



## THE LONG-RANGE PLAN FOR CANADIAN SUBATOMIC PHYSICS: 2011-2016

### TERMS OF REFERENCE

#### I. CONTEXT

Under NSERC's aegis, the Canadian subatomic physics community establishes its scientific, and thus funding, priorities through five-year Long-Range Plans (LRP). These plans advise NSERC and the Subatomic Physics Evaluation Section on the community's priorities for both current and future endeavours. The most recent Long-Range Plan covered the period 2006-2011, in addition to providing an assumption-based forecast for the period 2011-2016. Since then, the time lines of some experiments and future projects have evolved, new funding for major equipment has been secured and TRIUMF's new five-year plan has been developed, and its funding should be known in early 2010. New research opportunities may also have emerged. A new LRP exercise is to be conducted. It will cover the period 2011-2016 and include a look ahead to 2021.

#### II. COMMITTEE

The LRP process will be driven by the Canadian subatomic physics community. A Committee will be asked to review this community's input and to formulate the Long-Range Plan. The LRP Committee will be composed of an appropriate number of experts who will cover the main sub-disciplines reviewed by NSERC's subatomic physics Evaluation Section, including both experimental and theoretical aspects: nuclear physics, nuclear astrophysics, physics of elementary particles and fields, and particle astrophysics. The Committee will be chaired by a senior member of the research community with an extensive knowledge of the Canadian and international subatomic physics research environments. The membership may have some overlap with that of the previous LRP Committee to ensure continuity.

The LRP Committee will also include *ex officio* members who will only be observers and resources for the other members. These *ex officio* members are:

- Chair of the subatomic physics Evaluation Section
- Director of the Canadian Institute of Nuclear Physics
- Director of the Institute of Particle Physics
- TRIUMF's Associate Director

Observers from other agencies will be invited to attend.

The LRP Committee may choose to hold certain closed sessions without the presence of *ex officio* members or observers.

NSERC representatives will act as observers and resources at all times.

### **III. MANDATE**

Taking into account (i) the ever increasing internationalization of projects and collaborations in addressing the fundamental questions of subatomic physics, (ii) the concurrent requirement to maintain and further develop world-class domestic research programs and infrastructure, (iii) the established expertise and strengths of the Canadian community and (iv) the recognition of the fact that the Canadian subatomic physics community cannot be involved in all research endeavours (as stated by the last LRP Committee in its report), the Committee is asked to identify subatomic physics scientific ventures and priorities that should be pursued by the community on a five- to ten-year horizon and that would ensure continuous Canadian global scientific leadership. Budgetary estimates must be provided as well, including funding ranges for prioritized endeavours. These ranges should include funding levels that would allow for a restrained, yet efficient, contribution to the ventures, as well as levels that would enable a more extensive contribution.

The Committee's assessment will be based on a broad consultation with the Canadian subatomic physics community. It must be guided only by the current and future science in subatomic physics. The Committee will have to assess the feasibility, technical readiness and risks associated with particular endeavours. It is crucial that such an assessment be made through a fair and rigorous process.

The Committee is also asked to consider and discuss factors that affect the subatomic physics community and to make recommendations on how to possibly lessen any negative impacts they may have, or enhance any positive ones. Examples of such factors include, but are not limited to, NSERC programs other than those in the purview of the subatomic physics Evaluation Section, the relationship between NSERC and other agencies and organizations, and the activities of national research organizations.

### **IV. PROCESS AND TIME LINE**

The LRP Committee membership will be completed by the end of May 2010, and a kickoff meeting will be held immediately after.

The Canadian Institute of Nuclear Physics and the Institute of Particle Physics will be tasked to prepare briefs for the LRP Committee. These briefs must summarize the scientific vision and priorities put forward by the sub-communities they represent and serve, including both experimental and theoretical facets. Overall recommendations may also be included in the briefs. It is expected that each institute will broadly consult with the sub-communities through various formats, and ensure a fair and rigorous process. The briefs are to be submitted to NSERC no later than September 1, 2010; they will be forwarded to the LRP Committee. The Institutes must ensure that the briefs are available to the entire community through their

public Web sites. Eventual responses to the briefs by individuals or organizations would be accepted and should be submitted to NSERC; they would be forwarded to the LRP Committee. Throughout the process, the LRP Committee may also solicit additional input from various sources, as it sees fit.

The LRP Committee will hold public consultations (town hall meetings) during the fall of 2010, after receiving the briefs. Face-to-face or phone meetings of the Committee will then be held up to the spring of 2011. A final report is to be provided to NSERC no later than September 1, 2011.

#### **V. DELIVERABLES**

The LRP Committee will submit its final report to NSERC no later than September 1, 2011. The report will be publicly released, thereafter, in both official languages.

#### **VI. CONFLICTS OF INTEREST AND CONFIDENTIALITY**

All members must strictly comply with the terms of the statement on ethics for NSERC selection committees and panels. Moreover, for the purpose of this exercise, a member will be considered to be in a situation of conflict of interest during a discussion on prioritization of a specific endeavour that would directly benefit the member or the member's organization.

#### **VII. FINANCIAL SUPPORT**

NSERC will provide the LRP Committee with financial support for the purpose of organizing appropriate meetings, for the travel of Committee members to these meetings and for the preparation of the report.

---