Introduction

Luis Pedro Coelho

Programming for Scientists

September 16, 2012

INSTITUTO DE
MEDICINA MOLECULAR

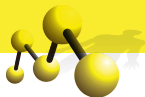# Introduction
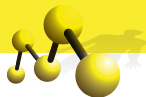
Who am I

- Luis Pedro Coelho (luis@luispedro.org)
- BS & MS in Computer Science
- Ph.D. in Computational Biology
- Post-Doc at IMM (UBEG)

Introduction

This course

- Meets: Today + Next two mondays (9h00 to 18h00)
- Office Hours: luis@luispedro.org
- Course Website: http://luispedro.org/projects/pfs-09-2012

Homework

- There will be a homework assignment between the two sessions
- You can do it on your own, in pairs, in groups, or not at all
- If you do turn it in, I will give you feedback
- Similarly, if you have questions during the week, I will take the time to address them in class
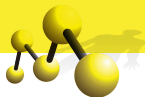
Course Overview

What this course is

- No prior knowledge is assumed
- Introduction to programming using Python
- Topics of interest to scientific programming

Course Overview
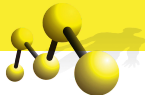
## What this course is not

1. A very advanced programming course
2. A bioinformatics course
3. Applied to specific topics (e.g., NGS analysis)

Things I Left Off

1. Version control & collaboration
2. Unix: shell, processes, getting command line arguments
3. Software engineering or even most of software carpentry
4. Network programming/database interaction
5. A lot of detail on the things I did leave in

If there is interest, we can organise a follow-up course in early 2013.

Schedule
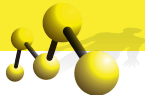
Subject to changes

	Day I	Day II
9h00-10h20	Python II	HW Review/In-class Quiz
10h30-11h30	Numpy. matplotlib	Open Source Software
11h40-12h25	Guided exercises	Unit tests
Break		
14h00-15h20	Python III	Python IV
15h30-16h30	File parsing	Guided exercises
16h40-18h00	Numeric issues	Review. Learn more

Software
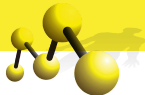
Python

- On Windows: Python(x,y)
- On Mac OS X: EPD or homebrew/macports
- On Linux: Just use your package manager

Class starts here.