

# **Bioinformatics programming**

Professor: Colubri Andres

# Goal of this class

To use computer programming with the language Python (and the package Biopython) to solve bioinformatics problems...

...so we will be learning how to program the computer! Exciting, isn't it?

# Python and Biopython

**Python:** A general-purpose high-level programming language whose design philosophy emphasizes code readability. Python aims to combine "remarkable power with very clear syntax", and its standard library is large and comprehensive.

<http://python.org/>

**Biopython:** A set of freely available tools for biological computation written in Python by an international team of developers.

<http://biopython.org>

And in the case we need to do even more complex things like simulating protein folding we can still use Python:

**MMTK:** Open source Python library for molecular modeling and simulation with a focus on biomolecular systems, written in a mixture of Python and C.

<http://python.org/about/success/mmtk/>

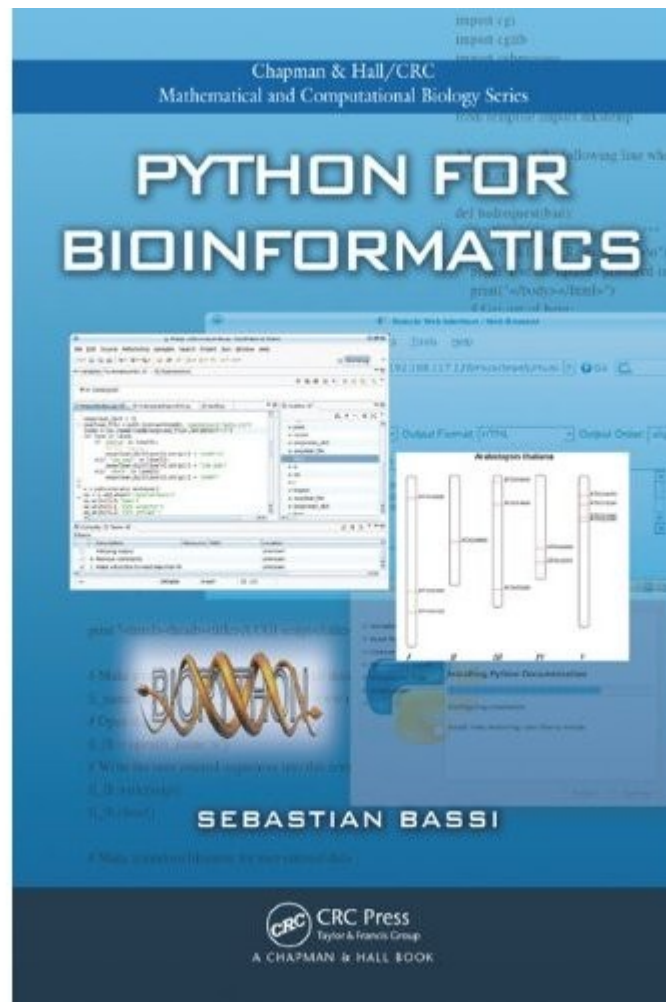
<http://dirac.cnrs-orleans.fr/MMTK/>

**Our textbook is the following:**

Python for Bioinformatics (Chapman & Hall/CRC Mathematical & Computational Biology)

Sebastian Bassi

<http://www.crcpress.com/product/isbn/9781584889298>



## **Other (free) online materials**

<http://www.pasteur.fr/recherche/unites/sis/formation/python/index.html>

<http://biopython.org/DIST/docs/tutorial/Tutorial.html>