



# ACENET

*accelerate discovery*

## Our Winter Training Continues

Be sure to check our [website](#) regularly, as additional training sessions and events of interest will be posted as they are scheduled.

### **ACENET Basics Series**

These core sessions introduce the essentials of advanced computing at ACENET and Compute Canada and are designed to help new users of advanced computing get up and running. No experience is necessary.

## **Introduction to High Performance Computing (HPC) with ACENET & Compute Canada**

**19 January, 10:00-11:30am Atlantic**

This is a beginner session. Researchers across many disciplines use HPC to tackle analyses that would be either inefficient or impossible on a desktop. This session offers: a basic description of the infrastructure and support accessible through Compute Canada and ACENET, with entry-level advice about how to begin; an overview of the software packages available through Compute Canada and ACENET for applications, data analysis, and software development, and how to request specific software relevant to your work; and insight into the potential of parallel computing to accelerate your analysis. [DETAILS & REGISTER](#)

## **Introduction to Linux**

**20 January, 10:00-11:30am Atlantic**

This workshop is designed for those with no prior experience in working with a terminal interface. To access and use the ACENET and Compute Canada HPC clusters from your desktop, you will use a text-based "command line" interface. You will use the command line to move data around and run calculations. In this session, learn how to get started with the command line and how to perform some basic tasks: create and navigate directories for your data; upload and download files; manage your storage; and run programs on the computing clusters. [DETAILS & REGISTER](#)

## **Introduction to Shell Scripting**

**21 January, 10:00-11:30am Atlantic**

This workshop is designed for both new and experienced users. You'll learn how to use the command line to carry out repetitive tasks, extract information from files quickly, combine commands in powerful ways, and capture a workflow so you can re-use it easily. Save time, reduce errors, and use Linux more effectively. Prerequisite: ACENET Basic Series Introduction to Linux, or previous experience with Linux. [DETAILS & REGISTER](#)

## **Job Scheduling with Slurm**

**22 January, 10:00-11:30am Atlantic**

This workshop is designed for either new HPC users, or for experienced users either transitioning to Slurm or seeking to improve efficiency with the scheduler. Compute Canada's national systems use a job scheduler called "Slurm". In this session you will learn how Slurm works and how it allocates jobs, helping you to: minimize wait time by framing reasonable requests; ask for only the resources you need, to improve efficiency; increase throughput; run more jobs simultaneously; and troubleshoot and address crashes. Prerequisites: Completion of Introduction to Linux and Introduction to Shell Scripting, or prior experience with both. [DETAILS & REGISTER](#)

## **ACENET et Calcul Québec : Introduction à la ligne de commande UNIX**

**le 9 février, 10h00-13h00 AH**

Apprenez les bases d'un système de fichiers et d'une interface en ligne de commande Unix. La ligne de commande Unix (Unix Shell) est un outil puissant qui permet d'effectuer des opérations complexes en quelques commandes, de combiner des programmes existants et d'automatiser des tâches répétitives. Cette ligne de commande est indispensable à toute personne désirant utiliser des ressources de calcul tels que des supercalculateurs. [DÉTAILS ET S'INSCRIRE](#)

## **ACENET et Calcul Québec : Premiers pas sur les serveurs de calcul**

**le 11 février, 10h00-13h00 AH**

Utiliser un superordinateur peut être une expérience plutôt déroutante pour un débutant. Plusieurs défis doivent être relevés avant de pouvoir bénéficier pleinement de la puissance d'une telle installation. Cette formation vous permettra de comprendre le fonctionnement d'un superordinateur en plus de vous fournir les outils nécessaires pour lancer correctement et efficacement vos premiers calculs. Prérequis : comprendre les concepts de fichiers et répertoires; et, avoir une connaissance de base de la ligne de commande Unix. Référez-vous à la formation le 9 février. [DÉTAILS ET S'INSCRIRE](#)

## **Compute Canada Federation (CCF): National Humanities and Social Sciences (HSS) Training Series / La fédération Calcul Canada au service de la recherche en science humaines et sociales**

This is an introductory, beginner-level digital research workshop series for humanities and social sciences researchers. Advanced digital tools available through the Compute Canada Federation will be discussed, as well as some out-of-the-box tools available to Canadian researchers, and additional information and techniques relevant for digital research projects. Registrants can attend as many or as few of the 8 sessions as they wish. Sessions will be delivered in English, but those indicated with asterisks will have presentation materials available in French and attendees will be able to ask and receive answers to their questions in French. [DETAILS & REGISTER / S'INSCRIRE](#)

- **\*\*Introduction to Compute Canada for HSS Researchers / La fédération Calcul Canada au service de la recherche en sciences humaines et sociales, 16 February/février, 13:00-14:00 AT/HA**
- **\*\*Cloud Applications in Humanities and Social Sciences / L'infonuagique pour la recherche en sciences humaines et sociales, 16 February/février, 15:30-16:30 AT/HA**
- **\*\*Data Management Plans for Humanities and Social Sciences / Un plan de gestion des données pour la recherche en sciences humaines et sociales, 17 February/février, 13:00-14:00 AT/HA**
- **\*\*Project Management for Humanities and Social Sciences / Gestion des projets de recherche en sciences humaines et sociales, 17 February/février, 15:30-16:30 AT/HA**
- **\*\*Out(side) of the Box - Online Tools for Humanities and Social Sciences / Des outils conviviaux pour la recherche en humanités numériques, 18 February/février, 13:00-14:00 AT/HA**
- **\*\*Taming the Command Line / Apprivoiser la ligne de commande, 18 February/février, 15:30-18:30 AT/HA**
- Introduction to Photogrammetry, 19 February, 13:00-14:30 AT
- Introduction to Web Scraping, 19 February, 15:30-17:00 AT

## **ACENET and Ocean Tracking Network: Introductory Python for Ecologists**

**2, 9 and 16 March, 1:00-4:00pm 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 week will build off the previous one – if you miss a week, check out the previous link to follow along! No prior coding experience necessary. 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 cover a brief introduction to plotting. The last lesson will demonstrate how to work with databases directly from Python. Participants will be encouraged to help one another and to apply what they have learned to their own research problems. [DETAILS & REGISTER](#)

## **C as a Second Language**

**4 March, 12:00-4:00pm Atlantic**

This workshop will be a hands-on introduction to the C programming language. 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 write user-defined functions for engineering packages such as Fluent, then this workshop is for you. Participants must be familiar with another programming language. [DETAILS & REGISTER](#)

## **C++ as a Second Language**

**18 March, 12:00-4:00pm Atlantic**

This workshop will be a hands-on introduction to the C++ programming language building off the previous workshop's introduction to C. Participants must have taken "C as a Second Language" or have had prior experience with C programming. 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](#)

## **Modern Fortran for Scientific Programming**

**1 April, 12:00-4:00pm Atlantic**

This workshop will be a hands-on introduction to the FORTRAN programming language. FORTRAN, one of the initial high-level programming languages, continues to be an excellent option for high-performance computing due to its superb performance. The newer versions of FORTRAN offer many modern features, including object-oriented programming capabilities to programmers. This course will cover some of these features. Participants must be familiar with another programming language. [DETAILS & REGISTER](#)

## **Molecular Dynamics Workshop**

**6, 13, 20 and 27 April, 1:30-3:30pm Atlantic**

This workshop is designed to be a practical introduction to the method of molecular dynamics simulations. It is intended for students with no prior knowledge. Students will be guided to using various structure prediction software to model missing protein and RNA segments, AMBER and NAMD software for performing simulations of biomolecular systems, VMD for visualizing trajectories and manipulating PDB files, and Python for analyzing and plotting simulation data. The workshop will be conducted in four two-hour hands-on sessions over two weeks, consisting of molecular dynamics basics, visual molecular dynamics, building complex simulation systems and molecular dynamics simulation and

analysis. [DETAILS & REGISTER](#)

### **From Our Partners**

The following workshops are being offered by our regional partners.

**WestGrid: Workflows with Programmable Filter / Source in Paraview**, 20 January, 2:00-3:00pm Atlantic [DETAILS & REGISTER](#)

**SHARCNET: Computing in Arbitrary Precision**, 3 February, 1:00-2:00pm Atlantic [DETAILS & REGISTER](#)

**WestGrid: GIS Mapping in R (Part 2)**, 3 February, 2:00-3:00pm Atlantic [DETAILS & REGISTER](#)

**WestGrid: Linking Databases to Code Repositories with Throughput**, 3 March, 2:00-3:00pm Atlantic [DETAILS & REGISTER](#)

**WestGrid: Parallel Julia**, 17 March, January, 2:00-3:00pm Atlantic [DETAILS & REGISTER](#)

**WestGrid: Exploring the State of a Slurm Cluster**, 31 March, 2:00-3:00pm Atlantic [DETAILS & REGISTER](#)

**WestGrid: Introduction to Using Fastai**, 14 April, 2:00-3:00pm Atlantic [DETAILS & REGISTER](#)

**WestGrid: NVIDIA's IndeX and OptiX**, 28 April, 2:00-3:00pm Atlantic [DETAILS & REGISTER](#)

**WestGrid: Exploration of Tools and Approaches for Humanists**, 12 May, 2:00-3:00pm Atlantic [DETAILS & REGISTER](#)

**WestGrid: Using Singularity Containers in VMs and HPC**, 26 May, 2:00-3:00pm Atlantic [DETAILS & REGISTER](#)

#### **Additional:**

Training from our partner SciNet can be viewed [here](#):



## **New HSS Support Forum - Tools of the Trade!**

Join Lydia Vermeyden, our Research Consultant in Humanities, Arts & Social Sciences, and a guest speaker for a lunchtime series on the last Friday of each month starting 26 February. This series, by researchers for researchers, is focused on discussions, demonstrations and applications of digital research tools in humanities, arts and the social sciences. Each session will include a 20-30 minute presentation, followed by 30 minutes for questions and discussion. Sessions scheduled so far

include *Voyant Tools for Text Analysis* (Laura Estill), *Making Song Collections Accessible* (Heather Sparling) and *Cloud and ArcGIS* (Josh Macfadyen).

To receive notices and information about the series and sessions, sign up [here](#):



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*regional partner*