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11th Annual Conference on

Theory and Applications of Models of Computation

11 – 13 April 2014

Venue: Vivekananda Auditorium, Anna University, Chennai



Dr. Aaron D. Jaggard

"Formal Methods in Security"

Dr. Aaron D. Jaggard is currently in the Formal Methods Section of the Center for High Assurance Computer Systems at the Naval Research Laboratory [<http://www.nrl.navy.mil/>].

Research:

Trustworthy network-mediated interactions

The dynamics and outcomes of network-mediated interactions in order to answer questions about security, privacy, and accountability and about the reliable behaviour and convergence properties of these interactions.

Formal methods, game theory, and discrete mathematics.

Accountability and Identifiability

Distributed Computing with Adaptive Heuristics



Prof. Angsheng Li

"Security and Complexity of Networks"

Prof. Angsheng Li is presently the Research Professor at the State Key Laboratory of Computer Science, Institute of Software, Chinese Academy of Sciences, China.

[http://ox1.ios.ac.cn/ComputingGroup/about%20us/prof_angsheng_li.htm]

Research:

- Turing definability in the local Turing degrees,
- Structures and hierarchies of the Turing and the enumeration degrees
- Elementary differences among structures of the Turing degrees
- Enumeration operators
- Automorphism of the Turing degrees
- Computable approximations
- Network mathematics
- Network algorithms
- Network security



Prof. Barry S Cooper

"Questions Turing Left Behind"

Prof. Barry S Cooper is presently with the School of Mathematics, University of Leeds, UK

[<http://www1.maths.leeds.ac.uk/~pmt6sbc/>].

Prof. **Barry Cooper** is the **Turing Centenary Advisory Committee** Chairman and Project Leader for the "The Turing Centenary Research Project - Mind, Mechanism and Mathematics"

Prof. Barry Cooper is the Author and editor of numerous books, including *Computability Theory*, *New Computational Paradigms*, *Computability in Context*, and *Alan Turing - His Work and Impact*. He is a leading advocate of multidisciplinary research at the interface between incomputability and real world computability.

Research:

- Mathematical logic and applications to science and the humanities
- Incomputability in Nature
- Clockwork or Turing U/universe,
- Computability and emergence,
- Definability as hypercomputational effect
- Alan Turing and Enigmatic Statistics



Prof. Yaroslav D. Sergeyev

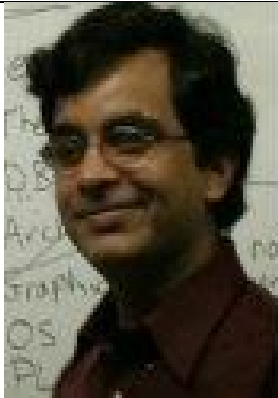
The Infinity Computer and numerical computations with infinities and infinitesimals

Prof. Yaroslav D. Sergeyev is a Distinguished Professor at the University of Calabria, Italy (professorship awarded by the Italian Government) and Head of Numerical Calculus Laboratory at the same University.

[<http://wwwinfo.deis.unical.it/~yaro>]

Research:

- Numerical analysis
- Global optimization
- Infinity computing and calculus
- Philosophy of computations
- Set theory
- Number theory
- Fractals
- Parallel computing
- Interval analysis



Dr. Venkatesan Chakaravarthy

"Column Restricted Covering and Packing Integer Programs"

Dr. Venkatesan Chakaravarthy is a member of the High Performance Computing Group at IBM Research Lab, New Delhi. His current research focuses on developing graph theoretic applications on the BG/Q supercomputer. Previously, he was associated with the Information Management group wherein he worked on integrating structured and unstructured data, and anonymizing unstructured documents. Earlier, he had briefly worked at Future Software (now called Aricent), where he was involved in developing network management software.

[<http://researcher.ibm.com/researcher/view.php?person=in-vechakra>]

Research:

- Theory of computing : Complexity theory and approximation algorithms.
- Applications of theory of computing to other areas of computer science such as database systems, distributed computing and high performance computing.



Dr. Rajgopal Srinivasan

"The Algorithmic Foundations of Biological Organisms"

Rajgopal Srinivasan is the Principal Scientist and Head Bio IT R&D, TCS Innovation Labs, Hyderabad. A graduate in Chemistry from The Indian Institute of Technology in Madras, Raj holds a Ph.D. in Chemistry from the University of Illinois at Urbana-Champaign in the USA. Following post-doctoral stints at Washington University in St. Louis and Johns Hopkins Medical School. He was a research professor at the Johns Hopkins University in the Department of Biophysics till 2003.

He joined TCS in 2003 as part of its Corporate R&D Center in Hyderabad, India. An active researcher, he is the author of several publications and holds an international patent. His research interests are in the areas of protein structure prediction, use of NLP techniques for information extraction and search and understanding the causal effects of genotype on phenotype.

Research:

- Protein Structure Prediction
- Bio-medical Text Mining
- Next Generation Sequencing

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