

Dott. Paolo Enrico

Curriculum Vitae

Date of birth: October 14th, 1961
Place of birth: Alghero, Italy
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Curriculum Studiorum

1982 Baccalaureate: Liceo Scientifico G. Spano (Sassari)
1986 Biology degree: University of Sassari
1993-1995 University of Groningen, (The Netherlands); Guest Scientist

Academic position

1992 Assistant professor, University of Sassari

Research interests

Computational and theoretical neuroscience. In particular: computational modeling of synaptic integration and dendritic function in the central effects and withdrawal from addictive drugs. Background in *in vivo* neurochemistry (microdialysis, glutamate biosensors) applied to the study of the pharmacology of the mesolimbic dopaminergic system and the effects of addictive drugs.

Scientific papers

1. Mercante B, Ginatempo F, Manca A, Melis F, Enrico P, Deriu F. (2018) Anatomico-Physiologic Basis for Auricular Stimulation. *Med Acupunct.* 30(3):141-150. doi: 10.1089/acu.2017.1254
2. Enrico P, Diana M. (2017) On the accuracy of in vivo ethanol and acetaldehyde monitoring, a key tile in the puzzle of acetaldehyde as a neuroactive agent. *Front Behav Neurosci.* 11:97. doi: 10.3389/fnbeh.2017.00097.
3. Mercante B, Enrico P, Floris G, Quartu M, Boi M, Serra MP, Follesa P, Deriu F. (2017) Trigeminal nerve stimulation induces Fos immunoreactivity in selected brain regions, increases hippocampal cell proliferation and reduces seizure severity in rats. *Neuroscience.* 361:69-80. doi: 10.1016/j.neuroscience.2017.08.012
4. Enrico P, Migliore M, Spiga S, Mulas G, Caboni F, Diana M. (2016) Morphofunctional alterations in ventral tegmental area dopamine neurons in acute and prolonged opiates withdrawal. A computational perspective. *Neuroscience.* 322:195-207. doi: 10.1016/j.neuroscience.2016.02.006
5. Sirca D, Vardeu A, Pinna M, Diana M, Enrico P. (2015) A robust, state-of-the-art amperometric microbiosensor for glutamate detection. *Biosens Bioelectron.* 61:526-31. doi: 10.1016/j.bios.2014.04.054
6. Frisardi G, Iani C, Sau G, Frisardi F, Leornadis C, Lumbau A, Enrico P, Sirca D, Staderini EM, Chessa G. (2013) A relationship between bruxism and orofacial-dystonia? A trigeminal electrophysiological approach in a case report of pineal cavernoma. *Behav Brain Funct.* 9: 41. doi: 10.1186/1744-9081-9-41
7. Enrico P, Sirca D, Mereu M, Peana AT, Mercante B, Diana M. (2013) Acute restraint stress prevents nicotine-induced mesolimbic dopaminergic activation via a corticosterone-mediated mechanism: A microdialysis study in the rat. *Drug Alcohol Depend.* 127(1-3):8-14. doi: 10.1016/j.drugalcdep.2012.06.006
8. Sirca D., Enrico P., Mereu M., Peana A.T., Diana M. (2011) L-cysteine prevents ethanol-induced stimulation of mesolimbic dopamine transmission. *Alcohol Clin Exp Res.* 35(5):1-8. DOI: 10.41J.1530-0277.2010.01416.x
9. Peana A.T., Muggironi G., Calvisi G., Enrico P., Mereu M., Nieddu M., Boatto G., Diana M. (2010) L-Cysteine reduces oral ethanol self-administration and reinstatement of ethanol-drinking behavior in rats. *Pharmacol Biochem Behav.* 94(3): 431-7
10. Melis M., Diana M., Enrico P., Marinelli M., Brodie M.S. (2009) Ethanol and acetaldehyde action on central dopamine systems: mechanisms, modulation, and relationship to stress. *Alcohol.*

43(7): 531-9

11. Enrico P., Sirca D., Mereu M., Peana A.T., Lintas A., Golosio A., Diana M. (2009) Acetaldehyde sequestering prevents ethanol-induced stimulation of mesolimbic dopamine transmission. *Drug Alcohol Depend.* 100(3): 265-71
12. Peana A.T., Assaretti A.R., Muggironi G., Enrico P., Diana M. (2009) Reduction of ethanol-derived acetaldehyde induced motivational properties by l-cysteine. *Alcohol Clin Exp Res.* 33(1):43-8
13. Diana M., Peana A.T., Sirca D., Lintas A., Melis M., Enrico P. (2008) Crucial role of acetaldehyde in alcohol activation of the mesolimbic dopamine system. *Ann N Y Acad Sci.* 1139: 307-17
14. Peana A.T., Enrico P., Assaretti A.R., Pulighe E., Muggironi G., Nieddu M., Piga A., Lintas A., Diana M. (2008) Key role of ethanol-derived acetaldehyde in the motivational properties induced by intragastric ethanol: a conditioned place preference study in the rat. *Alcohol Clin Exp Res.* 32(2): 249-58
15. Melis M., Enrico P., Peana A.T., Diana M. (2007) Acetaldehyde mediates alcohol activation of the mesolimbic dopamine system. *Eur J Neurosci.* 26(10): 2824-33
16. Enrico P., Sirca D., Mereu M. (2007) Antioxidants, minerals, vitamins, and herbal remedies in tinnitus therapy. *Prog Brain Res.* 166: 323-30
17. Zinellu A., Carru C., Sotgia S., Porqueddu E., Enrico P., Deiana L. (2005) Separation of aceclofenac and diclofenac in human plasma by free zone capillary electrophoresis using N-methyl-D-glucamine as an effective electrolyte additive. *Eur. J. Pharm Sci.* 24(4): 375-80
18. Serra P.A., Esposito G., Enrico P., Mura M.A., Migheli R., Delogu M.R., Miele M., Desole M.S., Grella G., Miele E. (2000) Manganese increases L-DOPA auto-oxidation in the striatum of the freely moving rat: potential implications to L-DOPA long-term therapy of Parkinson's disease. *Br J Pharmacol.* 130(4): 937-945
19. Miele M., Mura M.A., Enrico P., Esposito G., Serra P.A., Migheli R., Zanganio D., Miele E., Desole M.S. (2000) On the mechanism of d-amphetamine-induced changes in glutamate, ascorbic acid and uric acid release in the striatum of freely moving rats. *Br. J. Pharmacol.* 129(3): 582-588
20. Enrico P., Mura M.A., Esposito G., Serra p.A., Migheli R., De Natale G., Desole M.S., Miele M., Miele E. (1998) Effect of naloxone on morphine-induced changes in striatal dopamine metabolism and glutamate, ascorbic acid and uric acid release in freely moving rats. *Brain Res.*

21. Westerink B.H.C, Enrico P., Feimann J., de Vries J.B. (1998) The pharmacology of mesocortical dopamine neurons: a dual-probe microdialysis study in the ventral tegmental area and prefrontal cortex of the rat brain. *J. Pharmacol. Exp. Ther.* 285(1): 142-154
22. Enrico P., Bouma M., de Vries J.B., Westerink B.H.C. (1998) The role of afferents to the ventral tegmental area in the handling stress-induced increase in the release of dopamine in the medial prefrontal cortex: a dual-probe microdialysis study in the rat brain. *Brain Res.* 779(1-2): 205-213
23. Enrico P., Esposito G., Mura M.A., Migheli R., Serra p.A., Desole M.S., Miele E., De Natale G., Miele M. (1997) Effects of allopurinol on striatal dopamine, ascorbate and uric acid during acute morphine challenge: ex vivo and in vivo studies. *Pharmacol. Res.* 35(6): 577-585
24. De Boer P., Enrico P., Wright J., Wise L.D., Timmerman W., Moor E., Dijkstra D., Wikstrom H.V., Westerink B.H.C. (1997) Characterization of the effect of dopamine D3 receptor stimulation on locomotion and striatal dopamine levels. *Brain Res.* 758(1-2): 83-91
25. Enrico P., Esposito G., Mura M.A., Fresu L., De Natale G., Miele E., Desole M.S., Miele M. (1997)
Effect of morphine on striatal dopamine metabolism and ascorbic acid and uric acid release in freely moving rats. *Brain Res.* 745(1-2): 173-182
26. Desole M.S., Esposito G., Fresu L., Migheli R., Enrico P., Mura M.A., De Natale G., Miele E., Miele M. (1996) Effects of morphine treatment and withdrawal on striatal and limbic monoaminergic activity and ascorbic acid oxidation in the rat. *Brain Res.* 723(1-2): 154-161
27. Miele M., Enrico P., Esposito G., Fresu L., Migheli R., De Natale G., Desole M.S. (1995) Cortical ablation and drug-induced changes in striatal ascorbic acid oxidation and behaviour in the rat. *Pharmacol. Biochem. Behav.* 50: 1-7
28. Desole M.S., Miele M., Esposito G., Migheli R., Fresu L., Enrico P., De Natale G. and Miele E. (1994) Monoaminergic systems activity and cellular defense mechanisms in the brainstem of young and aged rats subchronically exposed to manganese. *Neurosci. Lett.* 177: 71-74
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oxidation and glutathione levels in the striatal synaptosomes of the 1-Methyl-4-phenyl-1,2,3,6-Tetrahydropyridine (MPTP)-treated rat. *Neurosci. Lett.* 161: 121-123

31. Desole M.S., Esposito G., Enrico P., Miele M., Fresu L., De Natale G., Miele E. and Grella G. (1993) Effect of ageing on 1-Methyl-4-phenyl-1,2,3,6-Tetrahydropyridine (MPTP) neurotoxic effects on striatum and brainstem in the rat. *Neurosci. Lett.* 159: 143-146
32. Desole M.S., Enrico P., Fresu L., Miele M., Esposito G., De Natale G., Miele E. (1992) Analysis of 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine-induced changes in dopamine turnover and ascorbic acid catabolism in mouse striatum. *Pharmacol. Res.* 25(1): 19-20
33. Desole M.S., Enrico P., Miele M., Esposito G., Fresu L., De Natale G. and Miele E. (1992) Effects of cortical ablation on apomorphine- and scopolamine-induced changes in the dopamine turnover and ascorbic acid catabolism in the rat striatum. *European J. Pharmacol.* 219: 67-74
34. Miele M., Enrico P., Desole M.S., Fresu L., Esposito G., De Natale G. e and Miele E. (1992) Further investigation on scopolamine-induced changes in dopamine turnover, ascorbic acid catabolism and uric acid levels in rat striatum. *Pharmacology Communications* 1: 119-130
35. Desole M.S., Miele M., Enrico P., Esposito G., Fresu L., De Natale G. and Miele E. (1992) Effects of cortical ablation on d-amphetamine-induced changes in the dopamine turnover and ascorbic acid catabolism in the rat striatum. *Neurosci. Lett.* 139: 29-33
36. Desole M.S., Miele M., Esposito G., Enrico P., Fresu L., De Natale G. and Miele E. (1991) Further investigations into the relationship between the dopaminergic system, ascorbic acid and uric acid in the rat striatum. *European J. Pharmacol.* 205: 97-100
37. Desole M.S., Miele M., Enrico P., Esposito G., Fresu L., De Natale G. and Miele E. (1991) Investigations into the relationship between dopaminergic system and ascorbic acid in rat striatum. *Neurosci. Lett.* 127: 34-38
38. Desole M.S., Miele M., Esposito G., Enrico P., De Natale G. and Miele E. (1990) Analysis of the mechanism of d-amphetamine- and apomorphine-induced changes in ascorbic acid catabolism in discrete brain areas of the rat. *Pharmacol. Res.* 23: 295-306
39. Desole M.S., Miele M., Esposito G., Enrico P., De Natale G. and Miele E. (1990) Analysis of immobilization stress-induced changes of ascorbic acid, noradrenaline and dopamine metabolism in discrete brain areas of the rat. *Pharmacol. Res.* 22(3): 43-44
40. Miele M., Desole M.S., Enrico P., Esposito G., De Natale G. and Miele E. (1990) A dopaminergic mechanism mediates the d-amphetamine- and apomorphine-induced changes of ascorbic acid metabolism in the rat striatum. *Pharmacol. Res.* 22(3): 41-42

41. Miele M., Desole M.S., Demontis M.P., Enrico P., De Natale G., Varoni M.V. and Anania V. (1989) Effect of adriamycin and d-amphetamine on endogenous levels of ascorbic acid in rodents. *Pharmacol. Res.* 21(1): 13-14
42. Desole M.S., Miele M., Esposito G., Enrico P. and Miele E. (1989) Effects of 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP) and d-amphetamine on brain ascorbic acid levels in rats. *Pharmacol. Res.* 22(1): 71-72