

Special Interest Group in Optimization Seminar Series

Access Grid Rooms

Productive, long-term interaction in science and technology requires an active research network. One of the best ways to strengthen and develop such a network is by face-to-face interaction. The [Access Grid Room \(AGR\) project](#), which is currently in use in 10 [AMSI-member Universities](#), is a cost effective means of bridging the distance gap within different research groups which would otherwise remain unaware of each other's more recent activities. Australia is a sparsely populated continent where research concentrations are often placed far from one another, making face-to-face interaction costly, both in time and travel expenses. Currently, AGR's in Australia are mainly used for delivery of Honours courses and other educational purposes; only occasionally they are used served to broadcast general mathematical seminars.

Our proposal is to use the AGRs for running seminars in the broad area of optimization, including a variety of areas such as: nonsmooth analysis, variational analysis, and optimal control.

Because of the technical requirements of the Access Grid system, we expect that only three institutions will be involved at the first stage: Universities of Newcastle (UN), South Australia (UniSA), and the Royal Melbourne Institute of Technology (RMIT). One of the institutions would host the seminar, which would be broadcast to the other participating universities. Universities with existing AGR facilities could serve as cluster points for serving researchers and postgraduate students from the other universities in the region. We hope that in this way the number of participating institutions will grow so as to reach researchers and high-degree students from many other universities. Potential for collaboration has been identified for the following institutions: University of New South Wales, University of Ballarat, Deakin University, University of Adelaide, University of Western Australia, and Curtin University. Additional organizations are hoped to be included as or when opportunities are identified.

Structure of the Seminars

The seminars will be an hour-long presentation given on a topic from the broad area of Optimization, Variational Analysis, and related topics. These seminars are to be made accessible to audiences at a number of remote sites through AGR facilities.

Seminars are planned to be held in regular intervals, ideally every two weeks starting in August 2009. We propose as a tentative time for the talks Monday or Wednesday at 16hs (Sydney time).

Audiences for a presentation will be located at one or more sites at universities across Australia. The Access Grid technology enables two-way audio and video communication as well as a shared desktop. Thus a presenter is not only audible and visible to the audience, but can also respond to a raised hand, answer a question, or interact with an individual at a remote site through a shared application. Roughly 30 minutes before the seminar starts, designated individuals from each site confirm that all facilities are working at all sites. An introduction of all sites and of the speaker is made from the speaker's site. The presentation component of the seminar is approximately 45 minutes long and is followed by a question and answer (Q&A) session with all sites. The Q&A session starts with local questions and then rotates through the remote sites. As in the case of a face-to-face seminar, the host determines when to stop. See [1] for more details on the structure of these seminars.

Goals of the Seminars

The main goal of these seminars is to give an opportunity to researchers and postgraduate students interested in optimization and related areas from various Australian universities to collaborate, discuss, pose, and share new questions and problems. We expect that these seminars will bring in dynamism and stimulate the development of a working group which has a focus in optimization, variational analysis, mathematical programming, optimal control and their applications

At the same time we aim to achieve several other equally important goals:

- To learn and understand the issues related to the organization and the running of a regular scientific event from several universities in different time zones
- To set the standards for this type of event for the future
- To test the available technology
- To motivate the creation of new technological tools and to encourage the improvement of the existing tools
- To give a chance to faculties to gain experience with presenting through a still relatively new medium
- To educate the audience attending the seminar about the protocols and etiquette involved
- To reduce the costs of inviting distinguished speakers
- To justify the investment in the technology and in the people involved
- To build and strengthen a sense of community within the researchers in the area of optimization.
- To allow higher degree and honours students to be aware of new research topics and possible supervisors at other institutions.
- To extend, in the future, the scope of these seminars to countries in nearby time zones, such as China, Hong-Kong, India, Japan, Malaysia, New Zealand, Taiwan, etc.

Website

A website is to be set up for

- Recording all past seminars, including a copy of the talk whenever possible.
- Posting incoming events.
- Discussion board for all (national and international) researchers in the field
- Bank of open problems in the broad field of optimization, coming both from the academia and from the industry.

We believe that these seminars and the resulting network of participants can be an excellent basis for the development of a nation-wide research group on optimization.

Organizers of the Optimization Seminar Series

Borwein, Jonathan (University of Newcastle)
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References

[1] Borwein, J. M., Langstroth, D., Macklem, M., Wilson, S., & Jungic, V. (2007). The coast-to-coast seminar and remote mathematical collaboration. In *Communicating Mathematics in the Digital Era*, J. Borwein E.M. Rocha, J.F. Rodrigues (eds).