



Upcoming Training

Our winter training continues. New sessions are being added regularly, so be sure to check out the full listing on our [website](#). All ACENET sessions are online.

Compute Canada Federation National Training: Parallel Programming in Julia

14, 16, 18 February, 13:30-16:30hrs Atlantic

Julia is a high-level programming language well suited for scientific computing and data science. This 9-hour introductory hands-on online workshop over 3 days covers multi-threaded programming, multi-processing programming, distributed and shared arrays. Prerequisites: basic understanding of HPC and Linux command line. [DETAILS & REGISTER](#)

C as a Second Language

17 February, 12:00-16:00hrs Atlantic

A great deal of high-performance computing software is written in C, but few universities offer courses in the language any more. If you have to work with “legacy code” written in C, adding features, porting to a

new machine, or patching errors, or if you want to write user-defined functions for engineering packages such as Fluent, then this workshop is for you. Prerequisite: familiarity with another programming language. [DETAILS & REGISTER](#)

National Humanities and Social Sciences (HSS) Training Series (10 sessions)

22-25 February, various times

This is an introductory, digital research workshop series for humanities and social sciences (HSS) researchers, where we discuss advanced digital tools available through the Compute Canada Federation, as well as research data management (RDM) support and best practices. Several sessions are hands-on workshops, providing the opportunity for digital skills development for novice and intermediate learners. Attend as many or as few of the 10 sessions as you wish, which are in both English and French. [DETAILS & REGISTER](#)

Semaine de formation de la fédération Calcul Canada pour les sciences humaines et sociales (10 séances)

le 22 au 25 février, horaire variable

Cette formation en ligne est une introduction aux outils numériques pour la recherche en sciences humaines et sociales où nous présentons les ressources offertes par la fédération Calcul Canada ainsi que les principes et meilleures pratiques en gestion des données de recherche. Certaines séances sont des ateliers pratiques où vous aurez l'occasion de perfectionner vos compétences en informatique, que vous soyez novice ou de niveau intermédiaire. Vous pouvez vous inscrire à autant de séances que vous voulez, et les séances sont offertes en français et en anglais. [DÉTAILS ET S'INSCRIRE](#)

Python for Ecologists

23 February, 2, 9 March, 12:00-15:00hrs Atlantic

Join ACENET and Ocean Tracking Network (OTN) in our Introductory Python for Ecologists workshop series. Over three weeks, we will explore data analysis and visualization with Python, based on the Data Carpentry lessons. Each session builds on the last. We will start with basic Python syntax and the Jupyter notebook interface. Then, we'll teach you how to import CSV files using the Pandas package to manipulate and summarize data frames, and do a brief introduction to plotting. The last lesson demonstrates how to work with databases directly from Python. [DETAILS & REGISTER](#)

C++ as a Second Language

3 March, 12:00-16:00hrs Atlantic

This workshop will be a hands-on introduction to the C++ programming language building off the previous workshop's introduction to C. A great deal of high-performance computing software is written in C++, but few universities offer courses in the language any more. If you have to work with "legacy code" written in C++, adding features, porting to a new machine, or patching errors, or if you need to extend packages like OpenFOAM which are written in C++, then this workshop is for you. C++ was designed as an extension of the C language but has its own distinct idiom or style. This workshop assumes that you already know C to the level reached in the ACENET workshop, "C as a Second Language". [DETAILS & REGISTER](#)

Compute Canada Federation National Training: Parallel Programming in Chapel

7, 9, 11 March, 13:30-16:30hrs Atlantic

Chapel is a relatively new language for both shared and distributed memory programming, with easy to use, high level abstractions for both task and data parallelism, making it ideal for a novice HPC user to learn parallel programming. This course will cover basic language features, task parallelism (mostly in shared memory) and data parallelism (shared and distributed memory). Prerequisites: basic understanding of HPC and Linux command line. [DETAILS & REGISTER](#)

Machine Learning Basics

10 March, 12:00-14:00hrs Atlantic

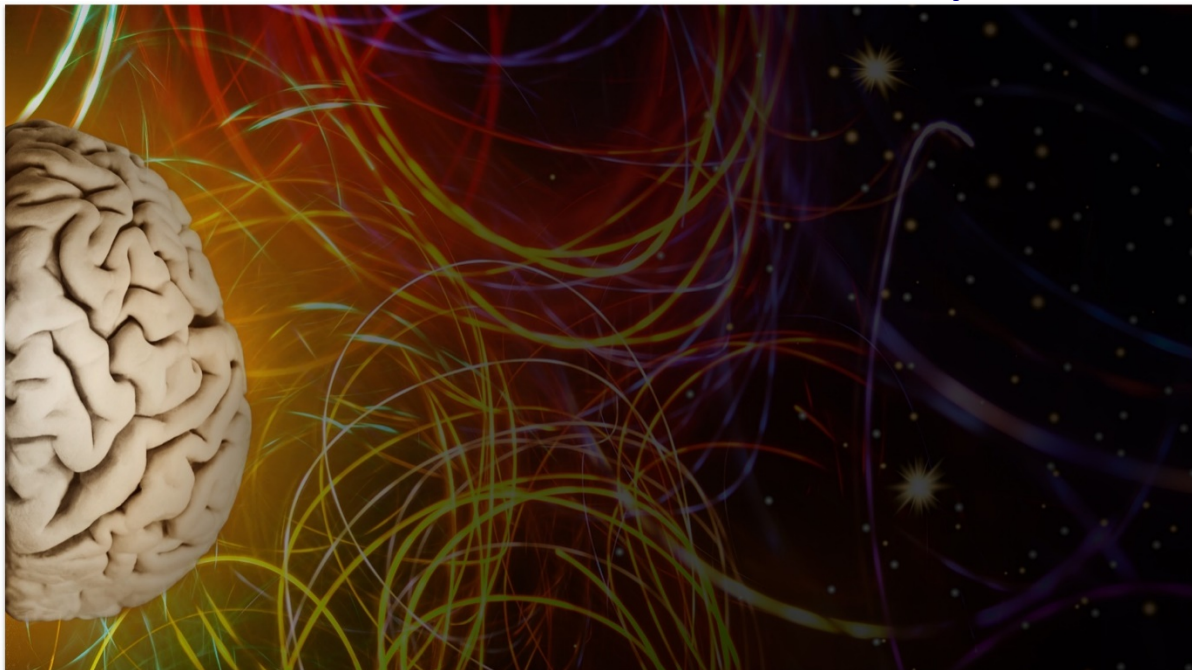
A great deal of high-performance computing software is written in C, but few universities offer courses in the language any more. If you have to work with “legacy code” written in C, adding features, porting to a new machine, or patching errors, or if you want to write user-defined functions for engineering packages such as Fluent, then this workshop is for you. [DETAILS & REGISTER](#)

From Our Partners

More training sessions from our regional partners and the Alliance can be viewed at [Calcul Québec](#), [Compute Ontario](#), [WestGrid](#) and [Digital Research Alliance of Canada](#).



Information Session: Sensitive Data Pilot Project



Researchers and university administrators with responsibilities for stewarding sensitive data are invited to join us **February 9th at 1:00pm Atlantic** for an information session on a pilot project being launched by the [Digital Research Alliance of Canada](#).

The online session will feature several members of the Alliance research data management team, and will provide important and timely details regarding the Sensitive Data Pilot Project that will launch through the [Federated Research Data Repository](#) (FRDR) in September, 2022.

For further information, or to receive the joining instructions, please contact ACENET's Humanities and Social Sciences Research Consultant lydia.vermeyden@ace-net.ca



ACENET Research Consultants Available

MOLECULAR DYNAMICS PERFORMANCE GUIDE

MDbench [CL Explorer](#) [About](#)

FIND THE OPTIMAL SUBMISSION PARAMETERS

SPEED UP SIMULATION

Finding optimal resources

A poor choice of job submission or simulation parameters leads to a poor performance and waste of computing resources. However, finding an optimal MD engine and submission parameters in a complex HPC environment with heterogeneous hardware is a daunting and time-consuming challenge. We developed this web portal to simplify this task.

How fast will a simulation run?

Chart of the maximum simulation speed of all tested MD executables obtained on CC systems provides a quick

Best Performance Of Each MD Engine Among All Clusters

Higher is better (darker), darker is more efficient

MD Engine	Performance (Efficiency)
AMBER (CPU)	100%
GROMACS (GPU)	95%
CHARMM (GPU)	90%
NAMD (GPU)	85%
OpenMM (GPU)	80%
HOOMD (GPU)	75%
PLUMED (GPU)	70%
DL_POLY (GPU)	65%
MOOSE (GPU)	60%
HOOMD (CPU)	55%
PLUMED (CPU)	50%
DL_POLY (CPU)	45%
MOOSE (CPU)	40%

campus, but all are able to meet with you virtually. Just email your local representative to set up a time, or contact support@ace-net.ca. You can find your local representative [here](#).



New Series: Digital Transformation in Mining - How Advanced Computing Can Change Everything!

February 16th
1:00 PM EST



Powering Innovation in Mining With Advanced Computing

Featuring Distinguished Speaker

Charles Nyabeze

Vice President

Business Development and Commercialization



CEMI
Centre for Excellence
in Mining Innovation

MICA
Mining Innovation
Commercialization Accelerator



ACIM
Accélérateur de Commercialisation
d'Innovation Minière

This is the first session of an exciting, new series, entitled "*Digital Transformation in Mining - How Advanced Computing Can Change Everything*" hosted by [ACENET](#), [Calcul Québec](#), [PINQ2](#), [Compute Ontario](#) and [SOSCIP](#).

Our inaugural speaker is **Charles Nyabeze, VP of Business Development and Commercialization** at **CEMI/MICA**, who will share his insights on the rapidly changing nature of the mining industry in Canada and how emerging transformative technologies like AI are altering the innovation landscape.

In **Powering Innovation with Advanced Computing**, Charles will:

- share his insights on the rapidly changing nature of the mining industry in Canada
- explore how emerging transformative technologies like AI are altering the innovation landscape
- discuss challenges faced by the mining industry
- address solutions offered by adopting advanced computing technologies

Following Charles' keynote address, we will invite companies to share their thoughts on how we can best help them along their innovation continuum.

About Charles Nyabeze

Charles holds a Bachelor of Mining Engineering and a Masters in Business and Administration (MBA). As the Vice President of Business Development and Commercialization for the Centre for Excellence in Mining Innovation and for the Mining Innovation and Commercialization (MICA) Network, Charles endeavours to create long-term value for organizations and clients by identifying cross-sectoral business development opportunities with public and private client segments. Charles is passionate about identifying mechanisms to accelerate the diffusion and adoption of innovation into the mining sector. He

is passionate about connecting innovation ecosystems and believes that disruptive solutions are a product of cross-pollinating innovation ecosystems.

Don't miss this exciting presentation by one of Canada's leading experts on innovation in mining!

[REGISTER](#)



ACENET Help for Atlantic Canadian Businesses



Whether you're a start-up or an established business, ACENET has a program to help you with your advanced computing needs. Check out our [industry page](#), and learn about our offers!

Free trial - an opportunity to try out our industry-focused compute cluster for three months

Jump Start for Start-Ups - a 12 month program designed to give start-ups a leg up

Jump Start with Student Talent - our joint program with ICTC to increase the value of its WIL Digital wage subsidy program for post-secondary students

Access to R&D assistance - through funding partners, ACENET has programming that can support eligible small and medium sized companies access up to \$5000 of ACENET infrastructure, consulting and training services with no financial contribution required by companies.

Contact us at industry@ace-net.ca to find out how we can help you!



computecanada
regional partner