

## ***Letizia Marvaldi (PhD in Neuroscience)***

### **Education and Course**

**2018** EMBO Leadership and Management skill course for Postdoctoral Fellows. Weizmann Institute of Science, Israel.

**2014** PhD from SPIN Doctoral School, PhD program for Neuroscience, Medical University Innsbruck, Austria.

**2008** M.Sc. in Neurobiology, University of Turin, Italy.

**2006** B.Sc. in Biology, University of Turin, Italy.

### **Current position**

**Since 2022** Assistant Professor, Department of Neuroscience Rita Levi Montalcini and Neuroscience Institute Cavalieri Ottolenghi (NICO), University of Turin, Italy (by a Rita Levi Montalcini fellowship award)

### **Previous positions**

**2014-2021** Postdoctoral fellow, Department Biomolecular Sciences, Weizmann Institute of Science, Mike Fainzilber Lab, Rehovot, Israel.

**2009-2014** PhD student Innsbruck, Medical University of Innsbruck, Department of Neuroanatomy, Lars Klimaschewski Lab, Innsbruck, Austria.

**2007-2008** M.Sc. student in Stefano Geuna Lab, Neuroscience Institute Cavalieri Ottolenghi (NICO)

### **Award and Prices**

**2021** Rita Levi Montalcini Fellowship, Ministero dell'università e della ricerca, Italy.

**2020** Prize for Outstanding Achievements in Postdoctoral Research, Feinberg graduate school, Weizmann Institute of Science.

### **Patent**

FAINZILBER Mike and MARVALDI Letizia PCT / IL2020 / 050801. YEDA RESEARCH AND DEVELOPMENT CO. LTD.

### **Main research interest and expertise**

I am interested in the regeneration of the peripheral nervous system. In particular, the molecular mechanisms that enhance axonal outgrowth in culture of sensory neurons

and reduce the chronic pain response in vivo are the subjects of my research. In my current project, I aim to decipher the cross-talk between intrinsic and extrinsic signalling factors in the development of sensory neurons.

I am also interested in how neuropathic pain is modulated by, gender, aging, and social interactions. Research into these interesting interactions will unlock novel approaches to personalized pain therapy.

### Seleted publications

1. N. Panayotis, P. Freund, **L. Marvaldi**, T. Shalit, A. Brandis, T Mehlman, M. Tsoory, M. Fainzilber.  $\beta$ -Sitosterol Reduces Anxiety and Synergizes with Established Anxiolytic Drugs in mice. *Cell Reports Medicine* doi: 10.1016/j.xcrm.2021.100281 (2021).
2. **L. Marvaldi**, N. Panayotis, S. Alber<sup>o</sup>, S.-Y. Dagan<sup>o</sup>, N. Okladinikov, I. Koppel, A. Di Pizio, D.-A. Song, Y. Tzur, M. Terenzio, I. Rishal, D. Gordon, F. Rother, E. Hartmann, M. Bader, and M. Fainzilber. Importin  $\alpha$ 3 regulates chronic pain pathways in peripheral sensory neurons. *Science* 369, (6505):842-846 (2020). This work has been highlighted in a perspective piece in *Science* 369, (6505) 774-775 (2020) and in *Nature Chemical Biology* 1037 (2020) and recommended by Ji R: Faculty Opinions Recommendation 22 Sep 2020; 10.3410/f.738498141.793578282.
3. B.-C. Tamin-Yecheskel<sup>o</sup>, M. Fraiberg<sup>o</sup>, K. Kokabi<sup>o</sup>, S. Freud, O. Shatz, **L. Marvaldi**, N. Subic, O. Brenner, M. Tsoory, R. Eilam-Altstadter, I. Biton, A. Savidor, G. Heimer, C. Behrendes, B Ben-Zeev, Z. Elazar. Novel mouse model simulating spastic paraplegia type 49 reveals defects in autophagosomal consumption. *Autophagy* 10.1080/15548627.2020.1852724 (2020).
4. M. Terenzio, S. Koley, N. Samra, I. Rishal, Q. Zhao, P. K. Sahoo, A. Urisman, **L. Marvaldi**, J. A. Oses-Prieto, C. Forester, C. Gomes, A. L. Kalinski, A. Di Pizio, E. Doron-Mandel, R. B.-T. Perry, I. Koppel, J. L. Twiss, A. L. Burlingame, M. Fainzilber, Locally translated mTOR controls axonal local translation in nerve injury. *Science*. **359**, 1416–1421 (2018).
5. **L. Marvaldi**, S. Thongrong, A. Kozłowska, R. Irschick, C. O. Pritz, B. Bäumer, G. Ronchi, S. Geuna, B. Hausott, L. Klimaschewski, Enhanced axon outgrowth and improved long-distance axon regeneration in sprouty2 deficient mice. *Dev. Neurobiol.* **75**, 217–231 (2015).