

## -PERSONAL INFORMATION

Micaela Zonta

## POSITION

Ph.D. Technologist at CNR Neuroscience Institute

## WORK EXPERIENCE

Nov 2012 - present

**Technologist**

CNR Neuroscience Institute, Padua

- Research activity on astrocyte function in physiology and pathology

Jul 2014 - present

**Laser manager**

CNR Neuroscience Institute, Padua

- Laser and optic paths management for 2-photon laser scanning microscopes

Dec 2009 - Sep 2012

**Telethon Postdoctoral Fellow**

CNR Neuroscience Institute, Padua

- Research activity on astrocyte function in epileptic models

Apr 2008 - Dec 2008

**Telethon Postdoctoral Fellow**

Department of Biomedical Sciences – University of Padua

- Research activity on astrocyte function in spinal cord physiology

Jan 2007 - Mar 2008

**Postdoctoral Fellow**

Department of Biomedical Sciences – University of Padua

- Research activity on astrocyte function in spinal cord physiology

Nov 2003 - Jun 2004

**Postdoctoral Fellow**

Department of Biomedical Sciences – University of Padua

- Research activity on exocytotic neurotransmitter release from astrocytes

## EDUCATION AND TRAINING

23<sup>th</sup> January 2004**Ph.D. degree in Cellular and Molecular Biology and Pathology**

Nov 1999 - Nov 2003

**Ph.D. course in Cellular and Molecular Biology and Pathology**

University of Padua, Italy - PhD thesis on: "Astrocytes as a source of neuroactive and vasoactive molecules in the brain: regulation by neurotransmitter-mediated Ca<sup>2+</sup> signalling"

Nov 1998 - Nov 1999

**Laboratory Internship**

Laboratory of Tullio Pozzan (supervisor Giorgio Carmignoto)

Department of Biomedical Sciences - University of Padua

5<sup>th</sup> November 1998**University Degree in Biological Sciences (110/110 cum laude)**

Nov 1997 - Nov 1998

**Undergraduate Internship**

Laboratory of Tullio Pozzan (supervisor Giorgio Carmignoto)

Department of Biomedical Sciences - University of Padua

Nov 1992 - Nov 1997

**University Course in Biological Sciences**

University of Padua

July 1992

**High School Diploma in Classical Studies**

Liceo Classico G.B. Brocchi, Bassano del Grappa (VI)

## PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)

English

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
B2	C1	B1	B1	B2

Job-related skills

- Good communication and organisational skills acquired throughout several years of experience in teamwork and supervision of Ph.D. students
- Excellent command in confocal and 2 photon microscopy, including laser optic path handling
- Excellent command in imaging and analysis of spatiotemporal dynamics of intracellular calcium concentration at single cell level *in vitro*, *in situ* and *in vivo*
- Electrophysiology skills in local field potential recording
- Good command in technical preparation of mouse craniotomy for optic access to *in vivo* brain imaging and of acute rodent brain slices for *in situ* experiments
- Good command in techniques of cellular biology (primary cultures from neonatal rodent brain, commercial cell line cultures, transfection techniques and basic immunocytochemistry)
- Basic molecular biology skills

Digital skills

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Proficient user	Proficient user	Independent user	Independent user	Independent user

- Good command of Office suite, Adobe suite, image and data analysis software (ImageJ, OriginLab), reference handling software (EndNote)
- Basic command of Matlab software

## ADDITIONAL INFORMATION

Publications

- **Zonta M.**, Pozzan T., Vicini S. and Carmignoto G. (2000). Calcium oscillations in astrocytes are the signalling system for the release of glutamate and prostaglandin E2. *European Journal of Neuroscience*, vol.12, p. 353, ISSN: 0953-816X
- Pasti L., **Zonta M.**, Pozzan T., Vicini S. and Carmignoto G. (2001) Cytosolic calcium oscillations in astrocytes may regulate exocytotic release of glutamate. *Journal of Neuroscience* 2001 21, 477-484
- **Zonta M.** and Carmignoto G. (2001) Glutamate-Mediated Astrocyte-Neuron Communication in Brain Physiology and Pathology. In: "The Neuronal Environment - Brain Homeostasis in Health and Disease". Ed. Wanz W., Humana Press Inc.
- **Zonta M.** and Carmignoto G. (2002) Calcium oscillations encoding neuron-to-astrocyte communication. *Journal of Physiology (Paris)* 2002; 96, 193-198
- **Zonta M.**, Angulo M.C., Gobbo S., Rosengarten B., Hossmann K-A., Pozzan T. and Carmignoto G. (2003) Neuron-to-astrocyte signaling is central to the dynamic control of brain microcirculation. *Nature Neuroscience* Published online: 25 November 2002, doi:10.1038/nn980; printed version in 2003 Jan;6(1):43-50
- **Zonta M.**, Angulo M.C. and Carmignoto G. (2003) Astrocyte-mediated control of cerebral microcirculation- Author reply. *Trends in Neuroscience* 2003; 26 (7), 344-345
- **Zonta M.**, Sebelin A., Gobbo S., Fellin T., Pozzan T. and Carmignoto G. (2003) Glutamate-mediated cytosolic calcium oscillations regulate a pulsatile prostaglandin release from cultured rat astrocytes. *Journal of Physiology* 2003; 553.2, 407-414
- Merighi, A., Carmignoto, G., Gobbo S., Lossi, L., Salio, C., Vergnano, A.M. and **Zonta M.** (2004) Neuropeptides in spinal cord nociceptive pathways. *Progress in Brain Research* 2004; 146:291-321

- Crippa D., Schenk U., Francolini M., Rosa P., Verderio C., **Zonta M.**, Pozzan T., Matteoli M. and Carmignoto G. (2006) Synaptobrevin2-expressing vesicles in rat astrocytes: insights into molecular characterization, dynamics and exocytosis. *Journal of Physiology* Published online: 1 December 2005; printed version in 2006, 570.3, 567-582
- Merighi A., Bardoni R., Salio C., Lossi L., Ferrini F., Prandini M., **Zonta M.**, Gustincich S., and Carmignoto G. (2008) Presynaptic functional trkB receptors mediate the release of excitatory neurotransmitters from primary afferent terminals in lamina II (substantia gelatinosa) of postnatal rat spinal cord. *Developmental Neurobiology* 2008 Mar; 68(4):457-75
- Carmignoto G. and **Zonta M.** (2008) Physiological and Pathological Roles of Astrocyte-mediated Neuronal Synchrony. In: "Astrocytes in (Patho)Physiology of the Nervous System" V.Papura and P.G.Haydon (eds.), Springer US
- Bardoni R., Ghirri A., **Zonta M.**, Betelli C., Vitale G., Ruggieri V., Sandrini M. and Carmignoto G. (2010) Glutamate-mediated astrocyte-to-neuron signalling in the rat dorsal horn. *Journal of Physiology* 2010; 588 (Pt 5):831-846
- Gomez-Gonzalo M., Losi G., Chiavegato A., **Zonta M.**, Cammarota M., Brondi M., Vetri F., Uva L., Pozzan T., de Curtis M., Ratto G.M. and Carmignoto G. (2010) An Excitatory Loop with Astrocytes Contributes to Drive Neurons to Seizure Threshold. *PLoS Biology* 2010; 8 (4):e1000352
- Cammarota M., Losi G., Chiavegato A., **Zonta M.** and Carmignoto G. (2013) Fast spiking interneuron control of seizure propagation in a cortical slice model of focal epilepsy. *Journal of Physiology* 2013; 591, 807-822
- Mariotti L., Losi G., Lia A., Melone M., Chiavegato A., Gomez-Gonzalo M., Sessolo M., Bovetti S., Forli A., **Zonta M.**, Reque L.M., Marcon I., Pugliese A., Viollet C., Bettler B., Fellin T., Conti F. and Carmignoto G. (2018) Interneuron-specific signaling evokes distinctive somatostatin-mediated responses in adult cortical astrocytes. *Nature Communications* 2018; 9:82 DOI: 10.1038/s41467-017-02642-6
- Notartomaso S., Nakao H., Mascio G., Scarselli P., Cannella M., Zappulla C., Madonna M., Motolese M., Gradini R., Liberatore F., **Zonta M.**, Carmignoto G., Battaglia G., Bruno V., Watanabe M., Aiba A. and Nicoletti F. (2018) mGlu1 receptors monopolize the synaptic control of cerebellar Purkinje cells by epigenetically down-regulating mGlu5 receptors. *Scientific Reports* 2018; 8(1), 13361. doi:10.1038/s41598-018-31369-7
- Lia A., **Zonta M.**, Reque L.M. and Carmignoto G. (2018) Dynamic interactions between GABAergic and astrocytic networks. *Neuroscience Letters* 2018; doi: 10.1016/j.neulet.2018.06.026
- Losi G., Lia A.M., Gomez-Gonzalo M., **Zonta M.** and Carmignoto G. (2019) Optogenetic Interneuron Stimulation and Calcium Imaging in Astrocytes [published correction appears in *Methods Mol Biol.* 2019;1925:C1]. *Methods in Molecular Biology* 2019; 1925:173-182. doi:10.1007/978-1-4939-9018-4\_16
- Losi G., Gomez-Gonzalo M., **Zonta M.**, Chiavegato A. and Carmignoto G. (2019) Cellular and molecular mechanisms of new onset seizure generation [published online ahead of print, 2019 Nov 15]. *Aging Clin Exp Res.* 2019; 10.1007/s40520-019-01396-z. doi:10.1007/s40520-019-01396-z
- Lia A., Henriques V. J., **Zonta M.**, Chiavegato A., Carmignoto G., Gómez-Gonzalo M. and Losi G. (2021) Calcium Signals in Astrocyte Microdomains, a Decade of Great Advances. *Frontiers in Cellular Neuroscience* 2021; 15:177. doi:10.3389/fncel.2021.673433

#### Seminars

- Speaker at CNR IN Institute Retreat, Cagliari 3-5 June 2007
- Invited speaker at International Workshop nEUROpt, Milano 12-13 March 2012
- Invited speaker at CNR Institute of Milan, 31st March 2017
- Speaker at CNR DSB Department annual conference, 23-24 November 2020
- Speaker at CNR IN Institute Retreat, Cagliari 22-24 September 2022

#### Grants

- PRIN 2020 "Interaction between cholinergic and glutamatergic transmission at tripartite synapse in the pathophysiology of Alzheimer's Disease" - 2020AMLXHH - LS5  
Role: Scientific Coordinator for Padova IN-CNR