

Synchrotron Long-Range Plan (LRP) Panel, LRP Organizing Committee and LRP Working Groups

Terms of Reference

Background

The LRP organizational structure is driven by the LRP’s purpose:

To develop a community-supported, comprehensive, specific, and realistic set of recommendations that will enable Canadian research that relies on synchrotrons to address major social and economic challenges and maximize benefits to Canada over the next decade and beyond.

Community representation

To ensure the resulting LRP reflects the richness and diversity of the Canadian synchrotron community, the composition of the LRP bodies described below shall reflect a balance of perspectives, including not only expertise, but also geographic regions, sectors, facilities (e.g. Canadian users of CLS and foreign facilities) and underrepresented groups. Such balance will be sought in the individual bodies as well as across the set of LRP bodies.

The LRP Panel

Role: The LRP Panel exists to oversee the development of the LRP and its associated consultative processes. The Panel provides a broad community perspective to ensure that the LRP is driven by Canadian research needs while considering other factors such as national priorities and synchrotron technology development. It provides high-level direction to the organizing committee and working groups.

Composition: The Panel is composed of (1) all members of the LRP organizing committee, (2) chairs of the working groups, and (3) any additional at-large members of the scientific

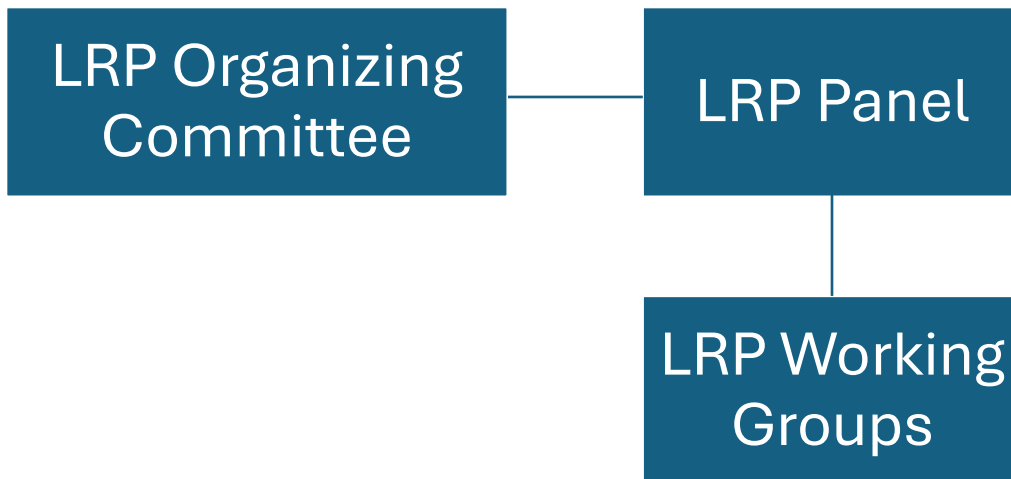


Figure 1 Organizational structure of the LRP process

community, if needed to cover the desired range of perspectives. The organizing committee shall establish the first working groups and chairs; subsequent changes to the composition of the LRP Panel shall be subject to approval of the LRP Panel. Synchrotron users should comprise a majority of the LRP Panel.

The LRP Panel will be co-chaired by representatives of the leading institutions involved in the project: the Canadian Light Source (CLS) and Canadian Institute for Synchrotron Radiation (CISR). Presently, these co-chairs are:

- **CISR co-chair:** TK Sham, Western University, CISR Board Member
- **CLS co-chair:** Ingrid Pickering, Chief Science Officer, CLS

Meetings: The LRP Panel shall meet approximately once every three months or as needed during the duration of the project.

The LRP Organizing Committee

Role: The LRP Organizing Committee exists to manage and conduct the LRP project on an on-going basis, secure needed resources, manage relationships with key stakeholders and implement the scientific directives of the LRP Panel. The organizing committee may hire consultants or acquire other personnel to support the work of the Panel, organizing committee and working groups.

Composition: The LRP Organizing Committee will be chaired by the Panel co-chairs. The organizing committee should be composed of key experts in synchrotron science as well as management of the leading institutions involved in the project. The organizing committee must include professionals with time to dedicate to the project.

The committee is presently composed of the following individuals:

- CISR co-chair: TBD
- CLS co-chair: Ingrid Pickering, Chief Science Officer, CLS
- David Hawthorn, CISR Chair of the Board, and Professor, University of Waterloo
- Chithra Karunakaran, Director of Science and Innovation, CLS
- Stefan Kycia, CISR President, and Professor, University of Guelph
- Bill Matiko, Chief Executive Officer, CLS
- Erin Weist, Risk Analyst and Executive Projects Advisor, CLS and CISR Secretary

The Organizing Committee may add or remove individuals as needed.

Meetings: The LRP Organizing Committee shall meet approximately once every two-weeks during the duration of the project.

LRP Working Groups

Role: The LRP Working Groups will be responsible for gathering input from the synchrotron community on its focus area, which can be a scientific field or a topic such as synchrotron technology. Each group should deliver a summary report of findings to the LRP Panel.

Composition: The LRP Working Groups will consist of a Chair and at least two other members. The Chairs will be selected by the organizing committee. The organizing committee may delegate to the Chair the responsibility for filling remaining positions for the Chair's working group.

List of Working Groups (Tentative):

Scientific field-based: Scientific field working groups will gather input on the state of the fields of research in Canada that rely on synchrotrons and to identify Canadian needs and technology options for more advanced synchrotron capabilities. The groups shall include academic, government and industry perspectives. The state of the fields of research may include, in addition to the research itself, related matters of EDI, Indigenous reconciliation (e.g. weaving traditional knowledge and western science), knowledge mobilization and tech transfer, training and retention of HQP, data management, and outreach, etc. Working groups should also identify key examples of past and potential societal impact arising from Canadian research using synchrotrons.

These themes support the priority areas of the funding agencies that support synchrotron users through research grants and are consistent with the strategic priorities of the Government of Canada.

1. **Energy and minerals** (Physics, Chemistry & Engineering of Materials for Energy Applications; Energy efficiency; Batteries; Hydrogen and Fuel Cells; Renewable Energy; Nuclear Energy and Safety; Nuclear Waste Management; Biofuels; Oil & Gas Production and Transportation; Carbon Capture and Storage; Critical Minerals; Mining; Other Resource Extraction and Refinement)
2. **Agriculture** (Nutrition and Dietetics; Agricultural Biotechnology; Agriculture, Forestry & Fisheries; Animal & Dairy Science; Food Science and Technology; Other Agricultural Sciences)
3. **Environment** (Geosciences and Astrophysics; Environmental & Earth Sciences; Environmental Engineering & Biotechnology; Ecological Sciences; Geography; Soil Sciences)
4. **Health and life sciences** (Pharmaceuticals; Anatomy; Physiology and Pathology; Clinical Sciences; Embryology; Epidemiology & Public Health; Immunology; Neuroscience; Biochemistry & Biophysics; Cell & Molecular Biology; Genetics & Evolutionary Biology; Microbiology; Plant Biology; Zoology; Biomedical Engineering; Industrial biotechnology; Biological Sciences; Veterinary Sciences)

5. **Materials and devices** (Materials Sciences; Materials Engineering; Mechanical Engineering; Civil Engineering; Semiconductors and Electronics; Computer & Information Sciences; Electrical and Electronic Engineering; Nanotechnology; Physics; Chemistry; *Other natural sciences and engineering not captured in other working groups*)
6. **Social sciences and humanities** (Archaeology, Art, and Cultural Heritage; Indigenous Research¹; All other areas of the Social Sciences and Humanities)

Topic-based: Topic-based working groups will build on the work of the field-based groups by considering the science needs and state of the fields identified by the field-based groups. They may gather further input on the topic from multiple perspectives (e.g. Canadian and foreign facilities, university users and research administration, government, industry) as needed to fill gaps. Topic-based working groups may evaluate current strengths and weaknesses, identify best practices from similar research infrastructure-based communities in Canada or abroad, and make recommendations to the LRP Panel.

7. **Advanced synchrotron sources** (technology for 4th generation sources and instruments; instrumentation; research data management)
8. **Governance and funding** (the new Major Research Facilities framework, CFI and tri-council funding issues for infrastructure, people and research programs; governance of a synchrotron infrastructure program that may include multiple light sources and foreign partnerships)
9. **Maximizing return on investment** in synchrotron infrastructure (user support and facilitation of Canadian participation in foreign sources; attraction, training and retention of specialized personnel needed to construct and operate the proposed synchrotron infrastructure; role of synchrotron infrastructure in (a) inspiring and training an innovative workforce, (b) advancing societal EDI.I goals, (c) knowledge mobilization and technology transfer, (d) generating other spin-off benefits to industry, (e) data management, (f) science communications and public outreach, (g) outreach to new users in industry, government and universities.)

¹ Indigenous Research is as defined by SSHRC: <https://www.sshrc-crsh.gc.ca/funding-financement/programs-programmes/definitions-eng.aspx#a11>