Using the Fall 2018 Semester Program Compute Server

For the Fall 2018 semester program “Nonlinear Algebra”, ICERM has provisioned a computation server in addition to CCV’s Oscar cluster that runs some more specialized packages not available on CCV. The Fall18 system is a single server (rather than a cluster), so resources are limited. Due to this, accounts on the fall18 compute server are available on a request basis. Please request an account only if you do not have another method to run these software packages.

Logging in to Fall18 Compute via SSH

The server address is fall18.icerm.brown.edu.

- To SSH into the server, open your terminal, and type ssh <username>@fall18.icerm.brown.edu.
- To SSH with X11 forwarding enabled, use ssh -X <username>@fall18.icerm.brown.edu.

Notes

- The Fall18 server is accessible only through the Brown network. Firewall rules do not allow access from outside the Brown network or from Brown-Guest/eduroam.
- This server is command-line only. VNC or GUI access is not available other than X11 forwarding over SSH.
- You may get an error message “/usr/bin/xauth: file .Xauthority does not exist” when using X11 forwarding for the first time. You can ignore this message. The .Xauthority file is automatically created the first time you log in with X11 forwarding enabled.
- To test if your X11 forwarding is working properly, run the xclock command. If the clock window opens, X11 forwarding is working properly.

Available Software on the Fall18 Compute Server

- Macaulay2
  - To launch Macaulay2, type M2 at the command line.
  - Visit the [Macaulay2 Website](https://www.m2.mpg.de) for documentation.
- Singular
  - To launch Singular, type Singular at the command line.
  - Visit the [Singular Website](http://www.singular.uni-kl.de) for documentation.
- CoCoA
  - The CoCoA libraries are installed to /usr/local/include/CoCoA/.
  - Visit the [CoCoA Website](http://cocoa.mimuw.edu.pl) for documentation.
- gfan
  - The gfan binaries are installed to /usr/bin/.
  - Type gfan TAB at the command prompt to see the full list of available gfan functions.
  - Visit the [gfan Website](https://www.rz.uni-koeln.de/numinfo/gfan.html) for documentation.
- Polymake
  - To launch Polymake, type polymake at the command line.
  - Visit the [Polymake Website](https://www.polymake.org) for documentation.
- PHCPack
  - To launch PHCPack, type phc at the command line.
  - Visit the [PHCPack Website](https://wiki.icerm.brown.edu/computing:fall18) for documentation.

- Bertini
  - To launch Bertini, type bertini <input file> at the command line.
  - Visit the [Bertini Website](https://wiki.icerm.brown.edu/computing:fall18) for documentation.

- Bertini_real
  - To launch Bertini_real, type bertini_real <input file> at the command line.
  - Visit the [Bertini_real Website](https://wiki.icerm.brown.edu/computing:fall18) for documentation.

- Paramotopy
  - To launch Paramotopy, type paramotopy at the command line.
  - Visit the [Paramotopy Website](https://wiki.icerm.brown.edu/computing:fall18) for documentation.

- Csdp
  - Csdp provides the following binaries at the command line: csdp, theta, graphtoprob, compliment, rand_graph
  - Visit the [Csdp Website](https://wiki.icerm.brown.edu/computing:fall18) for documentation.

- alphaCertified
  - To launch alphaCertified, type alphaCertified at the command line.
  - Visit the [alphaCertified Website](https://wiki.icerm.brown.edu/computing:fall18) for documentation.

If you have questions about these instructions or require further assistance, please contact the ICERM IT staff by dropping by the administrative offices or emailing support@icerm.brown.edu.