Supported data transfer protocols

To download your data from bpfngs.med.harvard.edu, we support, in order of preference:
- [SFTP](#) (note: this is not the same thing as encrypted FTP.)
- [Rsync](#) (supports resuming partial transfers)
- [SCP](#)
- FTP (**Warning: this transmits your password and data in an unsecure fashion.** Do not use a password you use anywhere else.Due to this and lack of file integrity checking, FTP is considered to be depreciated.)

Supported clients

BPF supports OpenSSH (the defacto SSH client on most Unix-based systems, including MacOS X), Rsync (which utilizes SSH, and is also installed on all MacOS X systems and many Unix-based systems) and [WinSCP](#).Please contact your local IT support group or system administrator for assistance in installing any of these clients.

Command usage tips

There are dozens of tutorials available on the internet.We suggest the following google searches for [SFTP](#) and [Rsync](#).
Assuming your username is jane and your dataset is DATA01, the following SFTP command will recursively copy your data to the local working directory:

sftp jane@bpfngs.med.harvard.edu:~/DATA01 ./
Using rsync, we suggest enabling recursive syncronizing (-r) and partial-transfer & progress reporting (-P):

rsync -rP jane@bpfngs.med.harvard.edu:~/DATA01 ./
Compression is **not** recommended, as your data files are already highly compressed using bzip2.
Note: how you specify both source and destination paths (including the use of trailing slashes) in rsync is very important. We strongly recommend you review the [rsync man page](#) "USAGE" section.

HPN-SSH support

BPFNGS supports [hpn-ssh](#), a set of patches to SSH which allow for higher speed tranfers over high-latency connections and decrease CPU utilization by permitting encryption for the file transfer to be disabled.HPN-ssh is a superset of SSH functionality, so normal SSH clients will work unmodified, albiet at non-accelerated speeds.**If, and only if, your data is completely non-confidential should you disable encryption.** HPN-ssh does not disable file integrity checking.
Support for hpn-ssh will not be provided beyond the information in this document.Do not contact the Biopolymers Facility for assistant with installing HPN-ssh.

SSH clients which support HPN-ssh

WinSCP supports HPN-ssh functionality in versions 4.2 and above. See instructions on changing ciphers in WinSCP.

HPN-SSH installation on Unix, Linux, or MacOS X requires system administration skills (such as patching source code, compiling and installing software) and is beyond the scope of this article; you may wish to consult your group's system administrator.Some distributions have HPN-ssh enabled packages available, which you may be able to locate via ssh.Macintosh users can install an auxiliary version of ssh, either by hand or using MacPorts.

Support for HPN-ssh on Broad Institute systems is planned.HPN-ssh support is not planned for orchestra nodes due to bottlenecks in the storage system.