

FRANCESCO PAPAleo, Ph.D.

Curriculum Vitae

Date and Place of Birth: November 12, 1977, Scicli (RG), Italy
Nationality: Italian
Languages Spoken: Italian, French, English.
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Research experience

June 2009- present: Team Leader at the Neuroscience and Brain Technologies department; Istituto Italiano di Tecnologia, Genova, Italy. Dir. Professor Fabio Benfenati.

September 2005- August 2010: visiting fellow at the Clinical Brain Disorders Branch; National Institute of Mental Health, NIH, Bethesda, USA. Supervisors: Dr. Daniel Weinberger and Dr. Jacqueline Crawley.

January 2005- August 2005: position as “Assistant Associé” at the University of Bordeaux 2, France, “Laboratoire Homéostasie-Allostasie-Pathologie” (Dir.: Professor Guy Simonnet). Supervisors: Professor Antoine Tabarin and Dr. Angelo Contarino.

July 2004- December 2004: research at the “Laboratoire Homéostasie-Allostasie-Pathologie” (Dir.: Professor Guy Simonnet), University of Bordeaux, France. Supervisors: Professor Antoine Tabarin and Dr. Angelo Contarino.

September 2003- July 2004: research at the INSERM Unit 588, “Laboratoire de Physiopathologie du Comportement” (Dir.: Dr. Pier Vincenzo Piazza), Bordeaux, France. Supervisor: Dr. Angelo Contarino.

January 2002- March 2005: Pharmacology and Toxicology PhD Student, University of Padova, Italy. Thesis title: *Opposite roles for CRF/CRF₁ receptor pathways in somatic and affective components of the opiate withdrawal syndrome*. Supervisor: Dr. Angelo Contarino.

October 1996- November 2001: Pharmacy graduate studies (110/110 *cum Laude*), University of Padova, Italy. Thesis title: *Mice deficient for Corticotropin-releasing factor receptor 1 show physical but not affective signs of opiate withdrawal*. Supervisors: Professor Pietro Giusti and Dr. Angelo Contarino.

December 2000- November 2001: S. Chiara Pharmacy. Production of homeopathy, herbal and chemical drugs. Supervisor: Dr. Paolo Pretto.

Grants

September 2010- September 2014: Marie Curie FP7-Reintegration-Grants Call identifier: FP7-PEOPLE-2010-RG Grant N° 268247 – "SCHIZOGENES".

August 2008-August 2010: NIMH Julius Axelrod Memorial Fellowship Training Award. Behavioral characterization of genetically modified mice for schizophrenia-associated susceptibility genes.

Fellowships and awards

May 2009: award as a Preceptor in the Howard Hughes Medical Institute Student Internship Program.

August 2008: two-year NIMH Julius Axelrod Memorial Fellowship Training Award.

May 2008: award as a Preceptor in the Howard Hughes Medical Institute Student Internship Program.

May 2007: mentor to prize winner of the American Academy of Neurology (AAN) Neuroscience Research Prize; Boston, annual meeting of the AAN.

September 2005- August 2010: fellowship at the National Institute of Mental Health, NIH.

January 2002- December 2004: fellowship to attend a PhD Pharmacology program at the University of Padova, Italy.

October 2003: scholarship from the Italian Society of Pharmacology.

Publications

- 1 Ingallinesi M, Rouibi K, Le Moine C, **Papaleo F**, Contarino A. CRF₂ receptor-deficiency eliminates opiate withdrawal distress without impairing stress-coping. *Molecular Psychiatry*. In press.
- 2 **Papaleo F**, Silverman JL, Aney J, Tian Q, Barkan CL, Chadman KK, Crawley JN. Working memory deficits, increased anxiety-like traits and seizure susceptibility in BDNF overexpressing mice. *Learning & Memory*. 2011 Jul 26;18(8):534-44. Print 2011 Aug.
- 3 **Papaleo F**, Lipska BK, Weinberger DR. Mouse models of genetic effects on cognition: Relevance to schizophrenia. *Neuropharmacology*. 2011 May 5. [Epub ahead of print].
- 4 **Papaleo F**, Weinberger DR. Dysbindin and Schizophrenia: It's dopamine and glutamate all over again. *Biological Psychiatry*. 2011 January 1; 69(1): 2-4.
- 5 **Papaleo F**, Yang F, Garcia S, Chen J, Lu B, Crawley JN, Weinberger DR. Dysbindin-1 modulates prefrontal cortical activity and schizophrenia-like behaviors via dopamine/D2 pathways. *Molecular Psychiatry*. 2010 Oct 19. [Epub ahead of print].
- 6 Ji Y, Yang F, **Papaleo F**, Wang HX, Gao WJ, Weinberger DR, Lu B. Role of dysbindin in dopamine receptor trafficking and cortical GABA function. *Proc Natl Acad Sci*. 2009 Nov 17; 106(46):19593-19598. Epub 2009 Nov 3.
- 7 **Papaleo F**, Chen J, Weinberger DR. Animal models of genetic effects on cognition, in: *The Genetics of Cognitive Neuroscience*. MIT press. 2009. Chapter 3, pages 51-94.
- 8 **Papaleo F**, Crawley JN, Song J, Lipska BK, Pickel J, Weinberger DR, Chen J. Genetic dissection of the role of Catechol-O-Methyltransferase in cognition and stress reactivity in mice. *J. Neurosci*. 2008 Aug 27; 28(35):8709-23.
- 9 **Papaleo F**, Ghozland S, Ingallinesi M, Roberts AJ, Koob GF, Contarino A. Disruption of the CRF₂ receptor pathway decreases the somatic expression of opiate withdrawal. *Neuropsychopharmacology*. 2008 Nov;33(12):2878-87. Epub 2008 Feb 20.
- 10 **Papaleo F**, Kieffer BL, Tabarin A, Contarino A. Decreased motivation to eat in μ -opioid receptor-deficient mice. *European Journal of Neuroscience*. 2007 Jun; 25(11):3398-3405.
- 11 **Papaleo F**, Kitchener P, Contarino A. Disruption of the CRF/CRF₁ receptor stress system exacerbates the somatic signs of opiate withdrawal. *Neuron*. 2007 Feb 15;53(4):577-589.
- 12 **Papaleo F** and Contarino A. Gender- and morphine dose-linked expression of spontaneous somatic opiate withdrawal in mice. *Behavioural Brain Research*. 2006 Jun 3; 170(1):110-8.

13 Contarino A and **Papaleo F.** The corticotropin-releasing factor receptor-1 pathway mediates the negative affective states of opiate withdrawal. Proc Natl Acad Sci. 2005 Dec 20; 102(51):18649-18654.

Mentoring - Students

- Mentor/Supervisor of Dr. Gregory V. Carr. Post-doctoral fellow at the Clinical Brain Disorders Branch; National Institute of Mental Health, NIH, Bethesda, USA (February 2010-present).
- Doctoral course on “Neuroscience and brain technologies”, doctoral school on “humanoid and life technologies” XXV cycle. Mentor and Supervisor of Diego Scheggia (January 2010-present).
- Post-Baccalaureate Intramural Research Training Award; Mentor of: Audrey Bebensee (June 2010- present). Kimberly A. Jenkins (June 2009- July 2010). Sheena J. Garcia (October 2008- August 2010). Jordan Aney (August 2009- July 2010). Lucy Erickson (June 2008- August 2009).
- Howard Hughes Medical Institute Student internship program; Preceptor and Mentor of: Sara Khanal (June 2010- present). Alex Clark (June 2009- June 2010). Edward Sullivan (June 2008- July 2009). Takele Telahun (June 2007- June 2008).
- Science, Mathematics, Computer Science Magnet Program, Montgomery Blair High School; Mentor of: Brian Chang, (June 2007- January 2008). Payal Patnaik* (June 2006- June 2007), *Winner of the American Academy of Neurology’s Neuroscience Research Prize 2007.
- Bethesda-Chevy Chase High School Internship program, Mentor of Carla Bes (June 2006- June 2007).
- Instructor and supervisor of several students in Murine behavioral models, Neuroscience program of the University of Bordeaux II, France (2004).
- Instructor of Silvia Principe, for Murine drug addiction models, student in Pharmaceutical Sciences of the University of Padova, Italy (2002-2003).
- Instructor of Denise Ferrante for Murine drug addiction models, student in Chemistry and Pharmaceutical Sciences, University of Padova, Italy (2002-2003).

Invited lectures - Teaching

- Geni, ambiente e psicosi: dai modelli animali all’uomo. Società Italiana di Psicopatologia. PSICHIATRIA 2011: Vulnerabilità, esordi, intervento precoce. Roma, Italy (February 2011).

- Studying cognition in mice. PhD course in Neuroscience and Brain Technologies XXV and XXVI cycles. Istituto Italiano di Tecnologia, Genova, Italy (September 2010 and 2011).
- COMT, dysbindin and their interaction: implications for schizophrenia. Séminaires de Neurobiologie, Institut des Neurosciences de Bordeaux, Bordeaux, France (September 2009).
- Disease models of genetic susceptibility for complex brain disorders. 42nd Annual Winter Conference on Brain Research, Colorado, USA (January 2009).
- COMT and Dysbindin: insights from genetic mouse models. Genes, Cognition and Psychosis Program/NIMH/NIH Seminar (October 2008).
- COMT and Dysbindin: insights from genetic mouse models. Italian Institute of Technology, IIT, Genova, Italy (October 2008).
- COMT and Dysbindin: insights from genetic mouse models. Istituto Superiore di Sanita', ISS, Roma, Italy (October 2008).
- COMT, Dysbindin and their interaction: insights from genetic mouse models. Clinical Brain Disorders Branch/NIMH/NIH (April 2008).
- Genetic dissection of the role of Catechol-O-Methyltransferase (*COMT*) in cognition and stress reactivity in mice. Italian Institute of Technology, IIT, Genova, Italy (April 2008).
- Genetic manipulation of Catechol-o-Methyltransferase (*COMT*) in mice affects specific cognitive processes. NIMH 11th Annual Scientific Retreat (September 2007).
- Role of corticotropin releasing factor receptor 1 in opiate withdrawal. For resident medical students in Pharmacology, University of Padova, Italy (2004).

Editorial and related activity

Ad Hoc Reviewer for:

- Behavioral Neuroscience.
- Behavioural Brain Research.
- Biological Psychiatry.
- Neuropharmacology.
- Neuropsychopharmacology.
- Journal of Neurochemistry.
- Psychopharmacology.
- The Journal of Neuroscience.
- Translational Psychiatry.
- Individual Research Grants from the National Medical Research Council, Singapore.
- Project SEED Grants from Istituto Italiano di Tecnologia, Italy.

Guest Editor for:

- CNS & Neurological Disorders-Drug Targets (CNSND-DT). Special issue: “Catechol-O-Methyltransferase as a drug target for nervous system disorders”.

Presentations at international meetings

1. Burdick MC, Straub RE, Papaleo F, Kolachana B, Zhang F, Mattay VS, Weinberger DR, Callicott JH (2011). Genetic Interaction between COMT and Dysbindin Effects Prefrontal Cortex Function During a BOLD fMRI Working Memory Paradigm. Society of Biological Psychiatry, 66th Annual Meeting, San Francisco, CA, USA
2. Huppe-Gourgues F, Papaleo F, Jingshan C, Weinberger DR, O'Donnell P (2010). Downregulation of D1 modulation of cell excitability in prefrontal pyramidal neurons in slices from val/val COMT mice. Society for Neuroscience 2010, Annual Meeting, San Diego, CA, USA.
3. Scheggia D, Garcia S, Benfenati F, Weinberger DR, Papaleo F (2010). Increased long-term memory functions in COMT Val-transgenic mice. 7th FENS forum of European Neuroscience. Amsterdam, The Netherlands.
4. Papaleo F, Jenkins KA, Weinberger DR, Law AJ (2010). Impaired Temporal Order Recognition Memory in Neuregulin 1 Type IV Transgenic Mice. International Behavioral Neuroscience Society 19th Annual Meeting, Villisimius, Sardinia, Italy.
5. Papaleo F, Chen J, Lu B, Crawley JN, Weinberger DR (2010). Genetic interaction between COMT and Dysbindin produce schizophrenia-like phenotypes. Società Italiana di Psicopatologia. PSICHIATRIA 2010: No Health Without Mental Health. Roma, Italy.
6. Wang Y, Papaleo F, Jenkins KA, Weinberger DR, Law AJ (2009). Transgenic over expression of Neuregulin 1, type IV regulates synaptic maturation in-vitro and impairs cortical function in mice. American College of Neuropsychopharmacology, 48th Annual Meeting, Hollywood, FL, USA.
7. Papaleo F, Chen J, Lu B, Crawley JN, Weinberger DR (2009). Genetic interaction between COMT and Dysbindin produce schizophrenia-like phenotypes. Neuroscience 2009, Annual Meeting, Chicago, IL, USA.
8. Garcia SJ, Papaleo F, Erickson L, Tian Q, Chen J, Crawley JN, Weinberger DR (2009). Working memory deficits in Catechol-O-Methyltransferase knockout female mice: opposite phenotype compared to male mice. Neuroscience 2009, Annual Meeting, Chicago, IL, USA.
9. Jenkins KA, Papaleo F, Chen J, Crawley JN, Weinberger DR, Law AJ (2009). Impaired Temporal Order Recognition Memory in Neuregulin 1 Type IV Transgenic Mice. NIMH 13th Annual Scientific Retreat, Gettysburg, PA, USA.
10. Papaleo F, Crawley JN, Chen J, Lu B, Weinberger DR (2008). Faster acquisition but not better performance of working memory, and increased startle, in dysbindin knockout mice. American College of Neuropsychopharmacology, 47th Annual Meeting, Scottsdale, AZ, USA.
11. Papaleo F, Crawley JN, Chen J, Lu B, Weinberger DR (2008). Improved working memory but increased stress responses in dysbindin knockout mice. NIMH 12th Annual Scientific Retreat, Gettysburg, PA, USA.
12. Papaleo F, Crawley JN, Lipska BK, Weinberger DR, Chen J (2008). Genetic dissection of the role of Catechol-O-Methyltransferase (COMT) in stress reactivity in mice. International Behavioral Neuroscience Society 17th Annual Meeting, St. Thomas - US Virgin Islands.

13. Papaleo F, Crawley JN, Lipska BK, Song J, Liu G, Pickel J, Weinberger DR, Chen J (2007). Evidence of evolutionary trade-off of cognitive and affective functions: from *in vitro* mutagenesis analyses on COMT genes and behavioral analyses on transgenic mice carrying human COMT transgene. American College of Neuropsychopharmacology, 46th Annual meeting, Boca Raton, FL, USA
14. Papaleo F, Crawley JN, Weinberger DR, Chen J (2007). Genetic manipulation of Catechol-o-Methyltransferase (COMT) in mice affects specific cognitive processes. Neuroscience 2007, Annual Meeting, San Diego, CA, USA.
15. Tabarin AC, Papaleo F, Kieffer BL, Contarino A (2007). The μ -opioid receptor pathway mediates the motivational properties of food intake. Neuroscience 2007, Annual Meeting, San Diego, CA, USA.
16. Contarino A, Ghozland S, Ingallinesi M, Roberts AJ, Koob GF, Papaleo F (2007). Decreased somatic opiate withdrawal in CRF₂ receptor-deficient mice. Neuroscience 2007, Annual Meeting, San Diego, CA, USA.
17. Song J, Ye T, Papaleo F, Elkahloun A, Chen J, Lipska BK, Weinberger DR (2007). Gene Expression Profiles in Prefrontal Cortex of Catechol-o-methyltransferase (COMT) Knockout Mice. NIMH 11th Annual Scientific Retreat, Gettysburg, PA, USA.
18. Patnaik P, Papaleo F, Crawley JN, Weinberger DR, Chen J (2007). Investigating the Role of Catechol-o-Methyltransferase in Cognition and Psychosis through Transgenic Mice. American Academy of Neurology, 59th Annual Meeting, Boston, MA, USA.
19. Contarino A, Papaleo F, Kitchener P, Vale W, Piazza PV (2004). Absence of reward and sensitization induced by high cocaine doses in CRF₁ receptor-deficient mice. Neuroscience 2004, 34th Annual Meeting, San Diego, CA, USA.
20. Papaleo F, Ferrante D, Contarino A (2003). Spontaneous somatic morphine withdrawal: a gender, drug dose and time-course study in C57BL/6J mice. 10th Biennial EBPS Meeting, Antwerp, Belgium.
21. Papaleo F, Giusti P, Contarino A (2002). Valutazione della componente psichica della sindrome d'astinenza spontanea da morfina: studi sul topo. Società Italiana di Farmacologia. VII Convegno Monotematico Aspetti Neurochimici e Farmacologici delle Dipendenze. Capri, Italy.
22. Papaleo F, Contarino A (2002). Motivational Indices of Spontaneous Opiate Withdrawal in Mice. VI Seminario nazionale per dottorandi in Farmacologia e Scienze affini. Siena, Italy.