



UNIVERSITÀ  
DEGLI STUDI  
DI PADOVA

27<sup>TH</sup> SEPTEMBER 2019

## **TWO-YEAR RESEARCH FELLOWSHIP AVAILABLE IN PADUA (PADOVA), ITALY:**

**“Human brain organoids as a model to recapitulate neuronal dysfunction in Parkinson’s disease”**

### **PROJECT DESCRIPTION**

Increasing evidence suggests that Parkinson’s disease might be driven by lysosomal dysfunction with cellular waste-clearing. The project aims to characterize functional midbrain organoids derived from patients carrying pathological variants of the gene encoding the beta-glucocerebrosidase (GBA) lysosomal enzyme, known to confer a 5- to 7-fold increased risk to develop Parkinson’s disease. Brain organoids have recently emerged as a three-dimensional tissue culture platform to study neuronal and glial functional properties in physiological and pathological conditions. The selected candidate will study organoids (<https://youtu.be/cHyhWv37g74U2>) both at single cell and network level using a combination of electrophysiology (patch-clamp) and imaging equipment (wide-field, confocal, 2 photon-STED). The results will be correlated to key pathological pathways including alpha-synuclein aggregation, lysosomal and endoplasmic reticulum stress. The multidisciplinary nature of this new research project (PRIN, Research Project of National Relevance) is evident from the broad range of expertise of the PIs involved: imaging and electrophysiology (Mario Bortolozzi, VIMM), biochemistry (Massimo Aureli, University of Milan), iPSC models (Alessio Di Fonzo, Policlinico of Milan), genetics and medicine (Stefano Duga, Humanitas University).

### **LOCATION**

The selected candidate will work at the Venetian Institute of Molecular Medicine (VIMM, <https://www.vimm.it/>) in the laboratory of Mario Bortolozzi, where state-of-the-art biological and biophysical facilities are available. The VIMM is an internationally recognized institute with the mission of establishing a close link between basic and clinical research and promoting translational research. The institute is a dynamic and stimulating environment, located in an attractive historical city (close to Venice and the beautiful Dolomites Mountains).

### **QUALIFICATIONS**

Application are solicited from candidates holding a master’s degree (or equivalent degree), with at least three years research experience, or a Ph.D. A strong scientific background involving at least two of the following techniques is preferable: 1) neuronal/glial differentiation of iPSCs; 2) fluorescence microscopy; 3) electrophysiology. Candidates will also be evaluated based on motivation, flexibility and proved ability to work independently.

### **CONTACTS**

To apply for this position, candidates should send an email to [mario.bortolozzi@unipd.it](mailto:mario.bortolozzi@unipd.it) including:

- 1) a cover letter describing scientific experience, interests and career goals;
- 2) full CV;
- 3) the names and contact information of at least two professional references.

Applications will be reviewed immediately and considered until the position is filled (deadline: end of September 2019)

### **JOB DETAILS**

**Employer:** University of Padua (Padova), Italy. Website: <http://www.unipd.it/en/>.

**Funding:** Italian Ministry of Research and University (MIUR).

**Supervisor:** Mario Bortolozzi, Ph.D., associate professor at the Department of Physics and Astronomy “G. Galilei”, University of Padua. Principal investigator at the Venetian Institute of Molecular Medicine (VIMM), Via G. Orus 2A, 35129, Padua. Website: <http://www.vimm.it/scientific-board/mario-bortolozzi/>.

**Job type:** Research Fellowship.

**Salary:** 1500 euro/month (net amount, tax free). Note that this salary permits to have a good quality of life in Padua for a single person.

**Employment type:** 2-year contract starting from November/December 2019.

**Job hours:** Full-time.