

# Setting up NMR Data Transfers

updated: 24 Aug 2021 (cgf)

**castor.chem.wisc.edu** is the primary server providing access to data from the Chemistry NMR Facility. Connection to it can be made by hardwire connection to the Chemistry building network, or via WiscVPN or ChemVPN.

## I. WiscVPN and ChemVPN:

The use of castor follows secure protocols: users with their computer on the Chemistry network (on a wire; wireless is not sufficient) will be able to connect as described below without additional software. Otherwise a VPN client is required. Most should use WiscVPN, following the University [instructions](#) for installing and running the GlobalConnect client.

Use of WiscVPN is highly recommended on a routine basis as it will protect your computer in open networking environments — e.g., browsing at a coffee shop or doing work via a hotel network — by encrypting all your network traffic.

Non-UW researchers use the same client software, but must connect using Chemistry's portal at: <https://chemistry.vpn.wisc.edu>.

**You must be on the hardwired Chemistry network, using WiscVPN, or connected through the Chemistry VPN portal. Castor will not allow a connection otherwise.**

## II. sFTP (recommended):

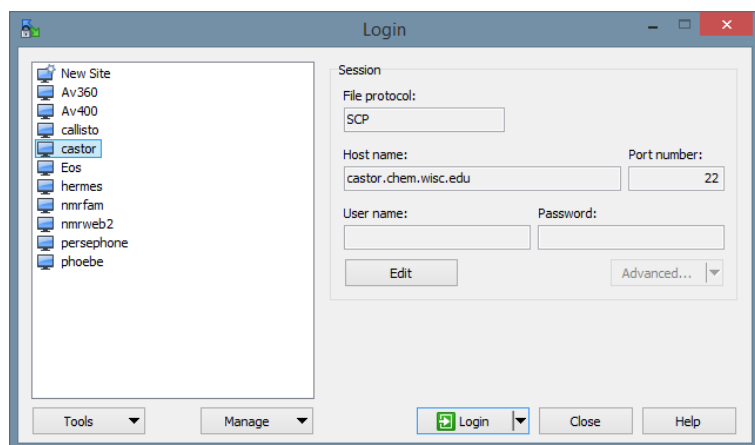
sFTP is a great alternative to castor server connections. You will have to download the data to your computer to process it, but this a good habit to have regardless of connection type.

Castor can be accessed using sFTP, secure-(password encrypted)FTP. Non-encrypted (simple) FTP implemented in programs such as FireFTP is not allowed.

FileZilla, CyberDuck, WinSCP and SecureFX are all good sFTP programs. See below.


## III. Data transfers from Castor using WinSCP (Windows only):

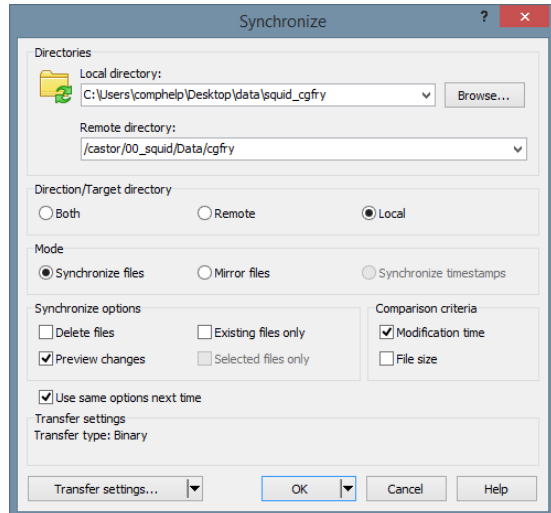
Download the free version, and setup using SCP as the client similar to that shown below.



If you have problems with SCP, try changing the file protocol to SFTP.

Data can be transferred manually in a straightforward manner by dragging the data you want from the spectrometer folder onto a folder you select on your computer.

 **Synchronize**: A potentially great feature in WinSCP is Synchronize. It works well, using a setup similar to that shown below. Once you have the setup correct, the “Use same options next time” checkbox will open Synchronize the same way each time, and one-button clicks will update your folder with the new data. You can uncheck the “Preview changes” box once you are comfortable that the transfer synchronization is working correctly.



#### IV. Data transfers from Castor to Macs:

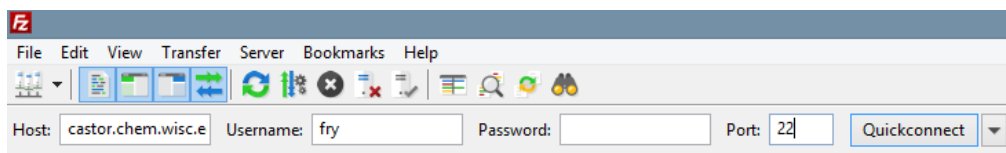
See <https://winscp.en.softonic.com/mac/alternatives> for alternatives to WinSCP for Mac users. We have used FileZilla (on Windows), and it is good software. Unhappily FileZilla has stuff suggesting it can do Synchronize, but it does not work. FileZilla also loads folders a bit slower. Aside from that, it is fine (as best we can tell). Some users have had better success with CyberDuck. Let staff know your preferences for Mac software, and we will update here.

## V. Comments on FileZilla (screencaps are from a Windows installation):

At the FileZilla download page, choose the plain FileZilla.

- . open and agree to the license agreement
- . do not allow installation of Additional software (do this twice!)
- . start the software

For the first connection, enter information into the Host: line as shown below. Host = castor.chem.wisc.edu, and with your username and password. Use Port 22. Click Quickconnect and you should connect.



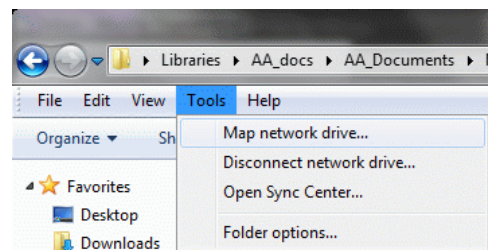
## VI. Castor server network drive mapping (no longer recommended):

### Mac OSX:

1. use the **Finder** → **Go** → **Connect to Server**
2. NMR data:
  - i) enter: **smb://castor.chem.wisc.edu/**  
Note that the **smb:** must be entered.
  - ii) use your Chemistry ID *username* and *password* to connect  
Your NMR file will be at */home/username/public\_html/*

### Windows:

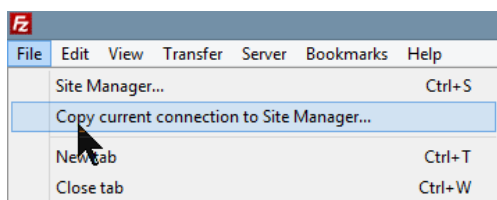
1. open **Windows Explorer** and click on Computer
2. **Tools** → **Map Network Drive**
3. NMR data:
  - i) enter: **\\castor.chem.wisc.edu\username**  
e.g., the user cgfry would enter \\castor.chem.wisc.edu\cgfry  
No more “https” or “~” here. Follow the syntax show above.
  - ii) check: **Connect using different credentials**
  - iii) use your Chemistry ID *username* and *password* to connect (Currently the ID is **CHM\_DEPT\username**): e.g., the user cgfry will use **CHM\_DEPT\cgfry**




Your NMR data will be at */home/username/public\_html/*

If you get a complaint that SMB1 is not supported, see comphelp for assistance.

Once you are connected, you can save the setup using “File → Copy current connection to Site Manager...”



After that the Site Manager can be used to connect, or simply click on the “Reconnects to last used server” icon .

Unfortunately, (as of Oct 2019) file synchronization does not work with FileZilla (the free version anyway). For Windows users, WinSCP may be a better choice.