The Department of Computer Science & Engineering announces

Research Scholars' Poster Mela 2014
February 28-March 1, 2014
Kanwal Rekhi Building, Dept. of CSE, IIT Bombay

Topics of posters include:

- Algorithms, Complexity theory, Graph Theory
- Automata Theory, Model Theory, Program derivation, Systems Biology
- Computational Linguistics and Natural Language Processing
- Virtualization and Cloud Computing
- Wireless and sensor networks
- Machine Learning, Web Search & mining
- Database systems
- Compilers & Program Analysis
- Bioinformatics
- Education Technology
- Smart Energy
- …and many more!

Invited Speakers

- **Dr. Ganesan Ramalingam** (Microsoft Research, India))
- **Prof. Niloy Ganguly** (IIT Kharagpur)

Note

- Posters will be on display throughout the two days at Kenwal Rekhi Building first floor and second floor open area
- For any queries, contact: **Supratik Chakraborty** (supratik@cse.iitb.ac.in), **Devendra Bhave** (devendra@cse.iitb.ac.in)

Research scholars are the primary driving force behind our research program. The mela will showcase research work being done by research scholars of the Dept. of Computer Science and Engineering at IIT Bombay through poster sessions and short presentations. In addition, there will be invited talks by eminent Computer Science researchers from across the country, and a panel discussion.

To know more about ongoing research in the Dept. of Computer Science & Engineering at IIT Bombay, do attend this event. The posters will be on display throughout the day on 28th Feb and 1st March. Stop by whenever you find it convenient. Research scholars will be available to explain their work during designated slots, as listed in the program.

Attendees are requested to put on name stickers (available from the venue) before the event starts, and external participants are requested to give their email addresses at the front desk. Volunteers will be available at the desk from 9am onwards.

For further details: **http://www.cse.iitb.ac.in/rspostermela.html**

Schedule

Venue: F C Kohli Auditorium, KR Building

	Day 1 (February 28)
9:40 am	Inauguration and address by HoD, CSE
9:45-10:50 am	Talk by **Dr. Ganesan Ramalingam** Microsoft Research, India
10:50 -11:00 am	Tea break
11:00 am-1:00 pm	Poster session by Research Scholars
1:00-:200 pm	Lunch break
2:00-4:00 pm	Poster session by Research Scholars
4:00-5:00 pm	Panel Discussion

	Day 2 (March 1)
9:30-10:45 am	Talk by **Prof. Niloy Ganguly** IIT Kharagpur
10:45-11:00 am	Tea break
11:00 am-1:00 pm	Poster session by Research Scholars

Invited Talks

Day 1

Title: Fault-Tolerance via Idempotence

By: Dr. Ganeshan Ramalingam
Time: Friday, 28th Feb, 9:45am-10:45am
Venue: F C Kohli Auditorium

Abstract
Writing applications for distributed systems is challenging because of the pitfalls of distribution such as process failures and communication failures. One common requirement and challenge is the need for distributed applications that are idempotent. Idempotence ensures that the application functions correctly even when clients send duplicate requests, perhaps because the application failed to generate a response due to process failures, or because the response was generated but lost. Idempotence simplifies the composition of applications through imperfect communication channels and simplifies recovery from process failures. However, guaranteeing idempotence is a manual, tedious, and fault-prone process, especially for complex computations such as workflows. In this talk, we discuss the requirements of fault-tolerance as well as idempotence. We show how idempotence can be automatically ensured, using a monad, without requiring distributed consensus. We present language constructs motivated by these observations.

About the speaker

G. Ramalingam received his B. Tech in Computer Science from IIT Madras (Chennai) and his Ph.D. from the University of Wisconsin-Madison. He was a researcher at IBM T. J. Watson Research Center from 1993 to 2006. G. Ramalingam has been at Microsoft Research India from 2006. His research interests are in the area of Programming Languages and Tools, with a particular interest in Static Program Analysis, Program Understanding, Software Verification, Concurrency and Distributed Systems.

Day 2: Topical Search on Twitter

By: Prof. Niloy Ganguly
Time: Saturday, 1st Mar, 9:45am-10:45am
Venue: F C Kohli Auditorium

Abstract
Twitter is now a popular platform for discovering real-time news on various topics. We are developing methodologies to improve topical search in Twitter, specifically search for topical experts and popular content on specific topics. Utilizing social annotations provided by the Twitter population through the Lists feature, we have developed the following:

- - A novel who-is-who system for Twitter, which gives the topical attributes of a specified user. The list-based methodology gives accurate and comprehensive topical attributes for millions of popular Twitter users.
- - A search system for topical experts in Twitter. Comparison of our system with the expert search service offered by Twitter shows that the List-based method provide better results for a large number of topical queries.
- - A novel topical search system which, given a topic, identifies and clusters the content (tweets, hashtags) being discussed by the community of experts on that topic. Our methodology gives relevant and trustworthy content for a wide range of topics. To the best our knowledge, this is the first systematic attempt to utilize social annotations to provide topical search in Twitter.

About the speaker

Niloy Ganguly is an associate professor in the department of computer science and engineering, Indian Institute of Technology Kharagpur. He has received his PhD from Bengal Engineering and Science University, Calcutta, India and his Bachelors in Computer Science and Engineering from IIT Kharagpur. He has been a post-doctoral fellow in Technical University of Dresden, Germany. He focuses on dynamic and self-organizing networks especially peer-to-peer networks, online-social networks (OSN) etc. He has also simultaneously worked on various theoretical issues related to dynamical large networks often termed as complex networks. Specifically he has looked into problems related to percolation, evolution of networks as well as flow of information over these networks. He has been collaborating with various national and international universities and research lab including Duke University, TU Dresden, Germany, MPI PKS and MPI SWS, Germany, Microsoft Lab, India, Yahoo Labs etc. For further information visit his webpage http://www.facweb.iitkgp.ernet.in/~niloy/