



**INDIAN INSTITUTE OF TECHNOLOGY BOMBAY**  
**NATIONAL PROGRAMME ON DIFFERENTIAL**  
**EQUATIONS**  
**THEORY, COMPUTATION & APPLICATION**  
**NPDE-TCA-2015**



(Sponsored by DST)

Announcement of

**Advanced Workshop on Singularly Perturbed Partial Differential Equations (SPPDEs):**  
**Theory, Computation and Application (AWSPPDES 2016) at**  
**Indian Institute of Technology, Kanpur (March 24 – 28, 2016)**

**AIM:** The objective of this workshop is to introduce the participants to the basic theory, computation and application of SPPDEs. A variety of numerical techniques based on FDM covering the issues related to stability, convergence and error estimation discussed and analyzed for solution of SPPDEs. In addition, a series of lectures will focus on some of the applications of SPPDEs in science and engineering.

**TARGET AUDIENCE:** Post-graduate students and researchers from various Institutes, universities and research organizations across the country.

**MAIN TOPICS:** Introduction to SPPs – Elliptic, Parabolic & Hyperbolic SPPs with examples, Asymptotic Analysis, Treatment of Boundary Layer, FDM - Fitted operator methods, Fitted mesh methods, Stability, Consistency, Uniform Convergence, Error Estimates, Convection-Diffusion-Reaction Problems, Nonlinear SPPs, Turning Point Problems, Interior layers, Multi-parameter problems, Differential Difference SPPs with shift parameters.

**RESOURCE PERSONS:** R.K.Mohanty (SAU, Delhi); Natesan Srinivasan (IIT Guwahati); Kapil Sharma (SAU, Delhi); Mohan K Kadalbajoo (IITK); BVRKumar (IITK); Kailash Patidar (UWC, Cape Town) and Relja Vulcanovic (Kent State Univ, USA).

**COORDINATORS:** Mohan K Kadalbajoo and B.V.Rathish Kumar

**LOCAL ORGANIZING COMMITTEE:** R.K.S.Rathore, Prawal Sinha, Pravir Dutt, D. Bahuguna, S.Ghorai, Malay Banerjee, Kaushik Bal, T. Muthukumar and Akash Anand, B.V.R.Kumar

**PARTICIPATION & REGISTRATION FEES:** To participate in the workshop, fill in the required registration form which can be downloaded from the website: <http://www.npde-tca.math.iitb.ac.in/> and email to: [awsppdes.wrksph@gmail.com](mailto:awsppdes.wrksph@gmail.com). In addition, send the signed hard copy of the same by post along with your CV and a recommendation letter from your supervisor / HOD to the contact address. Selected participants will be provided TA, lodging and boarding facilities as per the rules.

**Contact:** M.K. Kadalbajoo / B.V.R. Kumar (Coordinators), Advanced Workshop on SPPDEs, Department of Mathematics & Statistics, IIT Kanpur, Kanpur – 208016, UP, India, Email: [awsppdes.wrksph@gmail.com](mailto:awsppdes.wrksph@gmail.com), Phone: 0091-512-259 7660/7636, Fax : 0091-512-259 7500 (Dept. Office.)

**Last Date of receipt of application:** Feb 20, 2016

*Selection of participants will be based of their academic records and recommendation letters.*

**List of selected participants will be put on the web page by Feb 22, 2016**

**Note:** This event will be immediately followed by an International National Conference on Mathematical Modelling, Differential Equations, Scientific Computing and Applications. All the selected participants will be eligible to participate in the conference.