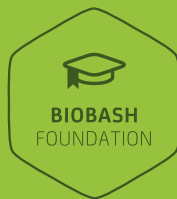# BIOBASH
FOUNDATION

A basic workshop for life scientists who are just starting their adventure in bioinformatics.

22 - 24 April 2015 | TRENTO

EIT ICT labs, Via Sommarive 18, Northern building, 1st floor, 38123 Povo in Trento

www.biobash.com

**This workshop is designed to provide you with the general tools
that will repeatedly be required regardless of your specific research question.**

Get comfortable working in the Linux environment, learn how to install and use different open source software and become an efficient user of the command line. Discover regular expressions that will provide you with clever ways of searching and manipulating text. Learn the basics of programming using Python and Biopython to understand the automation of repetitive tasks. Work through an NGS study case to gain platform-independent understanding of raw data processing, assemble and map reads, and uncover the full potential of building and querying local BLAST databases.

WORKSHOP AGENDA

DAY 1

09.00 – 09.30
Introduction
09.30 – 11.00
Module 1: Linux Environment:
Installing Software & File System
11.00 – 11.15
Coffee break
11.15 – 12.30
Module 2: Linux Command Line:
Navigation, Tools and Pipelines
12.30 – 13.30
Lunch
13.30 – 15.15
Module 3: Regular Expressions:
From Text Editor to Command Line
15.15 – 15.30
Coffee Break
15.30 – 17.00
Module 4: Lecture: Fundamental Concepts
of Next-Generation Sequencing (NGS)

DAY 2

09.00 – 11.00
Module 5: NGS Tutorial:
Raw Data Management, Quality Check, Filtering
(or: Quality Control Check)
11.00 – 11.15
Coffee Break
11.15 - 12.30
Module 5 cont'd:
Vizualization of Sequence Data
& Assembly of Reads
12.30 – 13.30
Lunch
13.30 – 15.15
Module 5 cont'd:
Mapping Sequences to the
Reference & Vizualization
15.15 – 15.30
Coffee Break
15.30 – 17.00
Module 6: Running BLAST Locally

DAY 3

09.00 – 11.00
Module 7: Introduction to
Python Programming Language
11.00 – 11.15
Coffee Break
11.15 – 12.30
Module 8: Biopython:
Programmatic Interaction
with Public Databases
12.30 – 13.30
Lunch
13.30 – 15.30
Discussion, Q&A

Participants should bring a laptop with WiFi support able to boot from USB keys. All participants will be provided with a Linux working environment installed on an external USB key at no additional cost. This will ensure proper learning setup and can later also be used as a portable Linux data analysis environment on any laptop or PC.

APPLY
https://www.biobash.com/biobash-foundation/