

## BIOGRAPHICAL SKETCH

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NAME Roberto Ciccocioppo		POSITION TITLE Professor	
EDUCATION/TRAINING ( <i>Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.</i> )			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
University of Camerino, School of Pharmacy, Center for Neuroscience, Pharmacology Section	Master	04/1991	Medicinal chemistry and Pharmacology Substance use disorders, ingestive behavior, stress, cognition, behavioral pharmacology
	PhD	04/1996	

### A. Personal Statement

The main research focus of the team I coordinate is on the study of the neurobiological basis of abnormal behavioral and brain functions relevant to human psychopathology with emphasis on drug addiction and stress-related disorders. The majority of this work is directed at the understanding the neurological mechanisms responsible for these aberrant behaviours and at identifying innovative pharmacological targets to aid the development of new more effective treatments. Attention is also dedicated to the study of neurocircuitry and molecular mechanisms controlling emotional and cognitive disturbances associated with protracted exposure to drugs of abuse or chronic stress.

This research work is carried out in collaboration with other national and international high reputation research and academic institutions. These include the Scripps Research Institute, La Jolla, (CA), The National Institute of Health/NIAAAA Bethesda (MD), The Medical University of South Carolina, Charleston (SC) and many others. Over the years my research activity has been supported by several research grants including some received from the EU (TARGALC and INFONOMIC, FP5 and FP6 programs), and from the NIH/NIAAAA and NIH/NIDA. I have published over 250 scientific articles in qualified international journals, including Nature Neuroscience, Science Advances, Neuron, JAMA Psychiatry, American Journal Psychiatry. The Journal of Neuroscience, PNAS, Biological Psychiatry, Neuropsychopharmacology. I have also published several book chapters and am inventor of several patents granted at national and international levels.

I have published over 250 scientific articles in prestigious peer reviewed international journals including: Nature Neuroscience, Neuron, Journal of Neuroscience, PNAS, Biological Psychiatry, Neuropsychopharmacology, Science Advances, American Journal of Psychiatry, JAMA Psychiatry

Bibliometric parameters from Scopus:

H-index 55. Number of total citations 9337

35 publications in peer reviewed international journals in the last 3 years

## B. Positions and Honors

### Positions and Employment

From December 2014 -to November 2022 Head of the School of Advanced Studies, University of Camerino

From July 2022 to now Coordinator of the National PhD program in “Theoretical and Applied Neuroscience”

From December 2010 Professor of Pharmacology at the School of Pharmacy, University of Camerino

From January 2005, adjunct position “Visiting staff scientist” at the Scripps Research Institute, La Jolla California.

December 2004-December 2011 Associate Professor of Pharmacology at the University of Camerino

November 2001-March 2002 Visiting scientist at the Scripps Research Institute, La Jolla, USA.

November 1999-December 2004 Assistant Professor at the Department of Pharmacological Sciences and Experimental Medicine, University of Camerino

1998-1999 Postdoctoral research associate at the Scripps Research Institute, La Jolla, USA, in the group of Prof F. Weiss.

1995-1998 Postdoctoral Fellow of the Ministero Universita' Ricerca Scientifica e Tecnologica (Italy), Department of Pharmacological Sciences and Experimental Medicine, University of Camerino

1995 PhD degree in Pharmaceutical Sciences with full mark and honors.

1993-1994 Visiting PhD student, Department of Pharmacology, University of Birmingham, UK, in the group of Prof. N.M. Barnes.

1992-1995 PhD student at the Department of Pharmacological Sciences and Experimental Medicine, University of Camerino

1991 Degree in Chemistry and Pharmaceutical Technologies with full marks (110/110) and honours.

1990-1991 Visiting student at the School of Psychology, University of Birmingham, UK, in the group of Prof. S.J. Cooper.

### Other Experience and Professional Memberships

#### Honors

Axis-shield ISBRA Junior Investigator Award: for his studies on the mechanisms of ethanol “relapse”

S.I.M.S. Award for his studies on the mechanisms of cocaine relapse.

Italian Society of Pharmacology- Farmaindustria Award for the studies on “ The role of the Nociceptin/orphanin system in the regulation of stress-induced feeding maladaptive behaviors

#### Editorial Activities

Senior editor Frontiers Psychiatry, section –Psychopharmacology-

Board member of Addiction Biology

Guest Editor for the special issue "The genetics of alcoholism" for Addiction Biology

Frequent ad-hoc reviewer for several international Journals including:

*Journal of Neuroscience, TINS, Biological Psychiatry, Neuropsychopharmacology, European Journal Neuroscience, European Journal Neuropsychopharmacology Psychopharmacology, Brain Research, Journal Neuroendocrinology, British Journal of Pharmacology, Behavioral Brain Research, Pharmacology Biochemistry and Behavior, Alcohol and Alcoholism, Alcohol, Life Sciences, Naunyn Schmiedeberg's Archives of Pharmacology, Peptides, Neuropharmacology, Alcoholism Clinical Experimental Research, European Journal of Pharmacology, Scientific Report, Nature Methods, Neuroscience and Biobehavioral Reviews.*

#### Membership

Society for Neuroscience

European Behavioural Pharmacology Society

Italian Society of Pharmacology

Italian Society of Neuroscience

International Narcotic Research Conference

International Drug Abuse Research Society

#### C. Selected Peer-reviewed Publications (*15 best peer-reviewed publications*)

Pérez-Ramírez Ú, López-Madrona VJ, Pérez-Segura A, Pallarés V, Moreno A, Ciccocioppo R, Hyytiä P, Sommer WH, Moratal D, Canals S. Brain Network Allostasis after Chronic Alcohol Drinking Is Characterized by Functional Dedifferentiation and Narrowing. **J Neurosci**. 2022 May 25;42(21):4401-4413.

De Santis S, Cosa-Linan A, Garcia-Hernandez R, Dmytrenko L, Vargova L, Vorisek I, Stopponi S, Bach P, Kirsch P, Kiefer F, Ciccocioppo R, Sykova E, Moratal D, Sommer WH, Canals S. Chronic alcohol consumption alters extracellular space geometry and transmitter diffusion in the brain. **Sci Adv**. 2020 Jun 24;6(26):eaba0154.

De Santis S, Bach P, Pérez-Cervera L, Cosa-Linan A, Weil G, Vollstädt-Klein S, Hermann D, Kiefer F, Kirsch P, Ciccocioppo R, Sommer WH, Canals S. Microstructural White Matter Alterations in Men With Alcohol Use Disorder and Rats With Excessive Alcohol Consumption During Early Abstinence. **JAMA Psychiatry**. 2019 Jul 1;76(7):749-758.

Narendran R, Tollefson S, Himes ML, Paris J, Lopresti B, Ciccocioppo R, Mason NS. Nociceptin Receptors Upregulated in Cocaine Use Disorder: A Positron Emission Tomography Imaging Study Using [11C]NOP-1A. **Am J Psychiatry**. 2019 Jun 1;176(6):468-476

Kallupi M, Scuppa G, de Guglielmo G, Calò G, Weiss F, Statnick MA, Rorick-Kehn LM, Ciccocioppo R. Genetic Deletion of the Nociceptin/Orphanin FQ Receptor in the Rat Confers Resilience to the Development of Drug Addiction. **Neuropsychopharmacology**. 2017 Feb;42(3):695-706

Ciccocioppo R, de Guglielmo G, Hansson AC, Ubaldi M, Kallupi M, Cruz MT, Oleata CS, Heilig M, Roberto M. Restraint stress alters nociceptin/orphanin FQ and CRF systems in the rat central amygdala: significance for anxiety-like behaviors. **J Neurosci**. 2014;34:363-72

Schank JR, Ryabinin AE, Giardino WJ, Ciccocioppo R, Heilig M Stress-related neuropeptides and addictive behaviors: beyond the usual suspects. **Neuron**. 2012 Oct 4;76(1):192-208.

Stopponi S, Somaini L, Cippitelli A, Cannella N, Braconi S, Kallupi M, Ruggeri B, Heilig M, Demopoulos G, Gaitanaris G, Massi M, Ciccocioppo R. Activation of Nuclear PPAR $\gamma$  Receptors by the Antidiabetic Agent Pioglitazone Suppresses Alcohol Drinking and Relapse to Alcohol Seeking. **Biol Psychiatry**. 2011;69:642-9.

Kallupi M, Cannella N, Ruggeri B, Ubaldi M, Economidou D, Weiss F, Massi M, Marugan J, Heilig M, de Lecea L, Ciccocioppo R. Role for the Neuropeptide S system in the physiopathology of cue-induced cocaine relapse: A mechanism mediated by the hypothalamic hypocretin system. **Proc Natl Acad Sci** 2010;107:19567-72.

Fedeli A, Braconi S, Economidou D, Cannella N, Kallupi M, Guerrini R, Calò G, Cifani C, Massi M, Ciccocioppo R. The paraventricular nucleus of the hypothalamus is a neuroanatomical substrate for the inhibition of palatable food intake by neuropeptide S. **Eur J Neurosci**. 2009 Oct;30(8):1594-602.

Hansson AC, Cippitelli A, Sommer WH, Fedeli A, Bjork K, Soverchia L, Terasmaa A, Massi M, Heilig M, Ciccocioppo R. Variation at the rat Crhr1 locus and sensitivity to relapse into alcohol seeking induced by environmental stress. **Proc Natl Acad Sci U S A**. 2006 Oct 10;103(41):15236-41.

Ciccocioppo R, Economidou D, Rimondini R, Sommer W, Massi M, Heilig M. Buprenorphine Reduces Alcohol Drinking Through Activation of the Nociceptin/Orphanin FQ-NOP Receptor System. **Biol Psychiatry**. 2006 Mar 11

Ciccocioppo R, Martin-Fardon R, Weiss F. Stimuli associated with a single cocaine experience elicit long-lasting cocaine-seeking. **Nat Neurosci**. 2004 May;7(5):495-6. Epub 2004 Mar 28.

Ciccocioppo R, Fedeli A, Economidou D, Policani F, Weiss F, Massi M. The bed nucleus is a neuroanatomical substrate for the anorectic effect of corticotropin-releasing factor and for its reversal by nociceptin/orphanin FQ. **J Neurosci**. 2003 Oct 15;23(28):9445-51.

Ciccocioppo R, Sanna PP, Weiss F. Cocaine-predictive stimulus induces drug-seeking behavior and neural activation in limbic brain regions after multiple months of abstinence: reversal by D(1) antagonists. **Proc Natl Acad Sci U S A**. 2001 Feb 13;98(4):1976-81

#### D. Research Support

- Ongoing Research Support

Principal Investigator of the NIH/NIAAA (RO1) research programs. The nociceptin ORL-1 system treatment target for relapse (2005-2027)

Principal Investigator of the NIH/NIAAA (RO1) research program. Gene-Environment Interaction: Focus on the Brain CRF System in Alcohol Preferring msP rats (2010-2026)

Principal Investigator U01-DA045300-01A1 The genetic Basis of Opioid Dependence Vulnerability in a Rat Model (2018-2023 )

Principal Investigator Era-Net Neuron Preclinical Phase II Testing of Psilocybin in Alcohol Addiction and Epigenetic and Neuroimaging Studies on the Mode of Action (2019-2023)

- Completed Research Support

Principal investigator in the EU research project TARGALC (EU-FP5)

Coordinator of the EU project INFONOMIC (EU-FP6)

Coordinator of the Project IMPACT I Dip. delle Politiche Antidroga (2009-2011)

Coordinator of the Project IMPACT II Dip. delle Politiche Antidroga (2012-2014)

Coordinator PRIN 2017

Principal investigator PRIN 2006

I have been also participant to several other national programs (PRIN 2002, 2004, FIRB 2003)

Over the years my research activities have been supported by several Pharmaceutical Industries and private foundations.