

BIOGRAPHICAL SKETCH

Provide the following information for all key personnel.
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POSITION TITLE
Associate Professor

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
McGill University	Visiting Scientist	2018	Pharmacology of Pain
Università della Campania "L. Vanvitelli", Italy. William Harvey, Queen Mary University, London	Post-Doc, Visiting scientist	2008-2012 (2012, London)	Neuropharmacology
Università della Campania "L. Vanvitelli", King's College, London,	PhD, Visiting scientist	2008 (2006- 2007 London)	Pharmacology
University of Naples Federico II	Degree	2004	Pharmacy

A. Position and research interest.

Associate Professor: Department of Experimental Medicine, Division of Pharmacology, Università della Campania "L. Vanvitelli".

Research Interests

- 1) Neuron-glia communications in the development of neuropathic pain.
- 2) Neuropathic pain pathophysiology
- 3) New pharmacological tools on microglia cells
- 4) Involvement of endocannabinoid system in the pathophysiology of the chronic neuroinflammatory diseases

Teaching:

- 1) Course of toxicology at the University of Pharmacy, Naples, Italy
- 2) Course of basic pharmacology at the University of Laboratory technicians, Naples, Italy
- 3) Course of Pharmacology at University of Medicine, Naples, Italy
- 4) Seminars at the University of Medicine, Naples, Italy
- 5) Erasmus Teaching at the Complutense University, Madrid, Spain

- 6) Erasmus teaching at the University of Sevilla, Spain
- 7) Seminars at University of Brno, CZ
- 8) Seminars at the University of Galway, Ireland

Bibliometric parameters (scopus)

N° of publications= 144

H-index= 46

Citations= 5040

Added in the Top Italian Scientists list in the field of Neuroscience and Psychology in 2018

B. Current Research Support.

RESEARCH FUNDING HISTORY

Awarded [n=7]

2016: Grant for young researcher Italian Ministry of Health, code GR-2016-02362046; title “Dissecting the role of mGlu5 metabotropic glutamate receptor in pain neuraxis with the aid of light-sensitive receptor ligands. PI of the Research Unit euros 48000,00.

2016: GW Pharmaceuticals, London, UK, title “Effect of phytocannabinoids in the microglia changes in a transgenic mouse model of Angelman Syndrome”; 25.000,00 GBP (Principal Investigator)

2015: PI of the Research Unit PRIN 2015 Italian Ministry of Education title “Stress in adolescence: from cognitive alterations to susceptibility to psychiatric pathologies” 44.450,00 euro

2014: GW Pharmaceuticals, London, UK, title “Effect of phytocannabinoids in the neurological, behavioural and motor disorders in a transgenic mouse model of Angelman Syndrome”; 48.000,00 euro (Principal Investigator)

2013: Grant from the Università della Campania “L. Vanvitelli” title “role of glial cells in the spinal and supraspinal plasticity associated with neuropathic pain” 4.000,00 euros

2012: Principal Investigator (PI) of the project Italian Ministry of Education FIRB “Futuro in Ricerca” title “Role of glia and immune-inflammatory cells in chronic pain: identification of new pharmacological targets in analgesia and peripheral and central neuroinflammation” code RBFR126IGO. 818.557,00 euros

2007: Project of Regione Campania title “Neuropathic pain, anxiety and neuronal death: role of the metabotropic glutamate receptor of the subgroup mGluR8” 10.000,00 euro (PI)

International and National Conferences: Almost 100 conference as speaker, almost 25% international; almost 35% as invited speaker

Patent: N°3 Patents as inventor with the GW Pharmaceutical, London

N°8 Selected publications: a complete list of publication is attached

1) Boccella S, Guida F, De Logu F, De Gregorio D, Mazzitelli M, Belardo C, Iannotta M, Serra N, Nassini R, de Novellis V, Geppetti P, Maione S, **Luongo L**. Ketones and pain: unexplored role of hydroxyl carboxylic acid receptor type 2 in the pathophysiology of neuropathic pain. *FASEB J*. 2019;33(1):1062-1073.

2) Chen Z, Doyle TM, **Luongo L**, Largent-Milnes TM, Giancotti LA, Kolar G, Squillace S, Boccella S, Walker JK, Pendleton A, Spiegel S, Neumann WL, Vanderah TW, Salvemini D. Sphingosine-1-phosphate receptor 1 activation in astrocytes contributes to neuropathic pain. *Proc Natl Acad Sci U S A*. 2019;116(21):10557-10562.

3) Boccella S, Cristiano C, Romano R, Iannotta M, Belardo C, Farina A, Guida F, Piscitelli F, Palazzo E,

Mazzitelli M, Imperatore R, Tunisi L, de Novellis V, Cristino L, Di Marzo V, Calignano A, Maione S, **Luongo L**. Ultra-micronized palmitoylethanolamide rescues the cognitive decline- associated loss of neural plasticity in the neuropathic mouse entorhinal cortex-dentate gyrus pathway. *Neurobiol Dis.* 2018; 121:106-119.

4) Cristino L*, **Luongo L***, Imperatore R, Boccella S, Becker T, Morello G, Piscitelli F, Busetto G, Maione S, Di Marzo V. Orexin-A and Endocannabinoid Activation of the Descending Antinociceptive Pathway Underlies Altered Pain Perception in Leptin Signalling Deficiency. *Neuropsychopharmacology.* 2016;41(2):508-20
(shared first Authorship)

5) Little JW, Ford A, Symons-Liguori AM, Chen Z, Janes K, Doyle T, Xie J, **Luongo L**, Tosh DK, Maione S, Bannister K, Dickenson AH, Vanderah TW, Porreca F, Jacobson KA, Salvemini D. Endogenous adenosine A3 receptor activation selectively alleviates persistent pain states. *Brain.* 2015;138(Pt 1):28-35.

6) **Luongo L**, Guida F, Imperatore R, Napolitano F, Gatta L, Cristino L, Giordano C, Siniscalco D, Di Marzo V, Bellini G, Petrelli R, Cappellacci L, Usiello A, de Novellis V, Rossi F, Maione S. The A1 adenosine receptor as a new player in microglia physiology. *Glia.* 2014;62(1):122-32

7) Giordano C*, Cristino L*, **Luongo L***, Siniscalco D, Petrosino S, Fabiana P, Marabese I, Gatta L, Rossi F, Imperatore R, Palazzo E, de Novellis V, Di Marzo V and Maione S. TRPV1-dependent and independent alterations in the limbic cortex of neuropathic mice: impact on glial caspases and pain perception, 2011 *Cerebral Cortex*, 22(11):2495-518 **(shared first Authorship)**

8) **Luongo L**, Palazzo E, Tambaro S, Giordano C, Gatta L, Scafuro MA, Rossi FS, Lazzari P, Pani L, de Novellis V, Malcangio M, Maione S. 1-(2',4'-dichlorophenyl)-6-methyl-N-cyclohexylamine-1,4-dihydroindeno[1,2-c]pyrazole-3- carboxamide, a novel CB2 agonist, alleviates neuropathic pain through functional microglial changes in mice. *Neurobiol Dis.* 2010; 37(1): 177-85