INVITED SESSION CALL FOR PAPERS
ACODS-2014 INVITED SESSION ON
Advances in Fuzzy Based Modeling, Control and Optimization in Dynamical Systems
http://www.iitk.ac.in/acods2014/Home_ACODS-2014.html

Invited Session Chair

Dr. S. Chakraverty

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Background: In general the system parameters involved in the modeling process of dynamical systems are assumed as crisp or defined exactly. But, rather than the crisp value we may have only the vague, imprecise or incomplete information about the parameters, being a result of errors in measurement, observations, experiment etc. which are uncertain in nature. These uncertainties may be modeled by fuzzy theory. Hence, modeling of dynamical physical problems with fuzzy uncertainty, fuzzy control and fuzzy optimization are becoming challenging areas of research in recent decade. In order to handle such fuzzy modeling viz. fuzzy differential equations, fuzzy control and fuzzy optimization in dynamical engineering systems, this special session may give a new vista to take on the challenge. The papers that will be presented in this session will focus on new methods for appropriately taking account of various dynamical models and parameters with respect to their fuzziness. In order to perform realistic engineering analysis and proper safety assessment, this non-probabilistic uncertainty in both data and models must be appropriately taken into consideration.

In view of the above, the invited session will cover trends, applications and analysis of fuzzy differential equations, fuzzy control and fuzzy optimization methods which may be applicable to a wide range of dynamical problems of engineering, science and beyond.

Topics : Potential topics of this invited session include, but are not limited to:

- Fuzzy finite element, boundary element, finite difference and other numerical methods;
- Modelling with fuzzy differential equations and applications;
- Analytical and/or numerical methods for fuzzy ordinary, partial, delay and arbitrary order differential equations;
- Hybridisation of fuzzy theory with other soft computing methods viz. ANN, GA, SVM etc. in differential equations, control and optimization methods;
- Fuzzy logic and its applications.

Invited Session Co-chair

Dr. M. Maiti

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Vidyasagar University,
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Important Dates :
31st October 2013: Deadline for submission of full-length papers
15th December 2013: Acceptance/rejection notification
15th January 2013: Final camera-ready papers due in electronic form.

Papers for the Invited Session should be submitted through **papercept**. Please visit the conference website for more information.