

IFCAM Summer School on Mathematical and Computational Biology
July 16-31, 2018
Indian Institute of Science, Bangalore
Venue: Auditorium (4th Floor)
Supercomputer Education Research Centre (SERC)

Programme Schedule

July 16, 2018

Arrival of participants

July 17, 2018

09:00 am - 10:30 am: Can Biology be a Predictive Science? (Nagasuma Chandra)

11:00 am - 12:30 pm: Introduction to Modeling Methods (Pranay Goel)

02:00 pm - 03:30 pm: Network Theory I (Soumen Roy)

04:00 pm – 05:30 pm: Population Models I (Partha Sharathi Dutta)

July 18, 2018

09:00 am - 10:30 am: Physiological Modeling I (Pranay Goel)

11:00 am - 12:30 pm: Modeling Vector-borne Diseases: Application to Dengue Fever in India (Marc Artzrouni)

02:00 pm - 03:30 pm: Network Theory II (Soumen Roy)

04:00 pm – 05:30 pm: Population models II (Partha Sharathi Dutta)

July 19, 2018

09:00 am - 10:30 am: Physiological Modeling II (Pranay Goel)

11:00 am - 12:30 pm: Modeling Vector-borne Diseases: Application to Dengue Fever in India (Lab Session) (Marc Artzrouni)

02:00 pm - 03:30 pm: Modeling Cardiac Waves I (T. K. Shajahan)

04:00 pm – 05:30 pm: Using Mathematica in Mathematical Modeling and Numerical Simulations (Sandip Banerjee)

July 20, 2018

09:00 am - 10:30 am: Physiological Modeling III (Pranay Goel)

11:00 am - 12:30 pm: Systems Biology I (Ram Rup Sarkar)

02:00 pm - 03:30 pm: Modeling Cardiac Waves II (T. K. Shajahan)

04:00 pm – 05:30 pm: Estimation of Parameters (Sandip Banerjee)

July 21, 2018

09:00 am - 10:30 am: Systems Biology II (Ram Rup Sarkar)

11:00 am - 12:30 pm: Computational Neuroscience I (Sitabhra Sinha)

02:00 pm - 03:30 pm: Large-scale Pathway Modelling with Logical Analysis (Ram Rup Sarkar)
04:00 pm – 05:30 pm Computational Neuroscience II (Sitabhra Sinha)

July 23, 2018

09:00 am - 10:30 am: Modeling Stochastic and Random Phenomenon in Biology I (Jacky Cresson)
11:00 am - 12:30 pm: Passive dendritic computation (Rishikesh Naryananan)
02:00 pm - 03:30 pm: Introduction to Constraint-Based Modelling (Karthik Raman)
04:00 pm – 05:30 pm: Active dendritic computation (Rishikesh Naryananan)

July 24, 2018

09:00 am - 10:30 am: Modeling Stochastic and Random Phenomenon in Biology II (Jacky Cresson)
11:00 am - 12:30 pm: Spike Train Analysis I (Supratim Ray)
02:00 pm - 03:30 pm: Behavioural Models of Cognitive Phenomena I (Sridharan Devarajan)
04:00 pm – 05:30 pm: Modelling biochemical pathways (Nagasuma Chandra)

July 25, 2018

09:00 am - 10:30 am: Modeling Stochastic and Random Phenomenon in Biology III (Jacky Cresson)
11:00 am - 12:30 pm: Behavioural Models of Cognitive Phenomena II (Sridharan Devarajan)
02:00 pm - 03:30 pm: Modeling Stochastic and Random Phenomenon in Biology IV (Jacky Cresson)
04:00 pm – 05:30 pm: Spike Train Analysis II (Supratim Ray)

July 26, 2018

09:00 am - 10:30 am: Modeling Stochastic and Random Phenomenon in Biology V (Jacky Cresson)
11:00 am - 12:30 pm: Computational Issues in Motor Control I (Aditya Murthy)
02:00 pm - 03:30 pm: Application of Bifurcation Theory in Population Dynamics: ODE and PDE Models I (Malay Banerjee)
04:00 pm – 05:30 pm: Computational Issues in Motor Control II (Aditya Murthy)

July 27, 2018

09:00 am - 10:30 am: Genomics, Proteomics and Metabolomics Methods, Analysis and Modeling I (Debnath Pal)
11:00 am - 12:30 pm: ODEs to Model Gene Regulation/ Motifs (Chetan Gadgil)
02:00 pm - 03:30 pm: Application of Bifurcation Theory in Population Dynamics: ODE and PDE Models II (Malay Banerjee)
04:00 pm – 05:30 pm: Genomics, Proteomics and Metabolomics Methods, Analysis and Modeling II (Debnath Pal)

July 28, 2018

09:00 am - 10:30 am: Stochastic Control in Biology I (Siddhartha Chakraborty)
11:00 am - 12:30 pm: Systems Pharmacology (Chetan Gadgil)
02:00 pm - 03:30 pm: Stochastic Control in Biology II (Siddhartha Chakraborty)
04:00 pm – 05:30 pm: Bacterial Physiology: Phenomena and Models (Sanjay Jain)

July 30, 2018

09:00 am - 10:30 am: Neural Coding (S. P. Arun)
11:00 am - 12:30 pm: Anirban Banerjee
02:00 pm - 03:30 pm: Neural Decoding (S. P. Arun)
04:00 pm – 05:30 pm: Anirban Banerjee

July 31, 2018

09:00 am - 10:30 am: Evolutionary Models I (Vishwesha Guttal)
11:00 am - 12:30 pm: Dynamics of Uterine Contractions (S. Sridhar)
02:00 pm - 03:30 pm: Evolutionary Models II (Vishwesha Guttal)