

## Networks Research Group - Mini Course

for NICTA PhD candidates

**Course Title:** **Integer Programming and Discrete Optimization with Applications to Telecommunications**

**Dates:** 6 February 2012, 9 – 5pm (Sydney time)  
7 February 2012, 9 – 1pm (Sydney time)  
8 February 2012, 9 – 5pm (Sydney time)

**Presented by:** Visiting Professor Dr. Di Yuan from Linköping University, Sweden  
Head of a research group in mobile telecommunications, Department of Science and Technology

Hosted at the ATP Lab Via Video Conference and Live steaming to all other sites:

### Venues:

ATP - Seminar room L4-60 on Level 4  
CRL – Meeting Room C on Level 3  
QRL - Moreton Room  
VRL – Live streaming only

**Video Conference** dial in number: **61262112668**

**Live Streaming** (through your web browser):

1. Install **Silverlight** <http://www.silverlight.net/>
2. Visit <http://vmc.aarnet.edu.au>
3. Click on the "Live Now" tab
4. Select "NICTA NRG Mini Course"

### Course Description:

This course is intended to provide knowledge and training in applying integer programming and discrete optimization for solving large-scale problems in telecommunication systems. The course introduces the basics of discrete optimization, mathematical modeling, and integer linear programming to form a theoretical framework. At the application side, the course covers selected topics of optimization problems in planning backbone and wireless networks, and presents models and methods that are of interest for problem solution. The course also aims at providing knowledge and understanding in developing efficient discrete mathematical models and methods.

### Biography of the Presenter:

Di Yuan received his MSc degree in Computer Science and Engineering, and PhD degree in Optimization at Linköping Institute of Technology, Sweden, in 1996 and 2001, respectively. At present he is full professor in telecommunications at the Department of Science and Technology, Linköping University, and head of a research group in mobile telecommunications. Dr. Yuan has been guest professor at Technical University of Milan (Politecnico di Milano), Italy, and visiting senior scientist at Ranplan Wireless Network Design Ltd, United Kingdom, in 2008 and 2009, respectively. He has been in the management committee of four European Cooperation in field of Scientific and Technical Research (COST) actions, and invited lecturer of European Network of Excellence EuroNF. In 2011 he is a part-time researcher at Ericsson, Sweden. Dr. Yuan's research interests span design, analysis, and resource optimization of telecommunication systems. He has over 90 publications encompassing international journal articles, book chapters, and conferences papers. His current research mainly addresses network planning and optimization of 4G systems, and resource management in ad hoc and mesh networks.