National Conference on Recent Trends in Mathematical Biology – Theory, Methods and Applications July 20–22, 2023

# SCHEDULE

Department of Mathematics and Computer Science (DMACS)



Sri Sathya Sai Institute of Higher Learning (SSSIHL)





## **DAY 1:** 20-07-2023 - THURSDAY

8:45 AM – 8:50 AM - Veda Chanting, Ceremonial Lighting Lamp

8:50 AM – 9:00 AM - Introductory Remarks by

Convener of the Conference

Dr. D. K. K. Vamsi

9:00 AM - 9:10 AM - Welcome Remarks by

Dean of Sciences - SSSIHL

Prof. Pallay Kumar Baruah

9:10 AM - 9:25 AM - Inaugural Address by Revered Vice-Chancellor - SSSIHL Prof B. Raghavendra Prasad

9:25 AM - 10:10 AM - Plenary Talk

Mathematical Modeling as a National Health Planning Tool in India

Prof. Arni S.R. Srinivasa Rao Professor and Director Laboratory for Theory & Mathematical Modeling, Medical College of Georgia, U.S.A.

10.10 AM – 10:40 AM - Photo Session & Refreshments
Break

10.40AM - 11:20 AM - *Keynote Address* 

Stabilized Variational Multiscale Sub-Grid Finite Element Analysis Transport Model with Application to Hemodyanics

Prof. B. V. Rathish Kumar Department of Mathematics and Statistics IIT Kanpur

## **DAY 1:** 20-07-2023 - THURSDAY

11:20AM - 11:50 AM - Invited Talk- I

Bifurcation Analysis of a Predator-prey Model with Allee Effect and Fear Effect in Prey and Hunting Cooperation in Predator

Dr. Prashant Kumar Srivastava Department of Mathematics IIT Patna

12:00 PM - 1:30 PM - Lunch Break

1:30PM - 2:00 PM - Invited Talk- II

Entropy stable non-oscillatory fluxes: An optimized wedding of entropy conservative flux with non-oscillatory flux

Dr. Ritesh Kumar Dubey Department of Mathematics SRMIST, Chennai

2:00PM - 2:30 PM - Invited Talk- III

Benefits and Drawbacks of Polyphagy in Natural Enemies and Pests in the Context of Biological Control: A Theoretical Framework

Dr. S R V Prasad Bhuvanagiri Department of Mathematics, School of Advanced Sciences VIT Vellore



# **DAY 1:** 20-07-2023 - THURSDAY

2:30 PM - 3:00 PM - Invited Talk- IV

Understanding Dynamics of COVID-19 in India using Data Driven Model

Dr. Nitu Kumari School of Basic Sciences IIT Mandi

3:00 PM - 3:30 PM - Refreshments Break

3:30 PM - 5:00 PM - Visit to CRIF Building

5:00PM - 6:30 PM - Paper Presentation Session - I

Day Ends

**DAY 2:** 21-07-2023 - FRIDAY

9:15 AM - 9:45 AM - Invited Talk - V

Population Interactive Models and Biocontrol

Dr. Jai Prakash Tripathi Department of Mathematics Central University of Rajasthan



# **DAY 2:** 21-07-2023 - FRIDAY

9:45 AM - 10:30 AM - Research Musings from DMACS-SSSIHL Session - I

> Applicability of Mathematical Biology – The Road Less Traversed A Journey from Theory to Applicability

Dr. D. K. K. Vamsi & Mr. D. Bhanu Prakash DMACS - SSSIHL

10:30 AM - 10:50 AM - Refreshments Break

10:50AM - 11:30 AM - Research Musings from DMACS-SSSIHL Session - II

Other DMACS Research Areas

Dr. N. Uday Kiran DMACS -SSSIHL

11:30 AM - 12:00 PM - Invited Talk - VI

Bifurcations, Triple and Quadruple attractors, and organized periodic structures in a discrete-time predator-prey system.

Dr. Bapan Ghosh
Department of Mathematics
IIT Indore

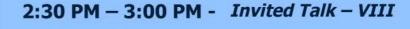
12:00 PM - 2:00 PM - Lunch Break

2:00 PM - 2:30 PM - Invited Talk - VII

Stability of a within-host model of dengue virus transmission

Dr. P. Muthu
Department of Mathematics
NIT Warangal

# **DAY 2:** 21-07-2023 - FRIDAY



Mathematical Modeling of COVID-19

Prof. Mini Ghosh
Department of Mathematics
VIT – Chennai

3:00 PM - 3:30 PM - Invited Talk - IX

Effect of productivity & seasonal variation on phytoplankton intermittency on a microscale an ecological study using closure approach

Prof. Sandip Banerjee Department of Mathematics IIT Roorke

3:30 PM - 4:00 PM - Refreshments Break

4:00 PM – 4:45 PM - Paper Presentation Session – II

5:00 PM - 6:00 PM - *Mandir Visit* 

6:15 PM - 7:00 PM - Paper Presentation Session - III

Day Ends



# **DAY 3:** 22-07-2023 - SATURDAY



9:20 AM - 10:00 AM - Invited Talk- X

Mathematical modeling to understand cancer cell adaptation during metastasis and therapy resistance

Dr. Mohit Kumar Jolly Centre for BioSystems Science and Engineering (BSSE) IISc Bangalore

10:00 AM - 10:30 AM - Invited Talk - XI

Bioinspired Membrane Based Pumping Mechanism for micro level Transport Phenomena

Dr. Dharmendra Tripathi Department of Mathematics and Statistics NIT Uttarakhand

10:30 AM - 11:00 AM - Refreshments Break

11:00 AM - 11:30 AM - Invited Talk - XII

The Science of Aging: Actuarial Perspectives on Longevity and Health

Mr. Satya Sai Mudigonda DMACS - SSSIHL

11:30 AM - 12:15 PM - Valedictory Function

Vote of Thanks & Feed Back Session

12:15 PM - 2:00 PM - Lunch Session

CONFERENCE ENDS