



INDIAN INSTITUTE OF TECHNOLOGY BOMBAY



NATIONAL PROGRAMME ON DIFFERENTIAL EQUATIONS: THEORY, COMPUTATION & APPLICATIONS

NPDE-TCA 2014

(Sponsored by DST)

POSTGRADUATE LEVEL TRAINING PROGRAMME ON DIFFERENTIAL EQUATIONS

Venue:

INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI

June 2nd - 21st, 2014

IIT Bombay in collaboration with IIT Guwahati is pleased to announce Postgraduate Training Programme under the auspices of NPDE-TCA at IIT Guwahati during June 2nd – 21st, 2014.

OBJECTIVES :

- To generate manpower to pursue higher studies in Applied and Computational Mathematics.
- To provide linkage between theory and practice through real life problems.
- To expose participants to mathematical software in Scientific Lab sessions with hands on computing.
- To prepare manpower to support scientific organizations and industry by providing appropriate training.

TARGET AUDIENCE :

Students pursuing M. Sc in Mathematics (on-going or completed), Young teachers in Mathematics, a few exceptional students from B. Tech / B.E (final year) of institutes, universities and colleges, and scientists from Industry and Research & Development Organizations.

MAIN TOPICS :

Multi-variable Calculus (Implicit and Inverse function theorems, Gauss-Greens theorems), Analysis (Ascoli-Arzelà theorem, elements of measure theory, L^2 space); Ordinary Differential Equations (existence theory and stability results); Partial Differential Equations (First order linear and nonlinear hyperbolic PDEs, Second order linear elliptic and parabolic PDEs (Green's function with properties, maximum principles etc.), wave equation (d'Alembert formula, reflection principle etc.)); Mathematical Modeling (basics of modeling with examples from industrial problems); Finite Difference Methods for PDEs with hands on computing (stability, consistency and convergence of numerical schemes for PDEs; iterative methods like Jacobi, Gauss-Seidel and SOR).

RESOURCE PERSONS:

S. Baskar (IITB); P. C. Das (IMA Bhubaneswar); S. Sivaji Ganesh (IITB); Mohan K. Kadalbajoo (IITK); P. A. S Sree Krishna (IIT Guwahati); R. K. Mohanty (SAU, Delhi); M. T. Nair (IITM); Amiya K. Pani (IITB); Phoolan Prasad (IISc Bangalore); C. Praveen (TIFR-CAM, Bangalore); V. Sree Hari Rao (JNTU, Hyderabad); P. Shunmugaraj (IITK); S. Sundar (IITM); A. S. Vasudevamurthy (TIFR-CAM, Bangalore).

CO-ORDINATORS :

Rajen K. Sinha, Bhupen Deka (IIT Guwahati); S. Baskar and S. Sivaji Ganesh (IIT Bombay)

PARTICIPATION :

To participate in the workshop, fill in the required form which can be downloaded from the website: <http://www.math.iitb.ac.in/~npde-tca/> and email to: npde.2012@gmail.com or by post to the following contact address.

Last date for receipt of applications: April 13, 2014

Selection of participants will be based on their academic records and recommendation letter.

List of selected participants will be put on the web page by April 15, 2014

CONTACT :

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