:30 Welcome Address: Maneesha Inamdar  
InSDB President, InStem Director

**Session 1: Generating Form**

**Venue: Ectoderm-inStem (Live) and Dasherri-NCBS (Simulcast)**

Chair: Dasaradhi Palakodeti (inStem) and Ankit Jena (IITK)

9:35-10:00 Hiroshi Hamada Diversity of left-right asymmetry among animals

10:00-10:10 Gaurab Ghosh Ecdysone in Follicle Cell Morphogenesis: Notching Up the Game

10:10-10:35 Venkatesan Sundaresan Gametes to Zygotes to Self-Cloning plants

10:35-11:00 Dinithi Sumanaweera Aligning in vitro and in vivo developmental trajectories of the Human Cell Atlas

11:00-11:02 Dipti Verma Functional implications of Drosophila Non-muscle myosin II Zipper in regulation of Notch signaling

11:02-11:04 Aditya Singh Rajput Symmetry and Patterning, Theoretical and Quantitative Approaches to Development

11:05-11:40 Break: InStem Atrium

**Session 2: Organelles in Development**

**Venue: Ectoderm-inStem**

Chairs: V Nagaraja (IISc) and Ron George (NCBS)

11:45-12:10 Sreelaja Nair Early events in the life of newly fertilised vertebrate embryos - insights from zebrafish

12:10-12:35 Sudipto Roy Making Multiciliated Cells

12:35-1:00 Achira Roy In search of convergent mechanisms underlying developmental hydrocephalus

1:00-1:10 Vaishali Kataria dOCRL, a lipid phosphatase implicated in Lowe syndrome regulates endo-lysosomal trafficking in nephrocytes

1:10-1:20 Rashi Agarwal Macrophage-mediated regulation of retinal stem cells is necessary for proper retinal development

1:20-1:22 Asutosh Behera The status of Wnt signaling in cortical neurogenesis

1:22-1:24 Nikhil Kumar Jaligam Dissecting the Gene regulatory network in maintaining the pluripotency in planarian neoblasts.

**Session 3: Instructions in Development**

**Venue: Dasherri-inStem**

Chair: K. Bansal (JNC SAR) and Sreeja Kumari Dhanya (InStem)

Abhishek Bhattacharya Molecular diversity of electrical synapses

Ramkumar Sambasivan Mechanism of early mesoderm divergence along the anterior-posterior axis

Reena Singh Understanding the Ontogeny of CardioVascular and Blood progenitors

Ankita Walvekar Shh is secreted on distinct exosomes to activate its canonical versus G-alpha(i) signaling arm during neuronal

Pravati Kumari Mahapatra Potential neurotrophic action of FGF1 in spinal cord self-repair in the wake of tail regeneration in tadpoles of the Indian tree frog, *Balanopates maculatus*

Ravneet Kaur A study on pollen competition in Arabidopsis hybrids

Ujjayita Chowdhury Understanding systemic signalling and inter-organ communication between tumor cells and the hematopoietic

1:30-2:30 Lunch (NCBS Lawn)

2:30-4:00 Posters (InStem Atrium)

**Session 4: Making and Repairing the Nervous System**

**Venue: Dasherri (Live) and Ectoderm (Simulcast)**

Chairs: Raghu Padinjat (NCBS) and Amrita Singh (TIFR-Mumbai)

Supported by Centre for Brain and Mind

4:00-4:25 Shubha Tole Signals, Cells, Sequences from the edge in the middle of the brain

4:25-4:50 Fumio Matsuzaki Expansion of brain size and scaling in developmental time

4:50-5:15 Jonaki Sen The saga of how cell adhesion contributes to the forces that split the cerebrum

5:15-5:40 Richa Verma Multimodal high-resolution characterization of the developing human brain

5:40-5:50	Yojet Sharma	Elevated levels of PIP2 regulate cell-fate and neuronal excitability via non-canonical notch signalling
5:50-6:00	Surjit Singh Saini	Time of Delamination of Inner Ear Neurons Specifies their Topography and Target Innervation.
6:30-7:00 (NCBS Lawn)	S C Lakhotia	On the history of developmental biology research in India
7:00	Dance Development! and Dinner (NCBS Lawn)	

## DAY 2: 22nd February

7:00-8:00 Breakfast (NCBS Main Canteen)

### Session 5: Mechanisms of Morphogenesis.

Venue: Ectoderm-inStem (Live) and Dasher-NCBS (Simulcast)

Chair: Maithreyi Narasimha (TIFR-Mumbai) and Gaurav Singh (InStem)

9:35-10:00	Ondine Cleaver	Building and maintaining biological tubes during organogenesis
10:00-10:10	Sumit Sen	Investigation of mTOR Complex Specific Regulation of Microridge Patterning
10:10-10:35	Amrutha Swaminathan	Understanding how immune factors regulate the development of stress-
10:35-11:00	Masatoshi Takeichi	Cell-cell adhesion machinery fundamental to multicellular organization: How did we discover it?
11:00-11:02	Akanksha Pandey	Rab11 regulates the undifferentiation of adult midgut precursors in the larval midgut of Drosophila melanogaster
11:02-11:04	Anubhav Prakash	Combination of cadherins and contractility drives order in multi-cell type epithelia

11:05-11:40 Break: InStem Atrium

### Session 6: Cell Biology of Development

Venue: Ectoderm-inStem

Chairs: Sachin Kotak (IISc) and Adhisree Sharma (IISER-Kolkata)

11:45-12:10	Anup Padmanabhan	Reciprocal Antagonism between Cell Adhesion and Cell Division Machineries during Embryonic Development in <i>C. elegans</i>	11:45-12:10	PV Shivaprasad	Histone variant H4.V: a gatekeeper to H4K5Ac marks and salt stress transcriptome
12:10-12:35	Megha Kumar	Divide and Develop! Embryonic mitoses and cell fate specification	12:10-12:35		
12:35-1:00	Arnab Mukhopadhyay	Inter-tissue crosstalk that regulates progeny fitness on somatic DNA damage	12:35-1:00	Sunil Laxman	Life without water - building a logic for metabolic organizations that enable
1:00-1:25	Karuna Sampath	"Pin"-ing down germline development	1:00-1:10	Aravind H	Coordinated dynamics of mitochondrial fission and fusion regulators during spermatid development
			1:10-1:20	Uttkarsh Ayyangar	Epidermal-directed metabolic rewiring of macrophages promotes sterile inflammation
			1:20-1:22	Anindita Rao	Investigating a developmentally crucial adipose tissue-derived factor in regulating adult
1:25-1:27	Pavani Hathi	Adenosine deamination primes organizer development in Dictyostelium	1:22-1:24	Shravani	Developing zebrafish epidermis responds to the nutritional cues by regulating

### Session 7: Metabolic Rewiring

Venue: Dasher-NCBS

Chairs: Sveta Chakrabarti (IISc) and Mohite Dayanand (CCMB)


1:30-2:30

Lunch (NCBS Lawn)

2:30-4:00

Posters (InStem Atrium)

2:30-3:30

Board Meeting

### Session 8: Quantitative Approaches to Development

Venue: Dasher-NCBS (Live) and Ectoderm-inStem (Simulcast)

Chairs: Madan Rao (NCBS) and Nandita Chaturvedi (NCBS)

Supported by Simons Centre for Living Systems

4:00-4:25	Perna Sharma	Sculpting of colloidal membranes through phase transitions
4:25-4:50	Vijay Krishnamurthy	On the regulation of size and shape by active mechanics
4:50-5:15	Adrienne Roeder	Stochasticity and robustness in the morphogenesis of Arabidopsis sepals

5:15-5:40	Thomas Lecuit	Encoding shape with genetics, mechanics and geometry
5:40-5:50	Yamini Ravichandran	Mechanical induction of morphogenesis in Hydra
5:50-6:00	Nikhil Mishra	Cell cycle synchronization in the zebrafish early embryo
6:30-7:00	Surendra Ghaskadbi	Tales from the Frontline: What I think about when I talk about Dev Bio?

7:00 Onwards Quiz Night and Dinner (NCBS Lawn)

### DAY 3: 23rd February

7:00-8:00 Breakfast (NCBS Main Canteen)

#### Session 9: Stem Cells and Repair

Venue: Ectoderm-inStem (Live) and Dasher-NCBS (Simulcast)

Chairs: Anuranjan Anand (JNCASR) and Nivedita Chaudhary (InStem)

9:35-10:00	Deepak Srivastava	Cellular Reprogramming Approaches to Heart Disease
10:00-10:10	Aishwarya Prakash	Mitochondrial reprogramming regulates blood stem cell emergence during mouse embryogenesis
10:10-10:35	Chinmoy Patra	Cellular communication network factor 2 induces heart regeneration by modulating innate immune responses in
10:35-11:00	Soumyashree Das	VegfR2-dependent artery tip extensions build pial collaterals in mice
11:00-11:02	Shreedha Prabhu	Understanding Mechanisms of Tissue Recovery under Mechanical Stress using
11:02-11:04	Anu PV	Unravelling the role of energy producing metabolic pathways in murine hematopoietic emergence

11:05-11:40 Break: InStem Atrium

#### Session 10: Disease and Regeneration

Venue: Ectoderm-inStem

Chairs: Neha Vyas(St.Johns) and Pooja Vaid (Ashoka U)

11:45-12:10			11:45-12:10		
12:10-12:35	Chetana Sachidanandan	Uncovering novel mechanisms of human developmental disorders using zebrafish models: Rubinstein Taybi Syndrome, a case study.	12:10-12:35	Barak Rotblat	How do mammalian and yeast cells survive glucose starvation?
12:35-1:00	Bhavana Muralidharan	Probing the mechanisms of chromatinopathies in brain development using human in-vitro disease model	12:35-1:00	Kalika Prasad	Self Organizing the morphogenesis in plant regeneration
1:00-1:10	Yamini Rawal	Functional analysis of neuroblast-specific enhancers of Drosophila Grainyhead gene	1:00-1:10	Bhupendra Kumar	Insights into the molecular mechanism of naturally-occurring age induced-
1:10-1:20	Akshara Dubey	Evolution of transcription factor harbouring superfamilies in eukaryotes.	1:10-1:20	Kailash Chandra	Investigating the role of AMPK in mammary gland stem cell biology
1:20-1:22	Aishwarya Rai	A novel mediator of Fgf8 signaling in development of vertebrate telencephalon	1:20-1:22	Prathamesh Dongre	Asrij/OCIAD1 depletion reduces microglial activation and ameliorates A $\beta$ pathology in an Alzheimer's disease
1:22-1:24	Varsha NT	Altered cell shape and cell state aids in epithelial fusion in closing chick otic vesicle	1:22-1:24	Juhi Vaishnav	Thyroid hormone insufficiency leads to failure in formation of ventral body wall during the development of domestic chick Gallus domesticus.

#### Session 11: Aging

Venue: Dasher-NCBS

Chairs: Dhananjay Chaturvedi (CCMB) and Sabnam Sahin Rahman (NII)

11:45-12:10	Rohan Khadilkar	Genetic modulation of cellular ageing affects stem cell homeostasis during Drosophila hematopoiesis
12:10-12:35	Barak Rotblat	How do mammalian and yeast cells survive glucose starvation?
12:35-1:00	Kalika Prasad	Self Organizing the morphogenesis in plant regeneration
1:00-1:10	Bhupendra Kumar	Insights into the molecular mechanism of naturally-occurring age induced-
1:10-1:20	Kailash Chandra	Investigating the role of AMPK in mammary gland stem cell biology
1:20-1:22	Prathamesh Dongre	Asrij/OCIAD1 depletion reduces microglial activation and ameliorates A $\beta$ pathology in an Alzheimer's disease
1:22-1:24	Juhi Vaishnav	Thyroid hormone insufficiency leads to failure in formation of ventral body wall during the development of domestic chick Gallus domesticus.

1:30-2:30 Lunch (NCBS Lawn)

2:30-4:00 Posters (InStem Atrium)

#### Session 12: Interdisciplinary Approaches to Development

Venue: Dasher-NCBS (Live) and Ectoderm-inStem (Simulcast)

Chairs: Usha Vijayraghavan (IISc), Mincy Kunjumon (ACTREC)

4:00-4:25	Rashmi Priya	Bridging scales in Organ Morphogenesis – Lessons from the Heart
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4:25-4:50	Akankshi Munjal	Multi-scale feedbacks for robust tissue morphogenesis
4:50-5:15	Hardik Gala	Branching out to New Roots - Single cell view of development
5:15-5:40	Diya Binoy Joseph	Identification of distinct epithelial and mesenchymal factors in the developing bladder and urethra
5:40-5:50	Sarthak Sahoo	Dynamics of hepatocyte-cholangiocyte cell-fate decisions during liver development and
5:50-6:00	Krishnan Iyer	Cellular compartmentalisation and receptor promiscuity as a strategy for accurate and robust inference of position during

7:00 Onwards Dinner (NCBS Lawn)

**DAY 4: 24th February**

7:00 Breakfast (NCBS Main Canteen)

**Session 13: Models of Organogenesis.**

**Venue: Ectoderm-inStem (Live) and Dasherri-NCBS (Simulcast)**

Chairs: Uta Nath (IISc) Asha Channakkar (inStem)

9:35-10:00	Special Talk	
10:00-10:25	Ishwariya Venkatesh	Decoding the Molecular Blueprint of Regeneration in Mammalian CNS Neurons
10:25-10:50	Oliver Hobert	Building a brain in the gut
10:50-11:00	Hareesh J	How does network modules inform development of the nervous system, relating neuronal function and position in the worm connectome?
11:00-11:02	Sonu Yadav	Novel regulatory components of Hoxd complex in zebrafish
11:02-11:04	Ravina Saini	Epigenetic Inheritance Across Generations through Male Germ-line in Drosophila melanogaster

11:05-11:40 Break: InStem Atrium

**Session 14: Development and Behaviour**

**Venue: Ectoderm-inStem**

Chairs: Sheeba Vasu (JNCASR) and Atal Vats (NCBS)

11:45-12:10	Jim Truman	Insect metamorphosis and the "two brain problem"
12:10-12:35	Lynn Riddiford	The evolution of juvenile hormone in insects from an embryonic hormone to the chief controller of metamorphosis.
12:35-1:00	Poonam Thakur	Factors underlying Parkinson's disease progression
1:00-1:10	Sohela Sarkar	Beyond survival : The multi-faceted role of HIF1- $\alpha$ in survival, growth and nutrient homeostasis in Drosophila
1:10-1:20	Tiyasa Roy	Molecular mechanisms of internal time-keeping by memory centers in a social insect
1:20-1:24	Kangabam Linthoingambi	Reward-driven Appetitive Learning and Memory in Drosophila Larvae: Insights from a candidate neuronal gene, taxi

**Session 15: DoHaD Round Table**

**Venue: Endoderm**

1:30-2:30

Lunch (NCBS Lawn)

2:30-4:00

Posters (InStem Atrium)

**Session 16: Development and Evolution**

**Venue: Dasherri-NCBS (Live) and Ectoderm-inStem (Simulcast)**

Chairs: K. VijayRaghavan (NCBS-TIFR) and Neelanjana Ray (NCBS-TIFR)

4:00-4:25	Oded Rechavi	Molecular memories
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4:25-4:50	Claude Desplan	The Generation of neural diversity and its evolution
4:50-5:15	Marie Manceau	Developmental basis of trends and variation in plumage patterns
5:15-5:25	Arpan Parichha	$\beta$ -catenin regulates midline glia that guides corpus callosum formation in mice and humans
5:25-5:35	Tathagata Biswas	Fish(ing) and the Hi(gh)-C(sea)

5:40 General Body Meeting and Poster Prizes

7:00 Onwards Dinner (NCBS Lawn)