

## Digital Research Alliance of Canada (DRA) Membership

ULethbridge, as a primary (voting) member of the DRA, has the following rights and responsibilities:

- Attendance at, participation in, and voting at all annual general meetings;
- The opportunity to nominate researchers for the Researcher Council;
- The opportunity to advise the Board of Directors on the strategic direction, policies, and programs of the Alliance.
- The opportunity to sit on advisory/ad-hoc committees or other bodies the new organization may establish to fulfil its responsibilities.

DRA serves Canadian researchers and advances Canada's global knowledge economy leader position by integrating, championing, and funding the infrastructure and activities required for advanced research computing (ARC), research data management (RDM), and research software (RS), providing the platform for the research community to access tools and services faster than ever before.

We have heard from researchers that they need more storage capacity for their data because many are engaged in research that may require high levels of data security and integrity, as may be required by specific disciplines.

The University offers some research capacity centrally through Information Technology Services.

- 512 GB Microsoft OneDrive (including email, etc).
- 10GB Google Drive (all Google data).
- 500GB Mapped drive research share.

There are some limited options for extra that may be considered.

- Some level of increase Google Drive and OneDrive could be accommodated but be aware that we have a shared limit for the whole institution imposed by Microsoft and Google.
- Additional mapped drive research share storage can be purchased for an annual fee. \$60/per year/ TB. See the [Fees and Rates](#) for up-to-date pricing. Availability subject to free capacity available.

The options for requesting increases or a new shared drive are here - [Service Catalog - Service Portal \(service-now.com\)](#)

These may not be sufficient for researchers with very large data requirements. As a result, faculty members with large data sets may have been using other venues, such as 3rd parties or purchasing their hardware.

There is a high speed 10G connection to CANARIE. We share this connection with the City of Lethbridge and Lethbridge College. Furthermore, we have DRA to serve a similar purpose (highly recommended!).

Additionally, our researchers have used/are using U of A's Dataverse for **data preservation**, but ULethbridge now has a Borealis subscription (in progress...stay tuned!)

Since DRA encompasses the software and environment needed for a given discipline to use this infrastructure effectively and delivers these essential resources to Canadian researchers, regardless of their geographic location or academic discipline, we would like to redirect our researchers to this platform.

Research groups can access computational resources (computing, storage, and cloud) through the [Resource Allocation Competition](#) (RAC) or request a modest amount of storage and cloud resources through the [Rapid Access Service](#) (RAS) without applying to the RAC.

Training is available through the Prairies Regional office in Edmonton (UofA), which teaches you how to request allocation, choose GPU models for your project and more.

### **Why DRA?**

Digital Research Alliance (DRA) of Canada encompasses both the software and environment needed for a given discipline to use these types of infrastructure effectively and the need for high levels of data security and integrity as may be required by specific disciplines or researchers.

Providing storage options accessible to researchers in multiple locations—evolving services, including cloud computing, faster networking, and greater cybersecurity measures, accelerate the results and advances these researchers can generate. Researchers come from all disciplines, including engineering, medical, biological and life sciences, chemistry and biochemistry, physics, environmental and Earth sciences, humanities and social sciences and astronomy.

#### 1. [Advanced Research Computing](#):

Research groups (faculty, librarians, etc) at Canadian research institutions can access the Alliance network's computational resources (computing, storage, and cloud) for free. However, use beyond basic amounts is subject to the RAC review process. For more information, read the [Resource Allocation Competition Guide](#).

The Rapid Access Service (RAS) also allows Principal Investigators (PIs) to request a modest amount of storage and cloud resources without applying to the RAC. Many research groups can meet their needs by using the RAS only.

How do I access the storage? You must first be an Alliance account holder—apply through the CCDB portal ([see appendix A](#))

- [Nextcloud](#), a Dropbox-like web-based storage space (storage up to 100 GB)
- [Cluster filesystems](#), storage space on each cluster, including /project, /scratch, /home, and nearline space for different use cases (up to 1 TB default disk space on /project space)

- dCache, a grid-based large cross-site storage space (up to petabytes of storage for large research projects). Please contact [support@tech.alliancecan.ca](mailto:support@tech.alliancecan.ca)
- Object storage suitable for storing unstructured data such as video/audio, webpages, sensor data, etc. Please contact [cloud@tech.alliancecan.ca](mailto:cloud@tech.alliancecan.ca)
- Shared cloud filesystem (cephFS), shared storage space among cloud instances/projects to suit some special needs (both with 10 TB/project quota in default). Please contact [cloud@tech.alliancecan.ca](mailto:cloud@tech.alliancecan.ca)
- [Globus](#), a useful tool for large-volume data transfers from/to a remote site or between sites.

\*\*Note that the amount of storage available depends on the system being used and whether the account holder has been allocated resources beyond the basic amounts available to all users.

DRA allocations are usually made in terms of core years, GPU years, or storage space, such as 1 core year, 1 GPU year, 1 TB of project storage/year, 1 TB of nearline /year, 1 vCPU year, 1 TB of volume and snapshot storage (Ceph) / year, 1 TB of object storage, and 1 TB of shared filesystem storage.

Storage allocations are the most straightforward to understand. Research groups are allocated a maximum amount of storage they can use exclusively throughout the allocation period.

Core year and GPU year allocations are more difficult to understand because these allocations are meant to capture average use throughout the allocation period---typically meant to be a year—and this use will occur across a set of resources shared with other research groups.

Alliance systems have the following RPU-core-memory and GPU-core-memory bundle characteristics:

Cluster	GPU model	RGU per GPU	Bundle per RGU	Bundle per GPU	Physical ratios
<a href="#">Béluga</a>	V100-16gb	2.2	4.5 cores / 21 GB	10 cores / 46.5 GB	10 cores / 46.5 GB
<a href="#">Cedar</a>	P100-12gb	1.0	3.1 cores / 25 GB	3.1 cores / 25 GB	6 cores / 31.2 GB
	P100-16gb	1.1		3.4 cores / 27 GB	6 cores / 62.5 GB
	V100-32gb	2.6		8.0 cores / 65 GB	8 cores / 46.5 GB
<a href="#">Graham</a>	P100-12gb	1.0	9.7 cores / 43 GB	9.7 cores / 43 GB	16 cores / 62 GB
	T4-16gb	1.3		12.6 cores / 56 GB	{4, 11} cores / 46.8 GB

	V100-16gb*	2.2		21.3 cores / 95 GB	3.5 cores / 23.4 GB
	V100-32gb*	2.6		25.2 cores / 112 GB	5 cores / 47.1 GB
	A100-80gb*	4.8		46.6 cores / 206 GB	{8, 16} c. / {62, 248} GB
<b>Narval</b>	A100-40gb	4.0	3.0 cores / 31 GB	12 cores / 124.5 GB	12 cores / 124.5 GB

More information about allocation and scheduling can be found here:

[https://docs.alliancecan.ca/wiki/Allocations\\_and\\_compute\\_scheduling](https://docs.alliancecan.ca/wiki/Allocations_and_compute_scheduling)

2. [Research Data Management Services \(RDM\) DRA Provides](#): RDM encompasses the processes applied throughout a research project's lifecycle to guide the collection, documentation, storage, sharing, and preservation of research data and allows researchers to find and access data. The Government of Canada supported two initiatives dedicated to RDM in Canada: Research Data Canada (RDC) and Portage. Both have joined the Digital Research Alliance of Canada as part of the federal DRI strategy. The following are the **RDM Services that are provided**:

- [Federated Research Data Repository \(FRDR\)](#)
- [Lunaris](#)
- [DMP Assistant](#)
- [Learning & Training](#)
- [Network of Experts](#)
- [Publications \(Zenodo\)](#)

However, the DRA supports [Borealis](#), but does not provide it.

3. [Research software](#): Platforms are typically composed of tools that enable research by facilitating the manipulation of all types of research data across the lifecycle.

Alliance's work for the research software community:

- [Funding and Initiatives](#)
- [Partnerships and Strategy](#)
- [Canadian Research Software Platforms](#)

## Training and Resources:

[Prairies DRI](#) and BC, located at the University of Alberta, is one of the DRA five regional organizations and serves as the technical resources for high-performance computing, visualization and data storage, and research computing teams across the West's largest research universities to provide excellent digital research support and training.

Here, a variety of training opportunities are available throughout the year on an ongoing basis, including:

- ARC Systems Skills Workshops: These are typically run as in-person workshops at the University of Alberta during [Research Computing Bootcamps](#), held three times each year: late April to early May, late September to early October, and late January to early February.
- Webinars: These are available throughout the term and cover several topics. A calendar of upcoming training is available on the [Alliance website](#). A listing of archived Western training events is also available on [their training site](#).

You would need to sign up to access the training opportunities. Upcoming training events are posted on the Research Computing Group home page; registration information is attached to each link. The [Research Computing Bootcamp](#) workshops are free. Some ARC training providers in eastern Canada may charge a small fee.

- [Getting Started with the Alliance](#) (see Appendix A)
- [Getting Started: Basics of Cluster Computing](#)
- [Research Data Management](#)
- [Digital Research Grant Support](#)

## **Research Support**

### **Internal:**

For all your **data storage inquiries** (what capacity is advised, where to keep your data while your research is ongoing?) contact Information Technology Services at [help@uleth.ca](mailto:help@uleth.ca)

For **preservation of your data** once the project is completed, please contact the library at [library.rsg@uleth.ca](mailto:library.rsg@uleth.ca)

### **External:**

[Ask Research Computing a Question](#)

[Click to Request a Research Computing Consultation.](#)

[Alliance Support](#)

[Alliance Documentation](#)

[Alliance Systems Statuses](#)

## Appendix A

### ACCOUNT APPLICATION

The CCDB portal was established to share information among the Alliance and Federation's regional partners. Users can register, manage personal information and roles, apply for resources and allocation competitions (RAC), and manage resource allocation project (RAP) information and membership.

If you already have a CCDB account, even if it is deactivated, you do not need to apply for a new account again. Read the [Account Renewals FAQ](#).

*The instructions below apply if you register with the Alliance for the first time.*

The CCDB has [12 classifications of roles](#), which can be seen on the registration page.

**USER ROLES:** Access to Federation resources and services is based on Roles. Any Principal Investigator can identify and approve Sponsored Users to assist with their research. In certain circumstances, users are allowed to request more than one Role.

Table 1 shows the four main categories of user roles and lists available roles that users can request on the [CCDB](#) at any time:

Type	Role	Definition	Key characteristics
<b>Academic Principal Investigator</b>	Faculty	You are a full-time or part-time faculty member at a Canadian university, college or research hospital eligible to hold CFI grants.	<ul style="list-style-type: none"> <li>– Can access Federation resources and services free of charge.</li> <li>– Is eligible to request resources via the Rapid Access Service (RAS).</li> <li>– Is eligible to apply to the Resource Allocation Competitions (RAC).</li> <li>– Can sponsor users.</li> </ul>
	Adjunct Faculty	You are a full-time or part-time adjunct faculty member at a Canadian university, college, or research hospital and are eligible to hold CFI grants.	
	Librarian	You must be a librarian working at a Canadian university or college and be eligible to hold CFI grants.	
<b>Research Institute Principal Investigator</b>	Research Institute PI	You are a lead researcher at a Canadian research institute and are eligible to hold CFI grants. Please consult with a regional representative before requesting this Role by writing to <a href="mailto:support@tech.alliancecan.ca">support@tech.alliancecan.ca</a> .	<ul style="list-style-type: none"> <li>-Can access Federation resources and services free of charge.</li> <li>– Is eligible to request resources via the Rapid Access Service (RAS).</li> <li>– Can sponsor users.</li> </ul>

Type	Role	Definition	Key characteristics
<b>Government, Industry, Non-profit Principal Investigator</b>	Non-academic PI	You are a lead researcher at a for-profit company, a not-for-profit organization, or for the government and want to apply for paid access to the Federation's resources and services. Please consult with a regional representative before requesting this Role by writing to <a href="mailto:support@tech.alliancecan.ca">support@tech.alliancecan.ca</a> .	<ul style="list-style-type: none"> <li>– In certain circumstances, may apply for paid access to Federation resources (Compute Ontario; Calcul Québec; ACENET; BC DRI Group and Prairies DRI.)</li> <li>– Can sponsor users.</li> </ul>
<b>Sponsored User</b>	Undergraduate Student	You are an undergraduate student.	<ul style="list-style-type: none"> <li>– Can access resources available to the PI, at the PI's discretion.</li> <li>– Requires a sponsor to create an account on CCDB.</li> </ul>
	Master's Student	You are a master's student.	
	Doctoral Student	You are a doctoral student.	
	Postdoctoral Fellow	You are a postdoctoral fellow.	
	External Collaborator (or Visiting Faculty).	You are a collaborator based at an institution different from your Sponsor's.	
	Researcher	You are a researcher employed by your Sponsor's institution.	
	Non-research Staff	You are a staff member providing support for a research group in a non-research capacity.	

**PROCESS:**

PIs must register with the CCDB first. The approval process can take up to 2 business days. When a CCDB registration has been approved, a confirmation email will be sent that includes the Role Identifier (RI). Once a PI has their RI, all their Group Members can register in the CCDB.

Group Members follow the same registration process as PI, but a Group Member must indicate their Sponsor's RI and does not need to provide information about the research area. A sponsor must approve all Group Members. Sponsors will receive an email requiring them to confirm each Group Member once the Group Member has completed the first step of the registration process. New sponsored role requests pending approval will also show on the CCDB home page of the PI.



If you have any questions about getting an account, please email [accounts@tech.alliancecan.ca](mailto:accounts@tech.alliancecan.ca).

### Step 1: Registering with CCDB

1. Go to the [login page](#).
2. To register, click the **Register** link underneath the Login and Password fields, next to the **Forgot Password** link.

The screenshot shows the login page for the Digital Research Alliance of Canada. At the top left is the logo and the text "Digital Research Alliance of Canada" and "Alliance de recherche numérique du Canada". To the right are language options "English" and "Français". Below this is a navigation bar with "Home" and "Support". The main content area has a left column with a welcome message and a right column titled "Please sign in". The right column contains input fields for "Login" and "Password", a "Sign in" button, a "Forgot Password" link, and a "Register" button. At the bottom, there is a copyright notice: "© 2008-2024 Digital Research Alliance of Canada || email Support".

3. Before you can begin the registration process, you must read and accept the following agreements (accepting the Consent to Access User Data is optional; however, **not consenting to this agreement may limit our ability to provide the support required in certain cases**). You can read the policies and consent forms on this [page](#).
  - [Access to Federation Resources and Services Policy](#)
  - [Terms of Use](#)
  - [Privacy and Personal Information Protection Policy](#)
  - [Consent to Collect, Use, and Disclose Personal Information](#)
  - [Consent to Access User Data](#)
4. You will return to the next page once you've accepted the required agreements and clicked Submit.

Digital Research Alliance of Canada | Alliance de recherche numérique du Canada
 English | Français

[Home](#) | [Support](#)

### Account Application

Language

English  Français

Account Application

Please read the [FAQ](#) before filling in this form. You may only have one account, but may request a new role. Please email [accounts@tech.alliancecan.ca](mailto:accounts@tech.alliancecan.ca) for any issues not covered in the FAQ.

Have you ever applied for an account before? (Including recent or unconfirmed applications)

No  Yes

5. Then complete the form with all required information as in the image below.

### Compute Canada Account Application

Please read the [FAQ](#) before filling in this form. You may only have one account, but may request a new role. Please email [accounts@computecc.ca](mailto:accounts@computecc.ca) for any issues not covered in the FAQ.

Have you ever applied for a Compute Canada account before? (Including recent or unconfirmed applications)

No  Yes

Account Details

Given Name:   
 Family Name:

To accelerate the processing of your application, please use your institutional email address.

Email:   
 Re-enter email:   
 Phone:

Country of Residence:

I prefer correspondence...  in French  in English

Institution:

Department:

Please spell out the correct department name in full to avoid delays in processing your application.

Position

**Academic Principal Investigator**

Faculty   
 Fellow   
 Librarian

**Research Institute Principal Investigator**

Research Institute PI

**Government, Industry, Non-for-profit Principal Investigator**

Non-Academic PI

**Promoted User**

Undergraduate Student   
 Master's Student   
 Doctoral Student   
 Postdoctoral Fellow   
 External Collaborator for Visiting Faculty   
 Researcher   
 Non-research user

**Compute Canada Staff**

Member Representative   
 Board Member   
 CC Consortium Staff

**Please register with your institutional email address.** The information provided will be checked for accuracy. To ensure there is no delay in getting your RI, please ensure all information is completed correctly.

- After clicking **Submit** application, you will receive an email. If you do not receive the confirmation email, please contact [accounts@tech.alliancecan.ca](mailto:accounts@tech.alliancecan.ca).
- Once you have received your confirmation email, click on the confirmation link indicated in the email. If the link does not work, copy, and paste the confirmation link into your browser.

1. **If you are the PI**, an administrator will process your account request. The approver will check the information you have submitted to ensure you are a faculty person at your specified institution. Your account request will be processed within 2 business days.
2. **If you are a Group Member**, an email will be sent to your Sponsor asking them to confirm your application. *Please see the "Approving a Group Member" section for details on this process.*
7. Once your request has been approved, you will receive an email notification. *Please note your RI.* If you are a PI, you must provide your RI to all Group Members you will be sponsoring. If you forget your RI, you can [log in to the system](#) and retrieve it. Please note the email you used to register and the password you have created.

You have now completed the CCDB registration process.

If you are a PI, all the Group Members you want to sponsor should register for CCDB accounts. You must confirm every individual who registers with CCDB with your RI.

**Step 2: Approving a Group Member's CCDB Application:**

1. Group Members must complete Step 1. However, they can only log in to the CCDB once the Sponsor has approved their application request.
2. Once your Group Member has confirmed their email in Step 1, the Sponsor will receive an email with the confirmation link. New application requests will also show on the CCDB home page, which includes the same confirmation link sent by email. Clicking on the confirmation link, either in the email or on the home page, will direct the Sponsor to the following confirmation page:

My Account Resource Applications - FAQ ⓘ Browse -

### Confirm User/Role

A new user has applied to Compute Canada for an account and has specified you as their sponsor. Please check that the information below is correct. If you are not the supervisor of the person shown, you should deny the account.

The consortia track computing resource usage by groups (e.g. yourself as a PI and any people you have sponsored). Usage by any member of the group will count against the default or special allocation given to a PI's group. As a PI, you have the ability to use the CCDB portal to manage your group at any time.

<b>Name</b>	John Doe	
<b>Position</b>	Undergraduate Student	
<b>Department</b>	Bioengineering	
<b>Institution</b>	University of Guelph	
<b>CCRT</b>	gik-621-01	
<b>Sponsoring Role</b>	Jane Doe 2 months	Faculty, School of Biomedical Engineering, Un. of Guelph, renewed within the last
<b>Email address</b>	johndoe@uoguelph.ca	
<b>Make role a member of these Resource Allocation Projects</b>	<input type="checkbox"/>	

Confirm this role Deny this role

3. Check the accuracy of the information provided by your Group Member. Please ensure the information provided is correct and that the specified email is the Group Member's institutional email. Once you have confirmed the information is accurate, click the **Confirm this role** button. You will see a confirmation screen, and your group members will receive a confirmation email.