INDIAN INSTITUTE OF TECHNOLOGY, KANPUR

Advanced Workshop & Symposium on
Stability Analysis of Differential Equations with Applications to Fluid Flow Problems
(SADEAFFP-2014)

Under

NATIONAL PROGRAM ON DIFFERENTIAL EQUATIONS:
THEORY, COMPUTATION & APPLICATIONS (NPDE-TCA), IIT BOMBAY
(Sponsored by DST)

March 20-24, 2014

IIT Kanpur will be hosting an Advanced Workshop on *Stability Analysis of Differential Equations with Applications to Fluid Flow Problems* during March 20-23, 2014 under **National Program on Differential Equations: Theory, Computation & Applications (NPDE-TCA).** The workshop will be followed by a one day symposium to be held on March 24, 2014.

Instability of fluid flows and their transition to turbulence are omnipresent in engineering environment as well as in nature. These widespread phenomena are important in applied mathematics, physics, biology, engineering, geology etc. Hence, the study of stability analysis of fluid flow problems is of great importance.

Aim:
The aim of the workshop is to introduce participants to the concepts of fluid flow instability. At the end of the workshop participants will be able to identify a flow stability phenomenon associated with a flow, formulate the flow stability problem, select appropriate method to solve it and finally interpret the results. The workshop will address topics associated with instability of fluid flows such as thermal instability, centrifugal instability, weakly nonlinear theory, nonlinear stability, turbulence, etc. Applications of flow instability to problems in porous media, biofluid, MHD, etc., will also be discussed. The symposium will cover some of the recent research works on the topics discussed in the workshop.

Target Audience:
Post-graduate students and researchers from universities, institutions and R&D organizations.

Resource Persons for Workshop:
D. A. S. Rees (University of Bath, UK), R. Govindarajan (TIFRH), P. Bera (IITR), M. K. Verma (IITK), V. Shankar (IITK), P. Wahi (IITK), B. V. Rathish Kumar (IITK), S. Ghorai (IITK).

Organizing Committee:
A. Anand, D. Bahuguna, M. Banerjee, P. Chandra, P. Dutt, M. K. Kadalbajoo, T. Muthukumar, R. K. S. Rathore, Prawal Sinha.

Coordinators:
B. V. Rathish Kumar and S. Ghorai (IITK).

Participation:
To participate in the workshop, fill in the required registration form which can be downloaded from the website: *http://www.math.iitb.ac.in/~npde-tca* and email to: *sadeaffp.wrkshp@gmail.com*. Also send the signed hardcopy of the same by post together with your CV and a recommendation letter from your supervisor/**HOD** to the following contact address. **Selected participants will be provided TA, lodging and boarding facilities as per the rules.**

Contact:
B.V. Rathish Kumar / S. Ghorai (Co-ordinators), Advanced Workshop on SADEAFFP - 2014,
Department of Mathematics & Statistics, IIT Kanpur, Kanpur – 208016, UP, India.
Email: sadeaffp.wrkshp@gmail.com   Phone: 0091-512-259 7660/7461/7636   Fax: 0091-512-259 7500
Last Date of receipt of application: **December 31, 2013.**
Selection of participants will be based of their academic records and recommendation letter.
List of selected participants will be put at http://www.iitk.ac.in/math/sadeaffp/ by **January 10, 2014.**