

BIOGRAPHICAL SKETCH

Isabella Ferando M.D., Ph.D.

Neurology Training Program PGY-1 Resident, the University of Miami Department of Neurology - Miller School of Medicine

CONTACT INFORMATION

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EDUCATION

INSTITUTION AND LOCATION	DEGREE	YEARS	FIELD OF STUDY
University of Bologna (Italy)	M.D. <i>Magna cum Laude</i>	2001-2007	Medicine and Surgery
University of California Los Angeles	Ph.D.	2007-2014	Neurophysiology

Positions and Employment

- June 2019-Present Neurology residency program PGY-1 Resident - the University of Miami, Miller School of Medicine
- Apr 2018-Apr 2019 *Postdoctoral Scholar*, the David Geffen School of Medicine, Department of Neurology, UCLA Laboratory of Dr. Andrew Charles
- Sept 2014-Apr 2018 *Postdoctoral Scholar*, The David Geffen School of Medicine, Department of Neurology, UCLA Laboratory of Dr. Istvan Mody
- Jul 2008-June 2014 *Graduate Student Researcher*, David Geffen School of Medicine, Department of Neurology, UCLA
- 2010 *Teaching Assistant*, Animal Physiology, Physiological Science 166 UCLA
- 2009 *Teaching Assistant*, Animal Physiology, Physiological Science 166 UCLA
- Sept 2007-June 2008 *Graduate Student Researcher*, UCLA MCIP program rotations
- Jul-Aug 2007 *Visiting Clinical Trainee and Researcher*, Department of Neurology, Epilepsy Surgery Centre. Niguarda Hospital, University of Milan Bicocca (Italy)
- Mar-May 2007 *Trainee National Italian Board*, General Medicine, General Surgery and Family Medicine
- Aug-Dec 2006 *Visiting Scholar*, Department of Neurology, Seizure Disorder Center, David Geffen School of Medicine, UCLA
- Mar-May 2005 *Clinical Trainee and Researcher*, Department of Neurology, Epilepsy Unit. Bellaria Hospital, University of Bologna (Italy)
- June-July 2006 *Clinical Trainee and Researcher*, Department of Neurology and Pediatric Neurology, Bellaria Hospital, University of Bologna (Italy)
- Aug 2005 *Clinical and Surgical Trainee*, Orthopedic Department, Martin-Luther-University Halle Wittenberg, Halle (Germany)

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Mar-May 2004 *Clinical Trainee in Internal Medicine*, Sant'Orsola Hospital, Department of Internal Medicine, University of Bologna (Italy)

Teaching Experience

Teaching Assistant, Animal Physiology, Physiological Science 166 UCLA (2009 and 2010 courses)

Trainee Supervisor for several undergraduate and graduate students (project design and management, various laboratory techniques, data analysis and poster presentations).

Honors and Awards

- 2018 *Diploma*, San Servolo Advanced Epilepsy Summer School. International School of Neurological Sciences, Venice (Italy).
- 2015 *Fellowship*, the American Epilepsy Society Postdoctoral Research Fellowship. Award ID 367390
- 2013 *Fellowship*, UCLA Graduate Division
- 2013 *UCLA MCIP Travel Award* for poster presentation at Gordon Research Conference: Inhibition in the CNS
- 2012 *Best Abstract Presentation for Basic Science Research*, 10th Year Anniversary Symposium of UCLA SCOR Center for Neurovisceral Sciences and Women's Health
- 2012 *Best Presentation*, Molecular, Cellular and Integrative Physiology Interdepartmental PhD Program, MCIP Retreat
- 2010 *Graduate Student Poster Award*, The Neurology Science Day Poster Award, UCLA Department of Neurology
- 2010 *Fellowship for Original Research*, Italian National Board for General Doctors, Mantova (Italy)
- 2009 *Fellowship*, UCLA Graduate Division
- 2009 *MCIP Travel Award* for poster presentation at the Neuroscience annual Meeting
- 2009 *Travel Award for poster presentation at Gordon Research Conference: Inhibition in the CNS*, Molecular, Cellular and Integrative Physiology Interdepartmental PhD Program
- 2008-present Member of the Italian National Board for General Doctors, General Physician. Mantova (Italy)
- 2007 *MCIP Graduate Student Fellowship*, UCLA Molecular Cellular and Integrative Physiology Interdepartmental PhD Program
- 2007 *Licenza*, Collegio Superiore of the University of Bologna
- 2006 *Thesis Abroad Scholarship*, University of Bologna, Department of Medicine and Surgery
- 2001-2006 *Full Scholarship*, Collegio Superiore of the University of Bologna

Publications

1. **Ferando I**, Soss JR, Elder C, Vishal S, Lo Russo G, Tassi L, Tassinari CA, and Engel J, Jr Hand posture as localizing sign in adult focal epileptic seizures. (2019) *Annals of Neurology*, 86:793-800.
2. Lee CYD, Daggett A, Gu X, Jiang LL, Langfelder P, Li X, Wang N, Zhao Y, Park CS, Cooper Y, **Ferando I**, Mody I, Coppola G, Xu H, Yang XW (2018) Elevated TREM2 Gene Dosage Reprograms Microglia Responsivity and Ameliorates Pathological Phenotypes in Alzheimer's Disease Models. *Neuron*, 7;97(5):1032-1048.e5.

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3. Molnár L, Domokos J, **Ferando I** and Mody I. Bimodal RMS distributions for the objective detection of theta (θ) and gamma (γ) brain oscillations during long-term continuous LFP recordings in mice. *MACRO* 2017 2 (1), 31-37
4. **Ferando I**, Faas GC, Mody I (2016) Diminished KCC2 confounds synapse-specificity of LTP during senescence. *Nature Neuroscience*, 19(9), 1197–1200.
5. Chen L, Faas GC, **Ferando I**, Mody I (2015) Novel insights into the behavioral analysis of mice subjected to the forced-swim test. *Transl Psychiatry* 5:e551.
6. **Ferando I**, Mody I (2015) In vitro gamma oscillations following partial and complete ablation of δ subunit containing GABA_A receptors from parvalbumin interneurons. *Neuropharmacology* 88:91–98.
7. Barth AMI*, **Ferando I***, Mody I (2014) Ovarian cycle-linked plasticity of δ -GABA_A receptor subunits in hippocampal interneurons affects γ oscillations in vivo. *Front Cell Neurosci* 8:222. ***first co-authors**
8. **Ferando I**, Mody I (2013) Interneuronal GABA_A receptors inside and outside of synapses. *Curr Opin Neurobiol* 26C:57–63.
9. **Ferando I**, Mody I (2013) Altered gamma oscillations during pregnancy through loss of δ subunit-containing GABA_A receptors on parvalbumin interneurons. *Front Neural Circuits* 7:144.
10. **Ferando I**, Mody I (2012) GABA_A receptor modulation by neurosteroids in models of temporal lobe epilepsies. *Epilepsia* 53 Suppl 9:89–101.
11. Maguire J, **Ferando I**, Simonsen C, Mody I (2009) Excitability changes related to GABA_A receptor plasticity during pregnancy. *Journal of Neuroscience* 29:9592–9601.
12. Tassinari CA, Cantalupo G, Gardella E, Rondelli F, Rios L, Pinardi F, **Ferando I**, Nobili L, Rubboli G (2007) Central pattern generators and locomotor behaviours during frontal-hyperkinetic seizures and parasomnias. *Epilepsia*, 48(S7) 78-78

Book Chapters

1. Soss J, **Ferando I**, Engel J, Jr (2008) Diagnostic and Localizing Behavioral Features of Epileptic Seizures. In: *Epilepsy and Intensive Care Monitoring: Principles and Practice*, pp 191-200. Edited by Fisch B.J. Demos Medical Publishing

Invited Presentations

1. GABAergic plasticity and modulation of gamma oscillations during pregnancy. June 14, 2013. Institute of Neuroscience Seminars and Events, Newcastle University, Newcastle Upon Tyne (UK).
2. Neurosteroids and plasticity of GABA_A receptors. February 16, 2013. Molecular, Cellular, and Integrative Physiology Interdepartmental PhD Program annual Retreat. University of California, Los Angeles
3. Neurosteroids and δ -GABA_ARs: modifications during pregnancy and network effects. June 1, 2012. Joint Seminar Series, Training Program in Neural Repair and Laboratory of Neuroendocrinology: Topics in Neuronal Development, Degeneration and Repair (Course NS215). University of California, Los Angeles

Conference Posters

1. Molnar L, **Ferando I** and Mody I. Determination of awake and sleep stages using objective detection criteria and analyses of long-term continuous intrahippocampal LFP recordings and video activity measures in mice. Neuroscience Meeting Planner. Washington DC: Society for Neuroscience, 2017. Online
2. Molnar L, Domokos J, **Ferando I** and Mody I. Objective detection criteria and analyses of theta (θ) and gamma (γ) oscillations and their phase-amplitude coupling (PAC) during long-term continuous intrahippocampal LFP recordings in mice. Neuroscience Meeting Planner. San Diego: Society for Neuroscience, 2016. Online
3. **Ferando I**, R Soss JR, Lo Russo G, Tassi L, Engel J Jr and Tassinari CA. Hand posture as localizing sign in adult partial epileptic seizures. p0127. 31st International Epilepsy Congress ILAE. Istanbul. 2015
4. **Ferando I**, Mody I. *In vitro* gamma oscillations following partial and complete ablation of δ subunit-containing GABA(A) receptors from parvalbumin interneurons. 297.12/A64. Neuroscience Meeting Planner. Washington DC: Society for Neuroscience, 2014. Online
5. Barth AMI, **Ferando I**, Mody I. δ -GABAA receptor subunits in parvalbumin interneurons control ovarian cycle-linked fluctuations of γ oscillations *in vivo*. 297.13/A65. Neuroscience Meeting Planner. Washington DC: Society for Neuroscience, 2014. Online.
6. Faas GC, **Ferando I**, Mody I. Synaptic spill-over of LTP in old animals through excitatory GABAergic transmission. 404.07/D40. Neuroscience Meeting Planner. Washington DC: Society for Neuroscience, 2014. Online
7. **Ferando I**, Wei W, Mody I. GABA_A receptors aid the induction and maintenance of LTP produced by theta-burst stimulation in the hippocampal CA1 region of 2-year-old mice. 141.10/I3. 2013 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2013. Online.
8. **Ferando I**, Mody I. Altered gamma oscillations during pregnancy through loss of δ subunit-containing GABA_A receptors on parvalbumin interneurons. Gordon Research Conference: Inhibition in the CNS, 2013.
9. Chen L, **Ferando I**, Mody I, Faas GC. Ducks float, but are they depressed? Buoyancy as a confounding factor in the mouse forced swim (Porsolt) test. 781.02/MMM14. 2013 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2013. Online.
10. **Ferando I**, Mody I. Pregnancy-related reduction in δ -GABA_ARs of interneurons and effects on hippocampal gamma oscillations. Gordon Research Conference: Mechanisms of Epilepsy and Neuronal Synchronization, 2012.
11. **Ferando I**, Kelley MR, Mody I. TRPC6 expression changes in a mouse model of temporal lobe epilepsy. Abst. 3.346, 2012 American Epilepsy Society Annual Meeting. Online.
12. **Ferando I**, Mody I. Pregnancy-related reduction in δ -GABA_ARs of interneurons and effects on hippocampal gamma oscillations. 138.16/B70. 2012 Neuroscience Meeting Planner. New Orleans, LA: Society for Neuroscience, 2012. Online.
13. **Ferando I**, Mody I. Pregnancy-related changes in GABA_AR δ subunit expression in interneurons and effects on hippocampal CA3 gamma oscillations. 2012, 10th Year Anniversary Symposium of UCLA SCOR Center for Neurovisceral Sciences and Women's Health.

14. **Ferando I**, Maguire J, Simonsen C, Mody I. Region-specific GABA_AR plasticity during pregnancy: Effect on neuronal excitability. 416.1/B105. 2009 Neuroscience Meeting Planner. Chicago, IL: Society for Neuroscience, 2009. Online.

Laboratory and Computer Skills

Electrophysiology: vibratome sectioning, electrophysiological extracellular slice recording. Whole-cell patch clamp recording. *In vivo* long-term depth EEG recordings. Surgeries for depth electrodes implantation. Electrophysiology setups engineering and assembly.

Immunohistochemistry: tissue preparation, cryostat sectioning, staining, bright-field imaging, epifluorescence imaging, confocal imaging, Clarity, STED.

Molecular Biology: Primary neuronal cultures, slice cultures, protein isolation, synaptosomes isolation, immunoprecipitation, western blots. RNA and DNA isolation, PCR. Brain microdissection. ELISA. Plasma steroid quantification. Plasmids production. Retrovirus and Adenovirus production. *In vivo* brain microinjections.

Animal Behavior Tests: Porsolt forced swim, sucrose preference, resident intruder, open field, elevated plus maze, tail suspension, object context mismatch, fear conditioning, novelty-suppressed feeding.

Software: Office, LabView, EVAN, Igor Pro, MatLab, Adobe Illustrator, Adobe Photoshop, ImageJ, Prism, Berkeley-Madonna, LaTeX.