

**Technical Program of  
the 2nd PlanetLab NZ Workshop  
on Next Generation Networks  
and Future Internet:  
Research and Experimentation**

**sponsored by:  
Research & Education Advanced Network NZ,  
University of Canterbury, BuildIT NZ,  
and Allied Telesis Labs (Christchurch)**

*Date: 6 November 2009 (Friday)*

*Place: University of Canterbury  
Erskine Building  
(Computer Science and Software Eng.)*

*Room 031 (plenary sessions)  
Room 315 (lunch)*

*See the last page for the map of the campus and advice about parking.*

The infrastructure provided by modern computer networks has allowed advances in science and engineering, offered new research paradigms, and created new forms of commerce, information dissemination and management. The Internet and other telecommunications networks form the backbone of modern economies and societies. The introduction of these networks has changed the world to such an extent that many users cannot now imagine their lives without access to the Internet or to mobile communications networks. However, due to the complexity of modern information systems, new developments in network technology may have multifaceted consequences that are difficult to foresee, and hard to uncover in small-scale experiments. Therefore theoretical studies of new protocols, architectures and services for the next generation of networks should be supported by experimentation and testing in large-scale environments. This fact has been recognized by many international and national research agencies, which have heavily invested in such research projects as GENI (Global Environment for Network Innovations, NSF, USA) and FIRE (Future Internet Research and Experimentation, EU), and have motivated the deployment of global experimental networking facilities such as PlanetLab, OneLab and G-Lab.

The importance of experimental research on Next Generation Networks (NGNs) and the Future Internet has also been recognized in New Zealand. In June 2008, the Interdepartmental Network Research Laboratory at the University of Canterbury, comprised of academics and students from the departments of Computer Science & Software Engineering, Electrical & Computer Engineering, and Management, launched the PlanetLab NZ Project. PlanetLab NZ aims to connect all of the network research groups operating at New Zealand universities to PlanetLab, a vast global distributed network research laboratory (with 1038 nodes at 487 sites, as of 26 October 2009). The connections to PlanetLab from New Zealand have been made possible with the establishment of KAREN (Kiwi Advanced Research and Education Network). PlanetLab NZ has received funding from the REANNZ's KAREN Capability Build Fund. At present, connectivity with the global PlanetLab has been established from the University of Canterbury, University of Otago, and University of Auckland. Other universities will be connected to PlanetLab in the near future.

The 2<sup>nd</sup> PlanetLab NZ Workshop on "Next Generation Networks and Future Internet: Research and Experimentation" follows on from the success of the 1<sup>st</sup> PlanetLab NZ Workshop on "KAREN, PlanetLab NZ and Research on NGN/NGI", which was held in December 2008 in Dunedin. The workshop is devoted to presentations of research activities in the area of NGNs and the Future Internet, and is expected to facilitate research cooperation in these areas, at both the national and international level.

# Program of the workshop:

**9.00-9.30: morning tea**

**9.30-10.40: Introductory Session** (room 031, 70 minutes)

**Welcome and Opening address: 10 minutes (9.30-9.40)**

(Ian Town, Deputy Vice-Chancellor of UC, and  
Krys Pawlikowski, CSSE, University of Canterbury)

**Invited lecture: 60 minutes (9.40-10.40)**

"Network Virtualization as a Mean for Service Convergence for Future  
Communication Systems - What can we learn from Federated Experimental  
Facilities?" (Kurt Tutschku, University of Vienna)

**10.40- 10.55: coffee break**

**10.55-12.15 Plenary Session #1** (room 031, 90 minutes)

**University of Canterbury: 40 minutes (10.55-11.35)**

"Updated Survey of Global Experimental Networking Facilities"  
(Harsha Sirisena, , University of Canterbury)

"PlanetLab and Research on Next Generation Networks at Canterbury"  
(Allan McInnes, Don McNickle & Greg Ewing, University of Canterbury)

**University of Waikato: 40 minutes (11.35-12.15)**

"Optimising Path Discovery: Doubletree and Paris Traceroute"  
(Tony McGregor, University of Waikato)

"DAR: Active Measurement in the large" (Tony McGregor, University of Waikato)

**University of Auckland: 10 minutes (12.15-12.25)**

"Multihoming in IPv6" (Habib Naderi, University of Auckland)

**12.25-13.25: lunch** (in room 315)

**13.25-15.05 Plenary Session #2** (room 031, 100 minutes)

**Allied Telesis: 30 minutes (13.25-13.55)**

"About Allied Telesis Labs" (Allan Miller, Allied Telesis Labs)

"Developments in Transportation System Networks"

(Andrew Riddell, Allied Telesis Labs)

**Victoria University of Wellington: 40 minutes (13.55-14.35)**

"Network and distributed systems research at Victoria" and

"Network and communication systems research at Victoria"

(Peter Komisarczuk and Winston Seah, Victoria University of Wellington)

**University of Otago: 30 minutes (14.35-15.05)**

"Dynamic Bandwidth Allocation Integrating EPON (Ethernet Passive Optical Network) and WiMAX for NGN" (Sheetal Jadhav, University of Otago)

"Host-based and Network-based Mobility Management approaches for Next-Generation networks" (Bhaskar J. Ashoka, University of Otago)

**15.05- 15.20: afternoon coffee break**

**15.20-16.50 Plenary Session #3** (room 031, 90 minutes)

**Massey University: 10 minutes (15.20-15.30)**

"HoneyNet and potential PlanetLab Research at Massey University"

(Fahim Abbasi, Massey University)

**Auckland University of Technology: 30 minutes (15.30-16.00)**

"Sensor Network Embedded Intelligence"

(Adnan Al-Anbuky, Hakilo Sabat, Mohd Izani M. Rawi & Sivarama K. Sivakumar, Auckland University of Technology)

**"PlanetLab NZ: Technical Issues": 20 minutes (16.00-16.20)**

(Joff Horlor, University of Canterbury)

**General Discussion and**

**Plans of Cooperation: 30 minutes (16.20-16.50)**

***From 17.05:***

***The discussion to be continued in the UoC Staff Club***

## **Acknowledgements:**

### **The Workshop's Organizers:**

Prof. Krys Pawlikowski (Chairman)      CSSE, University of Canterbury  
Prof. Harsha Sirisena (Vice-Chairman)      ECE, University of Canterbury

### **Publicity:**

Tony Dale      BlueFern, University of Canterbury  
Yuxuan Tim Hong      CSSE, University of Canterbury

### **Technical Support:**

Phil Holland      CSSE, University of Canterbury  
Joffre Horlor      CSSE, University of Canterbury

### **Organizational Support:**

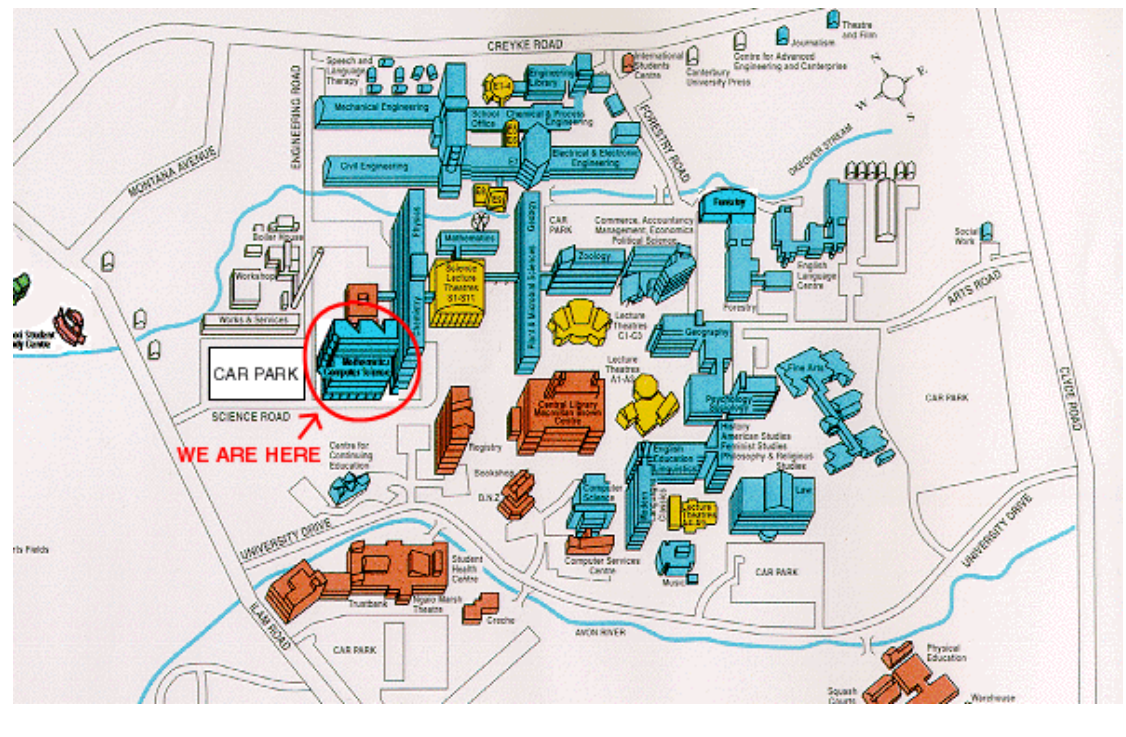
Alex Tobeck      CSSE, University of Canterbury  
Gillian Clinton      CSSE, University of Canterbury  
Sayan K. Ray      CSSE, University of Canterbury  
William Liu      ECE, University of Canterbury

and

other members of CSSE-ECE Network Research Group and  
CSSE-Management Simulation Research Group from the University of Canterbury

## Location:

The department of Computer Science and Software Engineering is located in Erskine Building, at the corner of Engineering Rd and Science Rd, on the west side of the campus:



## Parking

Parking on Campus remains problematical as the parking regulations are still in force for November, and exams are in full swing.

Details on Visitor Parking on campus can be found at:  
<http://www.fm.canterbury.ac.nz/parking/visitors.shtml>

There is some free or time-limited parking on streets adjacent to the campus