

Postdoc wet Pinheiro Lab – Computational Biology Research Centre

APPLICATION CLOSING DATE: June 30th 2022

Human Technopole (HT) is a new interdisciplinary life science research institute, created and supported by the Italian government, with the aim of developing innovative strategies to improve human health. HT is composed of five centres: Computational Biology, Structural Biology, Genomics, Neurogenomics, and Health Data Science. The Centres work together to enable interdisciplinary research and to create an open, collaborative environment that will help promote life science research both nationally and internationally.

The Pinheiro Lab in the Computational Biology Research Centre at Human Technopole, led by Dr. Fernanda Pinheiro, integrates theoretical and experimental research to develop a predictive framework for evolutionary processes under ecological complexity grounded on models of cell metabolism. We are a hybrid theoretical and experimental lab with a strong interest in understanding antibiotic resistance evolution in complex ecologies including microbial communities where many bacteria interact. We combine systems biology approaches, evolutionary modeling, computational methods, data analysis, and data from evolution experiments, establishing a strong dialog between theory and experiments: We use theory to identify interesting regimes that can optimize experimental designs and biology to motivate new theoretical methods.

The Pinheiro Lab is looking for an outstanding **Postdoc** to design, develop, and perform experiments to interrogate microbial evolution in complex ecologies. We welcome applicants with an experimental background to work on interdisciplinary projects at the interface of systems biology, ecology, and evolution. The successful candidate will work in close collaboration with Dr. Fernanda Pinheiro, and with the members of her team.

Applicants are also encouraged to contact Dr. Fernanda Pinheiro to discuss specific projects sharing common interests with the lab.

Key tasks and responsibilities

- Conduct experiments in the area of microbiology, with a strong emphasis on bacterial culture pipelines (continuous and batch cultures);
- Design, develop and perform experiments about microbial evolution in complex ecologies (e.g., in response to antibiotic challenge, in interacting microbial communities);
- Create and implement new tools, methods and protocols;

- Generate reliable publication data and maintain accurate records of laboratory work;
- Collaborate with the theoretical group members to design experiments, analyze data, and test theoretical hypotheses;
- Pursue independent thinking, provide scientific insight, and disseminate research in international conferences and publications in scientific journals;
- Integrate and strengthen the group's network of internal and external collaborations.

Job requirements

- PhD in an experimental discipline (Microbiology, Biotechnology, (bio)Physics, or equivalent) and an interest in quantitative approaches;
- Proven track record of leading of projects independently;
- Outstanding experimental and organizational skills;
- Proven experience with bacteria cell culture and bacterial growth experiments (essential). Experience with fermenters/bioreactors is very desirable and will be consider a plus;
- Proven experience with multi-omics sample preparation assays and standard molecular biology tasks (e.g., molecular cloning, western blotting). Basic bioinformatics knowledge is appreciated but not required;
- Ability to interact effectively in an interdisciplinary environment with other team members and teams, and work synergistically to drive projects forward;
- Special consideration will be given to candidates who are part of the protected categories list, according to L. 68/99.

Required personal skills

- Fluency in English - HT is an international research institute;
- Ability to manage competing priorities in a fast-paced environment and to work independently;
- Ability to work in a multi-cultural, multi-ethnic environment with sensitivity and respect for diversity;
- Highly curious, creative, and ambitious individuals that are open to pursue new avenues, willing to develop and implement new methods, with a strong interest in conceptual research.

Application Instructions

Please apply online sending a CV and motivation letter in English, and contact information for three references.

Additional Information

HT offers a highly collaborative, international culture to foster top quality, interdisciplinary research by promoting a vibrant environment consisting of independent research groups with access to outstanding graduate students, postdoctoral fellows and core facilities.

HT is an inclusive employer that fosters diversity and engages systematically to ensure that equal employment opportunities are provided without regard to age, race, creed, religion, sex, disability, medical condition, sexual orientation, gender identity or expression, national or ethnic origin or any other legally recognized status entitled to protection under applicable laws.

HT offers attractive conditions and benefits appropriate to a leading, internationally competitive, research organisation that promotes a collegial and open atmosphere. The compensation package granted will be internationally competitive and comprise pension scheme, medical and other social benefits and support for relocation and installation. **Candidates coming to Italy for the first time, or returning after residing abroad, benefit from very attractive income tax benefits.**

Number of positions offered: 1

Contract offered: CCNL Chimico Farmaceutico, fixed term 4 years - Employee level