NSERC'S COMPUTER SCIENCE LIAISON COMMITTEE "LC"

Jörg-R. Sack, LC Chair

CACS/AIC 2012

Waterloo, Ontario

May 17th, 2012

NSERC'S COMPUTER SCIENCE LIAISON COMMITTEE

Outline

- Recalling LC's Mandate and Composition
- Overview of Main Activities of LC
- Welcoming Input for Future Activities

Recall: Terms of Reference

The purview of the LC includes, but is not limited to:

- **Opportunities CS could seize/build upon and challenges to be at the forefront of research (int. level)**
- **Emerging trends/needs for capacity building, innovative R&D thrusts, and current and potential scientific initiatives within community**
- **Provision and discussion of suggestions NSERC programs (CS community -> NSERC)**
- **Inform Group Chair -> COGS**
- **Interact/inform the community**

Current LC Members

- Jörg-Rüdiger Sack, Carleton (*Chair*)
- Michael Bauer, Western
- Anne Condon, UBC
- Gregory Dudek, McGill
- Marc Frappier, Sherbrooke

Other

- NSERC representatives overseeing CS
  - Samir Boughaba NSERC – team leader
  - Anne-Marie Thompson NSERC - director
- CS Group chair (ex. officio)
  - Evangelos Milios, Dalhousie

NSERC'S COMPUTER SCIENCE LIAISON COMMITTEE

Interaction History with CACS/AIC

- CACS 2010 meeting:
  - Announcement by NSERC on the intend to establish the Liaison Committee and its Chair
  - March 2011 Inaugural meeting of LC Meeting
- CACS 2011 meeting:
  - Detailed Information on LC's activities
  - Request for Cooperation and Input
- Communication to CS community on establishment of LC and its activities
  - NSERC July 2011
- CACS/AIC since then 2011 meeting:
  - Discussion/Interactions with CACS/AIC
  - Cooperation with CACS/AIC on Study on CS
  - Identification of Mike MacGregor, Alberta LC – CACS/AIC

NSERC'S COMPUTER SCIENCE LIAISON COMMITTEE

activities

(since last CACS/AIC meeting)

- Formal Conference Call Meetings
  - September 20, 2011
  - October 14, 2011
  - January 9, 2012
  - March 23, 2012
- email exchanges

Topics

1. NSERC's 1st memo to the community on establishment of LC (2011)
2. Interaction between LC and CACS/AIC
3. Assessment by the Council of Canadian Academies on Science Performance Research Funding
4. Study of the CS Research Community
5. Questionnaire to the CS Community
6. Frontiers Program
7. Outreach
8. NSERC's 2nd memo to the community update on LC (2012)
9. Conclusion and next Steps

1. NSERC's 1st Memo to the Community

- The feedback received from the community on the memo that was sent to the community to formally announce the establishment of NSERC's Computer Science Liaison Committee (July 21st, 2011).
  - The establishment of the CS-LC was very well received, and most comments expressed a strong support. Suggestions were made on how to possibly further strengthen the reach of the Committee.

2. Interaction LC – CACS/AIC

Participation in the Annual General Meeting of CACS/AIC (June 21, 2011).

- informed CACS/AIC on the activities of the Liaison Committee
- submitted the Committee's proposal for a bibliometric study of the Canadian CS community to be carried out with the support of CACS/AIC.
- CACS/AIC welcomed the establishment of the Liaison Committee and, subsequently, agreed to support the bibliometric initiative.
- Dr. Mike MacGregor is the Liaison of CACS/AIC on this matter.
- Dr. Mike Bauer (LC) participates with Dr. Sack in these interactions with CACS/AIC.

3. Assessment by CCA on Science Performance Research Funding

The Council of Canadian Academies (CCA) is conducting an assessment on NSERC's behalf regarding the performance indicators for basic research.

- CCA's expert Panel is nearing the end of its data gathering and literature review phase, with an assessment that focused on studying evidence from internationally observed practices.

3. Assessment by CCA cont'd

- LC contacted the CCA's expert Panel, expressing the willingness of the Committee to provide help on any questions the Panel may have on the practices of the CS community.

- No direct consultations with the communities as originally considered.

- Once NSERC receives the report from the CCA, it will invite feedback from the research communities.

- Report to be submitted to NSERC by the summer of 2012, at the earliest.

4. Study of CS Research Community

– The Computer Science Liaison Committee (LC) has been looking into means of assessing the Canadian Computer Science research community with the aim, among others, of strengthening the community's position with NSERC.

– The LC approached CACS/AIC re. support a study; CACS/AIC agreed to a $25K initial target with possible additional funds and provided feedback to the LC.

Bibliometric Study cont'd

The resulting report should provide

- valuable information on Canadian CS researchers' relative performance compared to other international CS communities, on
- international collaborations,
- contributions to the Canadian economy through patents, and
- comparisons to other NSERC disciplines in regards to HQP, funding, postdocs, etc.

This information would be useful in a variety of situations to CACS/AIC, the LC, and NSERC as well as useful information to Heads of Computer Science and Deans of Faculties across Canada.

Bibliometric Study cont'd

The resulting report should help

- understand the particularities of CS and its evaluation.

4. Study of CS Research Community cont'd

– The LC generated a list of questions which included a bibliometric comparison of Canadian Computer Researchers to other international constituencies, and some measures of Canadian CS research contributions to the Canadian economy.

– A proposal was sought and obtained from Science-Metrix (S-M); it included pricing for a series of assessments and measures.

- Elsevier was contacted as well, with a request for a proposal. Elsevier did not submit a proposal.

4. Bibliometric Study cont'd

– Interactions with CACS/AIC regarding the proposal by Science-Metrix; points were discussed in great detail.

– LC: A comprehensive list of journals/conferences must be done by an independent body, with no ties to the Canadian CS community, as the bibliometric study must not be seen as biased in any way.

– New proposals were requested from Science-Metrix and "Observatoire des sciences et des technologies, UQAM" (OST) ensuring the use of a method that will include data from a sufficiently large number of important CS conferences.

4. Bibliometric Study cont'd

-The LC reviewed responses from S-M and OST. Based on this review, the LC concluded that:

1) the bibliometric study carried out by S-M based on Scopus was preferred; answers to the LC's other questions had an additional price-tag and the methodology to be applied on those was unclear;

2) the OST response covered the non-bibliometric questions better than S-M;

3) engaging in two separate studies was undesirable since it would result in two separate reports.

4. Bibliometric Study cont'd

Alternatives:

- simply proceed with a bibliometric study as per S-M's response.
- approach OST regarding a single study in which OST sub-contracts the bibliometric study using Scopus to S-M.

OST responded with such a proposal with a revised cost of about $38K. This study will cover nearly all the questions asked by the LC.

CACS/AIC: **That OST be contracted with undertaking the expanded study at a cost not to exceed $40K.**

4. Bibliometric Study cont'd

Cuurent Status: **report to be delivered very soon**

original schedule (prior to the changes to OST/S-M) : delivery in time for CACS/AIC meeting

currently slightly behind schedule

5. Questionnaire

Questionnaire for community

- complements the study and will allow the Liaison Committee to receive input from the research community on specific topics

- will be distributed by the end of May to CS heads and chairs

- to complete through interactions with professors and researchers of their departments [Your Help is NEEDED here]

- the questionnaire and a summary of the feedback received from the heads and chairs will then be circulated to the entire research community for further input.

- esp. for CS researchers outside a CS department an option is to respond directly

Questionnaire

1. What distinguishes CS research from other science and engineering disciplines, in terms of funding needs and priorities?
2. NSERC's mission is to support discovery and innovation in Canada. Can you provide examples in which socio-economic innovation has followed from research funded through NSERC's Discovery Grants or other grants that support long-term, curiosity-driven research?
3. Which NSERC grant programs are your primary sources of funding? What do you consider to be the strengths and weaknesses of these programs for CS researchers?
4. What are the barriers to more uptake by CS researchers of partnership programs, such as NSERC Strategic Grants, Industrial Research Chairs, or other Industry-Driven Collaborative Research and Development Grants? Also, what are the barriers to participation in these programs by the computing industry?

Questionnaire cont'd

5. Roughly what fraction of your current NSERC funding is used to support international collaborations? What features (e.g., award size, purpose of funding, partnership with funding programs in Europe, the United States of America, or Asia) would be useful in a broad-based, NSERC program targeted at international collaborations (i.e., to enhance international collaborations in ways that are difficult or not possible with your current funding sources)?
6. How well do NSERC programs work for funding interdisciplinary research projects that involve CS researchers?
7. As Grants program winds down, with the last compeition of NSERC's Research Tools and Instruments tition to be held in 2013, the Canada Foundation for Innovation (CFI) is becoming the primary source of funding for research infrastructure. What are the strengths and weaknesses of the CFI programs for supporting CS research? Do CS researchers have particular infrastructure needs that would be better addressed by variants of the CFI programs or alternative funding mechanisms ?

Questionnaire cont'd

8. NSERC's Industrial Postgraduate Scholarships to foreign students are permitted up to a maximum of 20 percent of the program as a whole. Is it desirable to extend the same policy to the other NSERC postgraduate and postdoctoral scholarship programs that are currently open to only Canadian citizens and permanent residents?

9. Rate the usefulness of the following programs to CS researchers on a scale from 1 (not at all useful) to 5 (extremely useful):
   - Postgraduate Scholarships (non-industrial)
   - Postdoctoral Fellowships (non-industrial)
   - Undergraduate Student Research Awards (non-industrial)
   - Industrial Postgraduate Scholarships
   - Postdoctoral Industrial R&D Fellowships
   - Industrial Undergraduate Student Research Awards
   - Collaborative Research and Training Experience (CREATE) Program

10. How do you think that Canadian CS researchers can be effective in advocating for research support that best supports discovery and innovation in Canada?

6. Status of the Second Call for Proposals under the Discovery Frontiers Program

The decision is proceed with a second call

- the selection of the topic will be made over the **spring/summer 2012**, with a possible call in the summer/fall 2012.
- LC prepared a proposal
- CS Group Chair did consultations
- Group Chair submitted proposal to COGS (May 2012)

7. Outreach

- Various options regarding the establishment of venues that would enable the community to interact with the CS-LC and NSERC were discussed.
- In this context, Dr. Sack reported on the interactions he had with several members of the community, as well as CACS/AIC and CIPS.
- The consensus of the LC members was that sessions for interactions with the LC and NSERC should be held in various regional conferences,
  - *Canadian Conference on Artificial Intelligence (CCAI, which is typically held in conjunction with the Canadian Graphics Interface Conference and the Conference on Computer and Robot Vision, the*
  - *Canadian Conference on Computational Geometry (CCCG)*
  - *the Centre for Advanced Studies Conference (CASCON) and*
  - *the Symposium on Algorithms and Data Structures (WADS)*

  instead of attempting establishing a national event. Such sessions could be held in various regions of Canada, on a rotating basis (a specific conference and region every year). The participation of the broader community in these sessions would be ensured via webcast.

8. 2nd Memo NSERC -> Community

(May 4, 2012)

ongoing briefings of LC activities

- Preparation of Frontiers Initiative
- Independent and comprehensive assessment of the Canadian CS research landscape
- Close and synergistic work with CACS/AIC
- OST and Science-Metrix study
- Questionnaire to complement the study and receive input
- Request for participation

8. NSERC's 2nd Memo to Community cont'd

(May 4, 2012)

- Identification of conferences/venues to interact with community
- Developing effective ways to interact with CS-related industry
- Annual CACS/AIC meeting

9. Conclusion and Next Steps

- CACS/AIC and LC have closely worked together on the CS research community study
- Thank you again for the strong support!
- LC looks forward to further interactions
  - …… next steps?