

Meeting the Digital Research Infrastructure needs of the Canadian Research Community



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1. Provide Quality Service to all Researchers



2. Optimize Organizational Structure and Enhance Capacity



3. Work Together for an Integrated DRI Landscape



4. Maximize Public Investments to Accelerate Innovation



Transition Updates & Strategies in Development

Transition Updates

- ▶ Transition Structure established
- ▶ Participation in national teams
- ▶ MTAP, LTAP & Cybersecurity Framework
- ▶ NSDM (3-phased approach)
 1. Proposal to ISED (underway)
 2. Impact Assessment and Implementation Plan (Jun '22)
 3. Execution (Aug '22-Dec '27)

Strategies to begin

- ▶ Industry Engagement Strategy
- ▶ Indigenous Engagement Strategy
- ▶ Cloud Strategy
- ▶ Investment Strategy
- ▶ Training and Development Strategy

Committees and Working Groups Structure

- ▶ Strategic & Decision-making Committees: Nationally representative (e.g., EMC, with RDC & RDM)
 - ▶ Committees by Invitation: Subject-matter experts to provide technical and/or operational guidance
 - ▶ Working Groups: Invitational, for national or related activities
 - ▶ Researcher Council sub-committees: Exclusive to RC members

 - ▶ RDM Committees
 - ▶ 34 National Teams
 - ▶ RDC Committees
- Harmonization for RDM, ARC & RS
- ▶ Definitions for ToR – time limited? Purpose? Decision-making, Informational?
 - ▶ April to June 2022



The Alliance Researcher Council

Achieving engagement through involvement



Alliance Research Council

Established September 2020 to facilitate regular consultation between the Alliance and researchers across Canada to help the Alliance establish a researcher centric DRI ecosystem.

Diverse group of 24 researchers

Represent a range of cultures, languages, identities, and expertise

From academic institutions and laboratories across Canada



Randall Sobie,
University of
Victoria,
Chair



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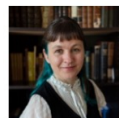
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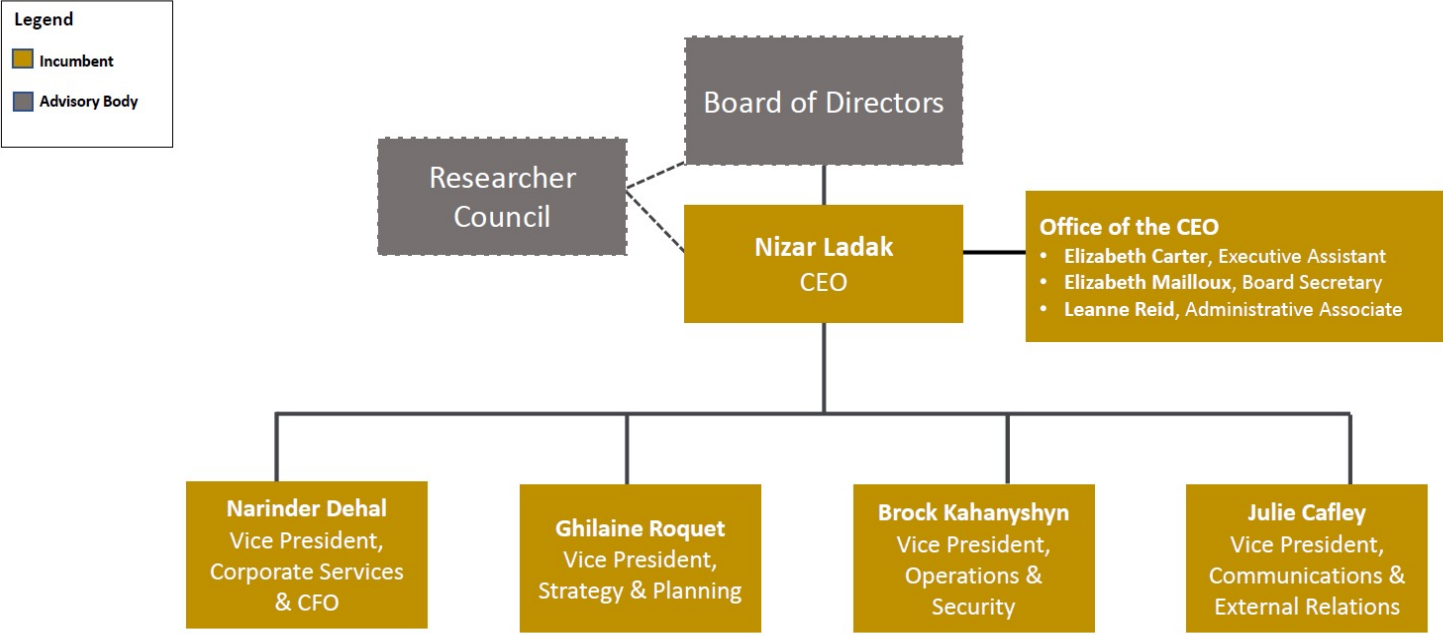


Pekka Sinervo,
University of Toronto
Chair Governance

Appointed by the Board and ratified by the Member Organizations
Members have a 3-year term (renewable)
Chair is also a member of the Alliance Board of Directors

Role of the Researcher Council

Provides advice to the Alliance Management and Board of Directors on researcher needs for DRI infrastructure and services, contributes to the Alliance’s strategic vision, and serves as ambassadors for the Alliance’s mandate.



Key Activities

2021

Review of DRI requirements of the researcher community

Position papers, Town Hall meetings, Surveys

RC report *“Meeting the DRI needs of the Canadian Research Community”*

RC provided input into the Strategic Planning Process

RC Panel at the Alliance-Industry Meeting (Ottawa Oct 2021)

Data Champion and Inaugural Project Funding Initiatives Steering Groups

Ongoing Drop-in meetings (cybersecurity, RAC process, clouds, ..)

2022

Communication, High Performance Computing (HPC) and Cloud Working Groups

Operational and Strategic projects in FY2022

More Working Groups will be formed in the coming months

Two key documents: Researcher Council and Senior Analysts



Meeting the DRI needs of the Canadian Research Community

National infrastructure

- ▶ Immediately invest in additional traditional and cloud computing, expand storage resources, and develop a sustainable financial plan for its maintenance and continual renewal.
- ▶ Build a national strategy for the use of in-house and commercial computing clouds.
- ▶ Develop and implement a plan for long-term storage, data curation, and data preservation.

Self-determination and data sovereignty for Indigenous Peoples in Canada

- ▶ Provide funding support, expertise, and partnership to Indigenous Peoples in Canada so that they can develop their own sovereign digital research infrastructures and use digital methods in support of cultural revitalization.
- ▶ Facilitate opportunities for respectful collaboration, which respond to and support community needs, goals, and aspirations.

Equity, diversity and inclusion

- ▶ Integrate EDI principles into all decisions and activities as a foundational principle.
- ▶ Adopt metrics for EDI that follow national and international standards and best practices, identify areas requiring improvement, address gaps promptly, and engage in continuous monitoring and improvement.
- ▶ Provide services and support to all researchers in French, English, and other languages across Canada.
- ▶ Ensure all researchers, including those from marginalized groups, have access to the Alliance's tools and services, regardless of geography, discipline, or institutional affiliation.

Professional support personnel

- ▶ Ensure that there are sufficient professional support personnel to provide the necessary foundational support to meet the diverse needs of the research community.
- ▶ Engage with the regional consortia, sites, and other organizations to put in place a model for the ongoing support and retention of the professional support personnel and establish a system for the training and education of students and early career staff.

Research data management and stewardship practices

- ▶ Develop a strategy and plan for managing sensitive data and collaborate with other national and regional groups active in this area, including Indigenous communities.
- ▶ Build infrastructure and support for the FAIR management, curation and preservation of research data in collaboration with Canadian universities and laboratories, respecting also the Global Indigenous Data Alliance's CARE Principles.

Education and training

- ▶ Develop a DRI training curriculum in partnership with Canadian universities that leverages existing programs and is based on the priorities and expertise of the research community.
- ▶ Ensure that documentation is current, well-curated, and user-friendly, and that training programs are easily accessible and offered frequently.

Researcher Software

- ▶ Establish support and ongoing maintenance of critical infrastructure software components.
- ▶ Review the research software needs of the community to determine the key open-source packages that need to be developed and maintained by the Alliance's professional support personnel.
- ▶ Develop a strategy for supporting the development of new and innovative open-source research software.

National and international engagement

- ▶ Establish relationships and partnerships with existing Canadian institutions, laboratories, and industry that will help the Alliance define its role in the DRI ecosystem.
- ▶ Build connections with the international community that will help the Alliance develop new partnerships and support projects with a shared infrastructure.

Examples of Researcher Council Activities:

Communication Working Group

Challenge to communicate with all researchers across Canada

Response to Needs Assessment was positive

Plan to review progress with community

Multiple approaches

Social media, web site, mailing lists, presentations at national meetings

Researcher Council representation

Striving to expand the diversity of voices

Call for new members later in 2022

Cloud Computing Working Group

In-house versus commercial cloud

Compute Canada operated in-house cloud computing

Canadian researchers also used commercial cloud resources

Variety of strong opinions for both options

Hybrid model

Provision of opportunistic resources?

Access to unusual/new hardware (e.g., GPUs) or software.

Concerns

Security and ownership of data in the cloud

Vendor lock-in and loss of in-house expertise

ISED is strongly encouraging the Alliance to work with the cloud providers

High Performance Computing Working Group

Only one-third of researchers get their requested resources

What is the optimal configuration for a future HPC?

Medium to large scale multi-processor applications

Should Canada build a world-class HPC facility?

Or consider an international collaboration (e.g. telescope or accelerator)

Commercial clouds offer HPC-capable resources

Many other interesting and complex topics

- ▶ Cybersecurity
- ▶ Resource Allocation Process
- ▶ Training and education



Digital Research Alliance of Canada

Accelerating Canada's
Research Future.

Alliance de recherche numérique du Canada

Accélérer l'avenir de
la recherche au Canada.



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