



Introduction to Bioinformatics



What is it?

Bioinformaticians -

Develop bioinformatics tools
(software)

Bioinformatics users -

Use bioinformatics tools



What are these tools?

Similarity searching

Primer design

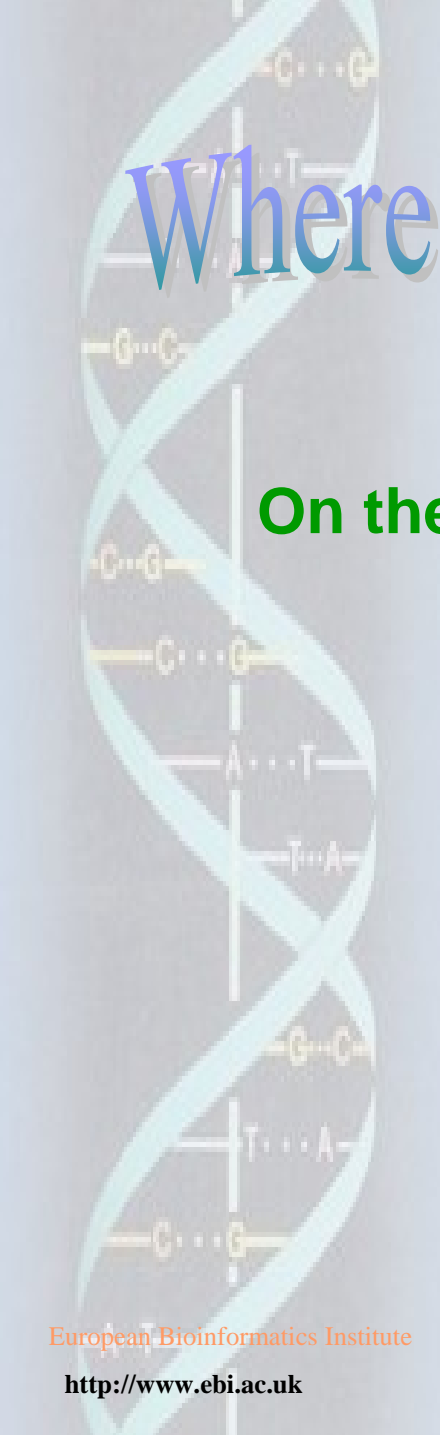
Nucleic acid translation

Sequence alignment

Pattern finding

Gene prediction

Structure prediction



Where do I find them?

On the web

<http://www.ebi.ac.uk>

<http://www.sanger.ac.uk>

<http://www.rfcgr.mrc.ac.uk>

<http://www.ncbi.nlm.nih.gov>

<http://www.expasy.ch>

<http://pbil.univ-lyon.fr>

Or you can download packages of programs onto your own computers

Searching for a sequence

Entrez

<http://www.ncbi.nlm.nih.gov/Entrez>

NCBI Entrez search and retrieval system

PubMed Nucleotide Protein Genome Structure

Search PubMed for [] Go Clear

Limits Preview/Index History Clipboard

About Entrez
SITE MAP
PubMed Help
Entrez Help
The Entrez Databases
cross-references
and information

Entrez is a retrieval system for searching several linked databases.

It provides access to:

- [PubMed](#): The biomedical literature (PubMed)
- [Nucleotide](#) sequence database (Genbank)
- [Protein](#) sequence database
- [Structure](#): three-dimensional macromolecular structures
- [Genome](#): complete genome assemblies
- [PopSet](#): Population study data sets
- NEW** [Taxonomy](#): organisms in GenBank
- NEW** [OMIM](#): Online Mendelian Inheritance in Man



SRS Data and Tool Integration

- [Start a Temporary Project](#)
- [Start a Permanent Project](#)
- [Launch an Application](#)

where to get help

Want to know more about the type of data you can find using SRS?
- Go to the [Databanks Information](#) pages.

Want to learn more about using SRS?
- Look in the [SRS Documentation](#)

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SRS

Most sites use a “sequence search engine”



What does it look like?

FASTA Format

>Sequence description

```
MNEGDTHYYNKLPPDSEFGDNHVVILCNM  
FFHRTEYWWDFCDVNMVCDHGGSAEQQR
```

Text (plain) Format

```
MNEGDTHYYNKLPPDSEFGDNHVVILCNM  
FFHRTEYWWDFCDVNMVCDHGGSAEQQR
```



and what do I do with it?

Save it as a txt file -

**Notepad, Teachtext,
ASCII format**

Cut and paste into web
based tools -

BLAST, PeptideMass

Input for programs as part of
a larger package -

EMBOSS, GCG

A word about X

DOS

Personal Computers

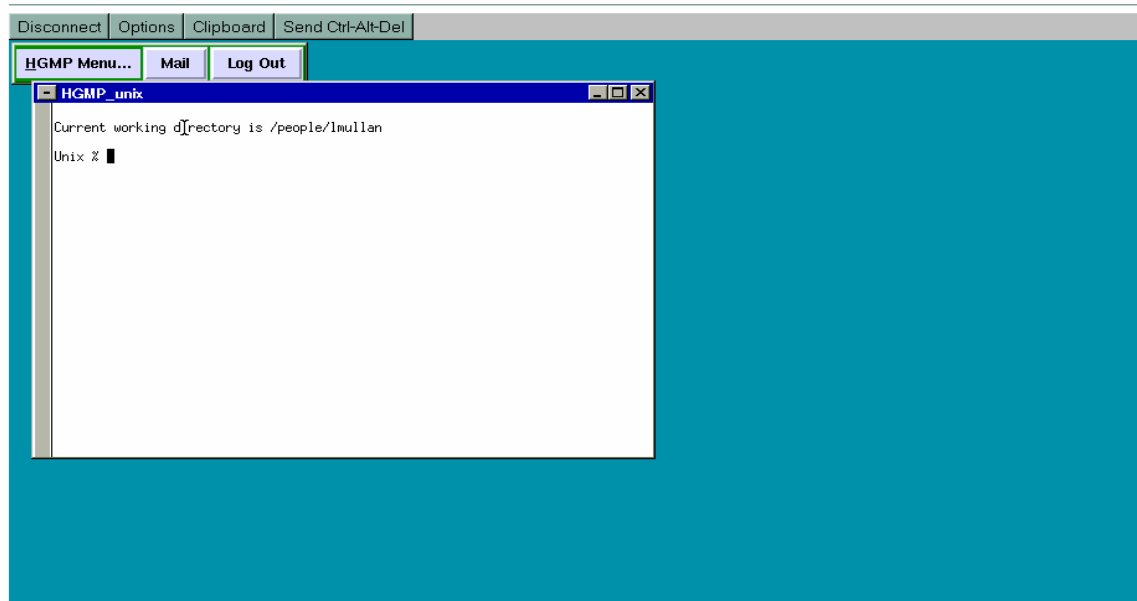
MacOS

Apple Macintosh

UNIX

Workstations

[[About VNC](#) | [HGMP Menu](#) | [Set VNC password](#) | [VNC at AT&T](#) | [Exit VNC](#)]



X translates
“unix-speak” into
DOS and
MacOS

Basic UNIX commands

cp – copy

ls – list (directory contents)

mv – move or rename

rm – delete (remove)

cd – change directory

pwd – print working directory

mkdir – make a directory

rmdir – remove (delete) a directory

