

Curriculum Vitae of Marco Canepari



Date of Birth: May 29th 1970

Place of Birth: Milan (Italy)

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Education and principal professional experiences:

- **University degree in Physics:** University of Genoa, Italy, June 1994 (110/100 cum laude).
- **PhD in Biophysics:** SISSA/ISAS, Trieste, Italy, February 1999.
- **03/1999 – 03/2005:** Postdoc at the National Institute for Medical research (NIMR), London, UK.
- **05 – 12/2005:** Senior postdoc at Yale University School of Medicine, New haven, USA.
- **03/2006 – 12/2010:** Senior research associate at the Biozentrum, University of Basel, CH.
- **01/ 2010-09-today:** INSERM permanent scientist.

Awards:

- **2000:** Premio Borsellino (awarded by the *Italian Society for Biophysics*), for the best Italian PhD thesis in biophysics.
- **1999-2001:** 2-years Marie Curie individual fellowship (postdoctoral).
- **2005:** Young Scientist Award, ISN-ESN2005, Innsbruck.
- **2013:** Award *Espoir en tête* from the *Fédération pour la Recherche sur le Cerveau*.

After a long experience acquired in several countries, Marco Canepari (MC) has been leading several project as Principal Investigator, initially in Switzerland and later on in France where he has established his own laboratory. MC is recognized leader in the technique of *Membrane Potential imaging*, in particular in coupling this method with ion imaging. His expertise includes the development of novel cutting-edge instrumentation and analysis methods based on computational neuroscience. Since the beginning of his career, he devoted a large fraction of his research activity to methodological developments of imaging techniques as well as techniques of optical stimulation in particular using caged compounds. In addition to the contributions in methodological research, he performed several research projects in fundamental neurophysiology investigating several aspects of neuronal functions in different systems, including the hippocampus, the cerebellum and the thalamus. MC has also a very long record of participation as lecturer at international schools.

Selected publications

Ait Ouares K, Filipis K, Tzilivaki A, Poirazi P, **Canepari M** (2019) Two distinct sets of Ca²⁺ and K⁺ channels are activated at different membrane potentials by the climbing fibre synaptic potential in Purkinje neuron dendrites. *Journal of Neuroscience*, 39(11): 1969-1981.

Jaafari N, **Canepari M** (2016) Functional coupling of diverse voltage-gated Ca²⁺ channels underlies high-fidelity of fast dendritic Ca²⁺ signals during burst firing. *Journal of Physiology*, 594(4): 967-983.

Jaafari N, Marret E, **Canepari M** (2015) Using simultaneous voltage and calcium imaging to study fast Ca²⁺ channels. *Neurophotonics*, 2(2): 021010.

Jaafari N, De Waard M, **Canepari M** (2014) Imaging Fast Calcium Currents beyond the Limitations of Electrode Techniques. *Biophysical Journal*, 107(6): 1280-1288.

- Lee G, Stewart R, **Canepari M**, Capogna M (2014) Firing of hippocampal neurogliaform cells induces suppression of synaptic inhibition. *Journal of Neuroscience*, 34(4): 1280-1292.
- Vogt KE, Gerharz S, Graham J, **Canepari M** (2011) Combining membrane potential imaging with L-glutamate or GABA photorelease. *PLoS ONE*, 6(10): e24911.
- Vogt KE, Gerharz S, Graham J, **Canepari M** (2011) High-resolution simultaneous voltage and Ca^{2+} imaging. *Journal of Physiology*, 589(3): 489-494.
- Canepari M**, Willadt S, Zecevic D, Vogt KE (2010) Imaging Inhibitory Synaptic Potentials Using Voltage Sensitive Dyes. *Biophysical Journal*, 98(9): 2032-2040.
- Canepari M**, Vogt KE (2008) Dendritic Spike Saturation of Endogenous Calcium Buffer and Induction of Postsynaptic Cerebellar LTP. *PLoS ONE*, 3(12): e4011.
- Cueni L, **Canepari M**, Lujan R, Emmenegger Y, Watanabe M, Bond CT, Franken P, Adelman JP, Lüthi A (2008) T-type Ca^{2+} channels, SK2 channels, and SERCAs gate sleep-related oscillations in thalamic dendrites. *Nature Neuroscience*, 11(6): 676-682.
- Canepari M**, Djuricic M, Zecevic D (2007) Dendritic signals from rat hippocampal CA1 pyramidal neurons during coincident pre- and post-synaptic activity: a combined voltage- and calcium-imaging study. *Journal of Physiology*, 580(2): 463-484.
- Canepari M**, Odgen D (2006) Kinetic, pharmacological and activity-dependent separation of two Ca^{2+} signalling pathways mediated by type 1 metabotropic glutamate receptors in rat Purkinje neurons. *Journal of Physiology*, 573(1): 65-82.
- Canepari M**, Auger C, Ogden D (2004) Ca^{2+} ion permeability and single channel properties of the parallel fibre metabotropic slow EPSC of rat Purkinje neurons. *Journal of Neuroscience*, 24(14): 3563-3573.
- Canepari M**, Ogden D (2003) Evidence for protein tyrosine phosphatase, tyrosine kinase, and G-protein regulation of the parallel fiber metabotropic slow EPSC of rat cerebellar Purkinje neurons. *Journal of Neuroscience*, 23(10): 4066-4071.
- Canepari M**, Papageorgiou G, Corrie JE, Watkins C, Ogden D (2001) The conductance underlying the parallel fibre slow EPSP in rat cerebellar Purkinje neurones studied with photolytic release of L-glutamate. *Journal of Physiology*, 533(3): 765-772.
- Canepari M**, Cherubini E (1998) Dynamics of transmitter release: analysis of synaptic responses in CA3 hippocampal neurons following repetitive stimulation of afferent fibres. *Journal of Neurophysiology*, 79(4): 1977-1988.

Book editor

