

Resource Persons

Prof. Amiya K. Pani (Rtd.)
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Prof. Raju K. George,

Prof. Anil Kumar C V,

Dr. Sarvesh Kumar,

Dr. E. Natarajan,

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Dr. Sakthivel K.

(IIST Trivandrum)

Patron:

Dr. S Unnikrishnan Nair
(Director, IIST)

Chair:

Prof. Raju k. George
(Dean R&D, IIST)

Co-Chair:

Prof. Anil Kumar C V
(HoD, Department of Mathematics, IIST)

Convener:

Dr. Sarvesh Kumar
(Associate Professor, Department
of Mathematics, IIST)

Travel, Boarding and Lodging

No travel support and accommodation will be provided to participants for attending the workshop.

Working lunch, tea, and snacks will be provided to all the participants. They are advised to make their own arrangements for accommodation and travel.

Expected participants:

Research scholars, young faculty members/Scientists
from various colleges/
universities/institutions working in the area
of differential equations and related fields.

Registration:

There is no registration fee for this workshop. Kindly register online <https://www.iist.ac.in/tnde/reg.php>
The deadline for registration is 8th March 2023. The number of participants are limited to 30. The selected candidate will be informed by email on or before March 10. 2023.

Contact:

For queries, please call Prof. Sarvesh Kumar
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Workshop on

Theory and Numerics of Differential Equations

(March 16-17, 2023)

(Sponsored by SERB Project No. CRG/2021/002410 &
Department of Mathematics, IIST Thiruvananthapuram.)

Organized by

Department of Mathematics.

Indian Institute of Space Science and Technology (IIST)

Department of Space,

Government of India, Valiamala, Thiruvananthapuram.



About the Institute:

Indian Institute of Space Science and Technology (IIST), situated at Thiruvananthapuram is Deemed to be University under Section 3 of the UGC Act 1956. IIST functions as an autonomous body under the Department of Space, Government of India. The idea of such an institute was mooted keeping in mind the need for high-quality manpower for the Indian space program. The institute is the first of its kind in the country, to offer high-quality education at the undergraduate, graduate, doctoral and post-doctoral levels in areas with a special focus on space sciences, space technology, and space applications. IIST was formally inaugurated on 14 September 2007 by Dr. G. Madhavan Nair, the Chairman of ISRO, and was temporarily housed in the premises of Vikram Sarabhai Space Centre. Both the founding fathers of the institute, Dr. G Madhavan Nair and Dr. B.N. Suresh, the latter being the first Director of IIST, played a very important role in the formation of the institute, facilitating its establishment and contributing to its vision. Dr. B.N. Suresh piloted the institute from the conception of the idea to its realization in a permanent campus near Thiruvananthapuram in 2010.

About the Department:

IIST was established to foster research oriented toward Space Science and Technology and also to stimulate collaborative research with various units of ISRO and other institutes at a deeper academic level. As part of this initiative, the department of Mathematics offers courses at the undergraduate and graduate level of programs.

Department also runs an M.Tech program in Machine Learning and Computing. At present we have 11 faculty members working in various areas of pure as well as applied mathematics including Mathematical Control Theory, Industrial Mathematics, soft computing, Suspension Rheology, Time Series Analysis, Mathematical Elasticity, Homogenization, Partial Differential Equations, Differential Geometry, and its Applications, Stochastic Modeling & Analysis, Queuing Theory, Queuing Network Models, Numerical Solutions to Fluid Dynamics, Numerical Analysis and Singularly Perturbed Differential Equations, Computational Partial Differential Equations, Finite Element Methods, Finite Volume Methods and Discontinuous Galerkin Methods, Commutative Algebra, Machine Learning & Data Mining, Control and Inverse Problems for Deterministic and Stochastic Partial Differential Equations.

The Department is also actively engaged in other activities like organizing training/nurture programs for Mathematics students as well as seminars/workshops by renowned scientists from various parts of the world.

About the Workshop:

The study of differential equations is a fundamental subject area of Mathematics that naturally connects pure Mathematics with applied and computational Mathematics and assists in the investigation of various physical model problems. Differential equations provide a natural mathematical description of phenomena in the physical and biological sciences. We intend to rigorously discuss the well-posedness of the solution of ordinary and partial differential equations, as well as stability analysis, during this workshop. Since finding a closed and analytical solution to differential equations may not always be possible, various numerical techniques for obtaining efficient and robust numerical solutions will also be discussed. MATLAB sessions will also be conducted in the computer lab to have a better understanding of convergence analysis and the employability of the numerical methods. Participants will get an opportunity to interact and exchange ideas with experts on their research problems. Through this workshop, we plan to expose young researchers and faculty members, who are interested in applied and computational mathematics.