

Postdoc - Testa Group - EU project R2D2-MH

APPLICATION CLOSING DATE: February 10th 2023

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: Neurogenomics, Computational Biology, Structural Biology, Genomics, and Health Data Science. The Centers 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 laboratory of Prof. Giuseppe Testa at the Human Technopole (HT) in Milan is looking for a Postdoctoral Researcher to contribute to the new EU project Risk, Resilience and Developmental Diversity in Mental Health (R2D2-MH, [link](#)).

The Testa lab at Human Technopole is a vibrant, interdisciplinary research community spearheading stem cell modelling to study the pathophysiological mechanisms underlying brain diseases across both genetic and environmental causes (Villa et al. Cell Reports, 2022; Caporale et al. Science, 2022; Adamo et al. Nature Genetics, 2015; Mihailovich et al. bioRxiv, 2022; Lopez-Tobon et al. bioRxiv, 2022). At the forefront of human experimental modelling, especially brain organoid technology, the group has been contributing to standard setting benchmarks of the field (Germain et al. Stem Cell Reports, 2017; Pasca et al. Nature, 2022, Lopez-Tobon et al. Stem Cell Reports, 2019; Cheroni et al. Translational Psychiatry in press, 2022), straddling multiple scales of analysis from single cell multi-omics to functional profiling and in vivo validation.

The successful candidate will be part of the R2D2-MH project, a newly established major interdisciplinary research network focusing on resilience factors in mental health (from biology to psychological and societal factors) in individuals with similar genetic risk but divergent clinical outcomes. Harnessing the power of uniquely informative genome-deep phenotype matched cohorts of Autism Spectrum Disorders and Intellectual Disability, they will lead research activities that integrate induced pluripotent stem cells (iPSCs)-derived, brain organoids, single cell multi-omics profiling, CRISPR genome editing, and advanced imaging. The overarching aim is to define personalized trajectories of individual neurodevelopmental vulnerability at molecular resolution for improving stratification of individuals based on risk and/or resiliency factors and discovering tailored preventive and therapeutic approaches. The candidate will also benefit from the collaboration with a diverse group of experts from the network partner institutions, and will harness the state-of-the-art facilities of Human Technopole (Automated Stem Cell and Organoid, Genomics, Light Imaging and Flow Cytometry), and Scientific Support Units (Software Development and Data Curation, Cell Reference Brain Atlas, Tissue Processing, Advanced Cell Culture and Electrophysiology).

Finally, the successful candidate will be responsible for coordinating the computational analysis of the complex datasets produced in the R2D2-MH consortium, performing analysis and/or closely collaborating with the bioinformaticians from the Testa lab and partners, with the aim of integrating molecular and clinical phenotyping to discover risk and resiliency factors in neurodevelopmental disorders.

Job requirements

We are looking for a passionate scientist, eager to apply their critical thinking and creativity to make the difference for one of the most unmet emerging medical needs of our times.

Essential requirements:

- PhD or MD in a relevant subject area (neuroscience, developmental neurobiology, biochemistry, cell biology, stem cell biology, or related fields).
- Fluency in English – HT is an international research institute.

Relevant skills:

- Profound knowledge and research experience in the fields of human molecular neurobiology, neuroimmunology, disease modelling with human stem cells and neuronal experimental models.
- Advanced cell culture experience with human pluripotent stem cell lines and neuronal differentiation, including brain organoids and/or primary neural cell cultures.
- Solid expertise in gene/epigene editing perturbation approaches.
- Experience in tissue processing and histology.
- Experience in closely collaborating with data scientists and bioinformaticians, ability to perform basic data analysis/programming to be considered as a plus.
- Ability to manage competing priorities in a fast-paced environment and to work independently.
- Proven strong interpersonal skills, ability to lead and gain the assistance and cooperation of others in a team endeavour.
- Ability to build a trusted work environment through operating with transparency and creating an open and positive environment.
- Ability to work in a multi-cultural, multi-ethnic environment, with sensitivity and respect for diversity.

Special consideration will be given to candidates who are part of the protected categories list, according to L. 68/99.

Application Instructions

To apply, please send the following:

- a CV.
- a motivation letter in English relating your track record to the specifics of the call.
- names and contacts of 2 referees.

For any informal inquiry about the position, please feel free to contact Giuseppe Testa at giuseppe.testa@humantechnopole1.recruitee.com (this email address should not be used to send applications)

**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 organization that promotes a collegial and open atmosphere.

Number of positions offered: 1

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

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