**Python for computational sciences (4 CFU)**

Coordinator: Giovanni Chillemi

Objectives: The aim of the course is to supply the basic concept of programming for big data manipulation and analysis. The course will start from zero knowledge, and will introduce to all the basic concepts of Python. Examples and practical sessions will be based on solving biological problems but with attention to general concepts of programming and data manipulation. By the end of the course, the participants will have a good understanding of the Python basics and will have acquired the skills to manage database record, to manipulate data files and tables, and to run applications from scripts.

Program:

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| 1 | Basic Unix/Linux skills |
| 2 | Data retrieval from files and their manipulation |
| 3 | Running applications locally and from a script |
| 4 | Introduction to object-oriented programming language for data analysis |
| 5 | Basic concepts of Python (calculating, reading and writing files) |
| 6 | Python for organizing data |
| 7 | Program logic and writing of large programs |

Didactic method: lectures, numerical exercises
I Semester: September-November, 2019
Final examination: written text