INDIAN INSTITUTE OF TECHNOLOGY BOMBAY

NATIONAL PROGRAMME ON DIFFERENTIAL EQUATIONS; THEORY, COMPUTATION & APPLICATIONS

NPDE-TCA 2014

(Sponsored by DST)

ADVANCED LEVEL TRAINING PROGRAMME ON DIFFERENTIAL EQUATIONS

Venue:

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH, THIRUVANANTHAPURAM

May 26th – June 13th, 2014

IIT Bombay is pleased to announce a three Week Advanced Level Training Programme jointly organized by IISER, Thiruvananthapuram and IIST under the auspices of National Programme on Differential Equations; Theory, Computation & Application during May 26th – June 13th, 2014.

AIM:

- To provide a sound mathematical foundation for research in Applied Mathematics specially in Partial Differential Equations (PDE) and Computational PDEs.
- To create a pool of trained manpower for academic jobs, research and development organizations and industry.
- To expose participants to scientific lab sessions with hands on computing.

TARGET AUDIENCE : Familiarity with PDE, Functional Analysis, L^2 theory will be assumed.

- Final year M. Sc students who will be completing or about to complete and Ph. D. students.
- Post doctoral researchers and young faculty members.
- B. Tech. / B.E. / M. Tech students who have completed NPDE post-graduate level training programme.
- Scientists from industry and research & development organizations with appropriate mathematical background.

MAIN TOPICS :

Distribution Theory; Sobolev Spaces; Elliptic PDE: weak solution, Lax-Milgram Lemma, regularity results, weak maximum principle, eigenvalue problems; Heat and Wave Equations: existence, uniqueness etc.; Semigroup theory; First Order Hyperbolic PDEs: Existence of weak solution, entropy solution; Finite Difference/Finite Volume Schemes for First Order Equations; Finite Element Methods for Elliptic and Heat Equations; Review of Finite Dimensional Control Theory; Controllability and Observability; Stability and Stabilizability; Control Theory for linear second order PDEs, Optimal Control for Elliptic and Heat Equations with FEM computations.

RESOURCE PERSONS:

S. Kesavan (IMSc, Chennai); M. Vanninathan, K.T. Joseph, A. Adimurthi, G.D.V. Gowda**,** Mythily Ramaswamy (TIFR-CAM, Bangalore); Amiya K. Pani, Neela Nataraj (IIT, Bombay); Raju K. George, N. Sabu (IIST, Trivandrum); A.K. Nandakumaran (IISc, Bangalore).

CO-ORDINATORS :

K. R. Arun (IISER, Trivandrum); Raju K. George (IIST Trivandrum); Amiya K. Pani and Neela Nataraj (IIT, Bombay).

ORGANIZING COMMITTEE:

K. R. Arun, Utpal Manna, M. P. Rajan, D. Sheetal (IISER, Trivandrum); Raju K. George, K. S. S. Moosath (IIST Trivandrum).

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/html/home.html and email to: npde.2012@gmail.com or by post to the following contact address.

Last date of receipt of application: ***April 6th, 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 8th, 2014***

CONTACT :

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