Computing Resources

Here are some notes regarding computer usage and support for incoming students in the Graduate Program in Medical Physics (GPMP).

Topics

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General IT Policies and Support Structure

Please read the University policies on computing and networking resources:

https://its.uchicago.edu/acceptable-use-policy/

The Biological Sciences Division has additional policies due to HIPAA compliance:

http://hipaa.bsd.uchicago.edu/HIPAA_Spotlight_November_2010.html

If a computer or other resource is not explicitly described as HIPAA compliant, do not store PHI on it.

The Medical Physics program provides IT support to first year graduate students, after which support comes from the research group sponsoring the student.

Network Access

The University Wi-Fi service is accessible throughout most of the hospital complex. There are three University SSIDs:

uchicago - This SSID will require you to authenticate with your CNET ID and password in a web browser.

uchicago-secure - This SSID will log you in automatically but you will need to install a client authentication application on your device.

eduroam - This SSID is used by visiting scholars from institutions which are part of the Eduroam consortium. You can access it as per the uchicago SSID but it seems to be slower with a weaker signal.

There is also the uchicago-guest SSID is for visiting scholars without eduroam access. For more details, see https://uchicago.service-now.com/it?id=kb_article&sys_id=19d5a98f13d19340f44779566144b0d5.

The I-100 and IB-100 corridors are wired with Gigabit Ethernet, which is much faster and more reliable than the campus Wi-Fi. Each desk in IB-018 has four jacks beneath it, two white voice jacks and two grey data jacks. The lower of the two data jacks should be connected to the desktop computer. The upper jack should also be active for connecting your laptop or tablet, but UC networking services will occasionally turn data jacks off if the jack has been inactive for a few months. Please contact me if the upper jack if it has been deactivated and you wish to access the Gigabit network.

After connecting via Ethernet, you will need to register your personal computing device with UC Networking in order to access the Internet. Start a web browser and it will automatically take you to the registration page, where you will verify your credentials using your CNET ID and password. (The desktop computers have static IP addresses and do not require registration.)

Printing Services
Laser printers in IB-018 and in I-108 are available for printing by members of the Medical Physics program. All three printers have the duplex printing feature. Printing jobs are submitted to a queue on a central print server, which handles job accounting and any necessary conversion or reformatting, and then forwards the job to the requested printers. The Internet Printing Protocol (IPP) is used to connect to the print server.

The print queue URLs are:

`http://cmp-printers-1.bsd.uchicago.edu:631/printers/krlp1`

This queue forwards to a printer class which contains the B&W HP Multifunction Laserjet Pro M426 printer in I-108.

`http://cmp-printers-1.bsd.uchicago.edu:631/printers/gpmp_color1`

This queue forwards to a printer class which contains the single color HP Color Laserjet Pro M477 printer in I-108.


This queue forwards to a printer class which contains the single B&W HP Laserjet 4250 printer in IB-018.

If you use Windows XP/Vista/7/8/10:

1. Go to the Control Panel, and choose Devices and Printers.
2. Choose Add A Printer, then Add Network Printer, then "The Printer I Want Isn't Listed."
3. Choose "Select A Shared Printer By Name" and enter the above URL for the print queue. Click Next.
4. Choose the corresponding printer driver for the above HP models. Both the PCL and PS drivers will work, the PS driver usually has more features.
5. Configure the printer queue with Duplex printing and any other preferences. None of the printers has a 500 sheet expansion tray.

If you use Windows 7 SP1 or Windows 8/10, Microsoft enforces certificate checking for Web services. The print server's certificate is self-signed, so you will need to connect with Internet Explorer first, then accept the certificate manually. See this article: [http://support.microsoft.com/kb/2021626](http://support.microsoft.com/kb/2021626)

If you use MacOS 10:

1. Go to Apple System Preferences, then choose the Printers and Scanners control panel.
2. Click the "+" symbol, then the IP tab, and choose Internet Printing Protocol.
3. Use cmp-printers-1.bsd.uchicago.edu as the address, and /printers/krlp1, /printers/gpmp_color1 etc. as the queue.
4. Choose the PPD for the printer model, and check the Duplex Unit option. If the model is not listed, you can choose a similar model of the previous generation, download and install the PPD from the HP support site, or choose Generic Postscript Printer.

Accessing Your Medical Physics Student Account

To access the computers in IB-018, you will need to use your Medical Physics student login and password. Your login and password will be provided to you by the program coordinator, or you can contact me. The login should be the same as your CNET ID, but the password is randomly generated.

Your initial password is a randomly generated 8 character string. You may continue to use the initial password or choose a new one after your first login. If you choose a new password, please make sure it is at least 8 characters long and contains at least 2 non-alphanumeric characters. Under Linux you can use the "passwd" command in a terminal emulator to change the password.

Your account will remain active until October 1st of the following year, before which you are expected to move your files to the computers in your research group to make room for next year’s students.

IB-018 Computers

Desktop computers in IB-018 are provided for the use of the first year graduate students. They run OpenSuse Linux and have a number of scientific software packages installed. The desktop computers can accessed remotely via the Cendio ThinLinc client.

Backup are performed over the weekend as a precaution against hard drive failure. For files which change frequently, such as source code or office documents, there are a variety of cloud backup services such as Amazon, Dropbox, Google Drive, and Backblaze. The university provides the Box.com cloud storage service. Box currently provides only native Windows and MacOS clients, but the web interface and any client supporting ftps such as lftp or filezilla can be used under Linux via the Box URL for the university: [https://uchicago.account.box.com/login](https://uchicago.account.box.com/login)

Scientific Applications and Other Software

The university has licensed Matlab for student use. Matlab with the complete set of toolboxes is installed on the IB-018 computers. It can be started from the command line via the "matlab" command or via the graphical desktop environment toolbar application menu in the Education->Science sub-menu. Mathworks also provides upgradeable Matlab student licenses:

The Matlab and Simulink student bundle includes 10 toolboxes; additional toolboxes can be added at a steep discount. The student licenses do not expire and can be used after leaving the university.

Mathematica is also licensed to the UC College and graduate divisions. It can be started from a command prompt using "Mathematica" for the graphical version, and "math" for the text-based interpreter. It can also be accessed in the Science sub-menu. Wolfram Research also provides free licenses for home and personal use:

https://uchicago.service-now.com/it?id=kb_article&sys_id=56c08382db604b40432f7f8cbf9619ec

The Mathematica home and personal use licenses expire annually, and must be renewed. Access to them ends after departing the university.

Other installed scientific programming languages include the R statistical analysis language and the Anaconda Scientific Python distribution.

In addition to the scientific applications there are quite a few open source productivity applications available. The LibreOffice office suite has functionality similar to Microsoft Office and can be started from the taskbar applications menu or via "ooffice" from the command line. There are applications to view and process images, as well as some time wasting games.

Remote Access

The hosts in IB-018 are accessible remotely via the Secure Shell (http://www.openssh.com) protocol. The Cendio ThinLinc remote desktop client can be downloaded from your platform from

https://www.cendio.com/thinlinc/download

If you are restricted to a low bandwidth connection, you may wish to use a command line terminal client. MacOS X has ssh as part of the standard installation and Windows users can download PuTTY:

http://www.chiark.greenend.org.uk/~sgtatham/putty/

Use port 443 rather than the standard SSH port 22 when you are connecting from off-campus.

Linux Usage Information

The Linux operating system was chosen for several practical reasons: much of the research software was developed on Unix variants (Solaris, AIX, IRIX), the system management tools are free of cost, and learning the Unix/Linux environment will familiarize users with the major campus computing resources such as the CRI and RCC HPC clusters, and the supercomputers at ANL.

There is online documentation available from

http://doc.opensuse.org/

specific to using OpenSuse Linux. The KDE 5 desktop has online documentation accessible via the Help icon in the Suse Applications menu in the taskbar, or via online via the OpenSuse site

https://en.opensuse.org/KDE

The University library maintains a license for eBooks from O'Reilly, a publisher of open source software documentation:

http://guides.lib.uchicago.edu/ebooks

under Safari Tech Books Online. A search on Linux or Shell Programming will turn up some useful titles, among them "Running Linux", "Linux in a Nutshell", "A Practical Guide to Linux Commands, Editors, and Shell Programming", "Linux and Unix Shell Programming" and so on. Titles from other publishers can be found under the ebrary, NetLibrary, and Springer eBooks.

Please feel free to contact me if you have any questions.

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