

NSF: The Workshop on Fundamental Research in Networking

April 24-25, 2003
Airlie House

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Welcome!

- Thank you for participating in the workshop
- Reasons why we are here today:
 - Importance of fundamental research in networking
 - Importance of the network research program

Next step:

Convince everyone else that fundamental research in networking should be of highest priority

Thank you !

- **National Science Foundation** for sponsoring the workshop and to **Admela Jukan** for conceiving the idea.
- Organizing committee: **Mostafa Ammar, Biswanath Mukherjee, Don Towsley, Nitin Vaidya, Hui Zhang**
- **Peggy Reed** for administrative and logistical support
- **Everyone for participating and helping:** Mostafa Ammar, Gustavo de Veciana, Tony El Zarki, Anthony Ephremides, Anthony Joseph, George Kesidis, Edward Knightly, Jim Kurose, Monica Lam, Jorg Liebeherr, Ravi Mazumdar, Biswanath Mukherjee, Klara Nahrstedt, Brian Noble, Martin Reisslein, Larry Peterson, Henning Schulzrinne, Ness Shroff, Suresh Singh, Arun Somani, R. Srikant, Ion Stoica, Don Towsley, Nitin Vaidyan, Malathi Veeraraghavan, Jean Walrand, Lixia Zhang

Mission

The goal for the workshop is to initiate the preparation of a report on the current state and to articulate a vision of fundamental research in networking

Report will ...

- identify major issues affecting fundamental research in networking for the future;
- ... be made available to the community with the intent to better articulate the future research agenda in networking;
- will stimulate far-reaching future research initiatives, collaborations, and help in the evolution of the community.

Fundamental Research

- Basic research in the sense of **far-reaching, long-term, paradigm-changing, risk-taking, disruptive, high-impact** research that is funded by the Network Research program
- It spans the entire spectrum of networking research, from theoretical to systems-oriented research
- Scope of this workshop covers small to medium-sized projects

7 Reasons to hold this workshop

7. The last workshop was in 1994
6. Community has significantly grown in the 1990s
5. Scope of networking research has broadened
4. Networking has become central to the global economy
3. In last 10 years, Internet and wireless networking has changed our lives
2. Networking area is full of intellectually challenging problems
1. **Need to ensure a bright future for networking research**

Our Role in this Workshop

- Representative of the community at large
- Not here to simply have an intellectual discussion
- Our work will not end at noon on Friday!
- Need to work as a team to create common vision of the area that is presented to the community in the form of a report

Non-goals

- Not getting the report done
- Getting a report done that consists of a laundry list of people's favorite topics
- Lamenting on the budget

The Road to Airlie

- Submitted a proposal to hold this workshop:
approximately 30 researchers from academia
- Formed an organizing committee
- Extensive interactions to define agenda:
 - Agenda is centered around getting the report started
 - Only 2 panel sessions
 - A lot of time in breakout groups
 - Writing starts during the workshop

Workshop program

Thursday:

- Get discussions kick-started with panel discussions in the morning
- Start breakout sessions after Lunch
- Summaries of the group discussion will be reported back to the workshop in a plenary session at the end-of-day

Friday:

- Continue discussion
- Start writing
- Wrap up and writing assignments

Workshop Report

- The workshop report should be completed **four weeks** after the workshop.
- Writing starts on Day 2 of the workshop in the breakout sessions.
- By the time, the workshop adjourns, everyone should have a writing assignment, and a time-table for completing the write-up.

Panels

- Panel 1: **Grand Challenges in Networking**
Chair: D. Towsley
- Panel 2: **Network Applications of the Future**
Chair: A. Ephremides

Breakout Groups

- Group 1: **Grand Challenges** *(East Room)*
- Group 2: **Network Science** *(South Room)*
- Group 3: **Vision of the Future: New Applications and Paradigms** *(West Room)*
- Group 4: **Whence we came from and where we go** *(North Room)*