# Luca Mauro Invernizzi

# Profile

Computational biologist with expertise in mRNA-seq data analysis, phylogenetic, and protein modeling, with a strong background as a wet lab scientist in protein structural biology.

I like working with people, especially in interdisciplinary environments and I think being a reliable colleague and a positive presence is as important as a list of technical accomplishments: good work is done together.

# **Skills & Abilities**

Data Analysis/Programming:

- **R** mRNA-seq analysis, NGS, -omics. data visualization (ggplot2)
- Python Machine learning
- Bash scripting, version control, SQL basics

## **Computational Biology:**

- Transcriptomic EdgeR, DESeq2
- Protein Modeling AlphaFold2, PyMOL, FoldX
- Philogenetic analysis BLAST, MegaX
- Pipeline manager Snakemake

## Wet Lab:

- Protein Biochemistry Expression in E. coli, chromatography, FPLC, HPLC, western blot
- **Biophysics** Crystallization for X-ray diffraction, DLS, nanoDSF, SAXS
- DNA extraction, gel elctrophoresis, PCR, primer design and cloning

## Soft Skills:

- Well organized Experience managing events
- Problem Solving
- Teamworking

# **Work Experience**

## Bioinformatic Consultant – Istituto Nazionale Tumori

## 03/2024 - Present

Pipeline design and data analysis on mRNA seq (bulk), WES and WGS. Data analysis and ML application to genomic real world data as part of european projects

## **Teaching Assistant – University of Bolzano**

## 12/2020 - 01/2023

Design of didactic material and supervision of laboratory training for students in inorganic and organic chemistry

## **Researcher Internship – BIOCEV Prague**

## 01/2022 - 06/2022

Founding was obtained with application to EU founding (Instruct-ERIC program), including personal funds (6150€) and research funds (6000€). The focus was on biophysic analysis: DLS, nanoDSF and SAXS

## **Researcher Internship – ICGEB Trieste**

## 03/2021 - 07/2021

Collaboration with Computational Unit, founding was provided by the University of Bolzano. The main focus was the analysis of transcriptomic data to identify putative protein targets for crystallization

#### Middle School Professor – Scuola Media Brignano

## 01/2019 - 07/2019

In charge of teaching of math and science. Precision in paperwork managing, especially during the state end of the year exam, was the main challenge

#### **Private Teacher – Selfemployed**

#### 09/2009 - 12/2018

Supervision of high school and university students in chemistry, biology, math, physics.

#### Construction Worker – Maurizio Invernizzi S.R.L.

06/2005 - 06/2008

## **Education**

#### PhD in Computational Biology |University of Bolzano| 11/2019 - 10/2023

• Thesis: In-silico and biochemical characterization of proteins involved in Aspergillus fumigatus iron-uptake system

## Master Degree in Molecular Biology |University of Milan| Graduation – 10/2017

• Thesis: Purification and Structural Characterization of T. Maritima EndonucleaseV in complex with DNA

Bachelor Degree in Biology | University of Milan | Graduation – 10/2013

## Languages

Italian – Native Speaker

**English – Fluent (C2 level)** 

French – Basic (A2 level)

Chinese Mandarin – Basic (HSK2 level – A2 equivalent)