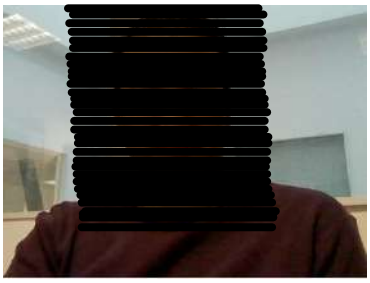
Name: Nicola Forte
Date of birth: [redacted]
Place of birth: [redacted]
Address: [redacted]
Contacts: Cell. [redacted]



Research Projects

- Effect of phytocannabinoids on phasic and tonic inhibitory transmission and neurogenesis in a genetic mouse model of epilepsy and autism spectrum disorders (ASD). Prot ICB-CNR N. 3906, 2016/11/18. **Annex 1**
- Modulazione mediate da neuropeptide del signaling endocannabinoide: effetti sulla regolazione dell'appetito e della veglia. Prot. N. 589/2018-PR, 2018/04/23. **Annex 1**
- Nuovi target farmacologici per la cura dell'Epilessia. Prot N. 508/2017-PR, 2017/06/19. **Annex 1**

Research Experiences

- **From 2019-05-01 to 2020-05-01**: Postdoctoral fellow at CERVO Brain Research Centre. Quebec, Canada. Supervisors: Prof Yves de Konick and Prof Vincenzo di Marzo. LMIA exempt job offer number: A0270015. **Annex 2**
- **From 2017/01/15 to 2019/01/15**: Postdoctoral fellow at ICB - Istituto di Chimica Biomolecolare (ICB), Pozzuoli (NA) in Laboratory of NeuroChemistry and Synaptic Plasticity of Dr. Luigia Cristino and Prof. Vincenzo Di Marzo. prot. ICB-CNR N.3906 in date 2016/11/18. **Annex 3**
- **From 2016/01/01 to 2016/10/31**: Postdoctoral fellow at Italian Institute of Technology (IIT) in laboratory of Synaptic Plasticity of prof Fabio Benfenati and Pietro Baldelli.

Education

- **From 2018/06/10 to 2018/06/20**: Frontiers in Neurophotonics Summer School on "Advanced Optical Imaging and Photoactivation Techniques". Laval University, CERVO (Brain Research Center), Québec City. **Annex 4**
- **From 2017/09/14 to 2017/09/21**. Ibro - Kemali School on "Brain Connectivity and Connectomics", Rabat, Marocco. **Annex 5**
- **From 2013/01/01 to 2016/04/14**. PhD in Neuroscience and Brain Technologies at University of Genova and Italian Institute of Technology (IIT) in Genova, under the supervision of Prof. Fabio Benfenati and Pietro Baldelli. Thesis Title: "Synapsin I regulates the balance between synchronous and asynchronous GABA release in parvalbumin interneurons". **Annex 6**
- **From 2014/09/22 to 2014/09/24**. Olimpia Summer School on "Optogenetics and Neural Interfaces", Sestri Levante (GE) Italia.
- **From 2014/10 to 2014/11**. Visiting student at Umeå University (Sweden) in the lab of Physiology and Plasticity of Cortical Microcircuits in Vivo of Prof. Paolo Medini. Contact: paolo.medini@umu.se; paolo.medini@molbiol.umu.se. **Annex 7**
- **From 2012/06 to 2012/12**: Internship in Neuroscience at The Italian Institute of Technology, Genoa, Italy. Supervisors: Prof. Fabio Benfenati and Prof. Pietro Baldelli.

[redacted] 27/07/2020

- **2012/3/22**. Master degree in Biology, University Federico II of Naples, Italy. Graduated cum laude. Experimental thesis in Zoology. Title: *Effetti della domesticazione sulla mucosa olfattiva di Sus Scrofa*. Supervisor: Prof Gianluca Polese. The data of this thesis are published in Evolutionary Biology Evol Biol. Doi 10.1007/s11692-013-9262-3. **Annex 8**
- **2010/02/26**. Bachelor degree in general and applied biology, University Federico II of Naples, Italy. Graduated cum laude. Experimental thesis in Genetics. Title: Ruolo di MDM2 come regolatore di p63, un membro della famiglia p53. Supervisors: Girolama La Mantia. **Annex 9**

Publications

Total Citations (Scopus): 74
h-index (Scopus): 5
ORCID: http://orcid.org/0000-0001-7488-7992

- **Forte N**, Fernández-Rilo AC, Palomba L, Di Marzo V, Cristino L. Obesity affects the microbiota-gut-brain axis and the regulation thereof by endocannabinoids and related mediators. **Int. J. Mol. Sci**. **doi:10.3390/ijms21051554**
- **Forte N**, Binda F, Contestabile A, Benfenati F, Baldelli P. Synapsin I synchronizes GABA release in distinct interneuron subpopulations. **Cereb Cortex**. **10.1093/cercor/bhz174**
- Tunisi L, **Forte N**, Fernández-Rilo AC, Mavaro I, Capasso R, D'Angelo L, Milic N, Cristino L, Di Marzo V, Palomba L. Orexin-A prevents lipopolysaccharide-induced neuroinflammation at the level of the intestinal barrier. **Front in Endocrinology. doi: 10.3389/fendo.2019.00219**
- Barbieri R, Contestabile A, Ciardo MG, **Forte N**, Marte A, Baldelli P, Benfenati F. Synapsin I and Synapsin II regulate neurogenesis in the dentate gyrus of adult mice. Oncotarget. Doi: 10.18632/oncotarget.24655.
- Valente P, Romei A, Fadda M, Sterlini Bruno, Lonardoni D, **Forte N**, Fruscione F, Castroflorio E, Michetti C, Giansante G, Valtorta F, Tsai, Jin-Wu, Zara F, Nieus T, Corradi A, Fassio A, Baldelli P, Benfenati, F. Constitutive inactivation of the PRRT2 gene alters shortterm synaptic plasticity and promotes network hyperexcitability in hippocampal neurons. **Cereb Cortex. Doi: 10.1093/cercor/bhy079.**
- Imperatore R, D'Angelo L, Annona G, **Forte N**, Tunisi L, Varricchio E, De Girolamo P, Di Marzo V, Cristino L, Paolucci M. Orexin and endocannabinoid morphological interactions in the brain of adult zebrafish. 6th Meeting of the Neapolitan Brain - The Stazione Zoologica Anton Dohrn. **BMC Neurosci. doi: 10.1186/s12868-018-0466-4**
- Tunisi L, **Forte N**, Imperatore R, Fernandez-Rilo AC, Mavaro I, D'Angelo L, De Girolamo P, Palomba L, Di Marzo V, Cristino L. Orexin-A enhances dopaminergic signaling in the brain of obese mice. 6th Meeting of the Neapolitan Brain - The Stazione Zoologica Anton Dohrn, **BMC Neurosci. doi: 10.1186/s12868-018-0466**
- Sharma PP, Gervasoni G, Albisetti E, D'Ercoli F, Monticelli M, Moretti D, **Forte N**, Ferrari G, Baldelli P, Sampietro M, Benfenati F, Bertacco R, Petti D. Towards a magnetoresistive platform for neural signal recording. **AIP Advances. Doi: 10.1063/1.4973947**.
- Michetti C, Castroflorio E, Marchionni I, **Forte N**, Sterlini B, Binda F, Fruscione F, Baldelli P, Valtorta F, Zara F, Corradi A, Benfenati F. The PRRT2 knockout mouse recapitulates the neurological diseases associated with PRRT2 mutation. **Neurobiol Dis. Doi: 10.1016/j.nbd.2016.12.018**.

- **Forte N**, Medrihan L, Cappetti B, Baldelli P, Benfenati F. 2-Deoxy-D-glucose enhances tonic inhibition through the neurosteroid-mediated activation of extrasynaptic GABAA receptors. **Epilepsia. Doi: 10.1111/epi.13578**.
- Toader O, **Forte N**, Orlando M, Ferrea E, Raimondi A, Baldelli P, Benfenati F, Medrihan L. Dentate gyrus network dysfunctions precede the symptomatic phase in a genetic mouse model of seizures. **Front Cell Neurosci. Doi:10.3389/fncel.2013.00138**.
- Maselli V, Polese G, Larson G, Raia P, **Forte N**, Rippa D, Ligrone R, Vicidomini R, Fulgione A dysfunctional sense of smell: The irreversibility of olfactory evolution in feral pigs. **Evol Biol. Doi 10.1007/s11692-013-9262-3.**

Invited Speaker

- **Forte N**, Imperatore R, Boccella S, Tunisi L, Mavaro I, Fernandez-Rilo AC, Palomba L, Maione S, Di Marzo V, Cristino L. Chronic overweight severely impairs adult hippocampal neurogenesis and plasticity. VIII meeting del Neapolitan Brain Group 13 dicembre 2018 - Aula Magna del CESTEV Biotecnologie, Napoli, Italia. **Annex 10**
- **Forte N**, Medrihan L, Baldelli P, Benfenati F. Cellular mechanisms of the antiepileptic activity of the ketogenic diet. SIF 8° Annual Meeting of Young Researchers in Physiology, 28-30 May. Villa LaStella-Firenze, Italia. **Annex 11**

Posters

2019

- **Forte N**, Tunisi L, Fernandez-Rilo AC, Cuomo P, Imperatore R, Capasso R, De Girolamo P, Motta A, Palomba L, Di Marzo V, Cristino L. The short-chain fatty acid acetate reduces orexin/hypocretin neuronal activity possible implication in the hypothalamic regulation of energy homeostasis and appetite. 3rd International Conference of the Joint International Research Unit (JIRU) CNR-University Laval for Chemical and Biomolecular Research on the Microbiome and its Impact on Metabolic Health and Nutrition (MicroMeNu). “The gut microbiome: impact of the diet and dietary components, new investigational approaches, and role in the control of metabolic and mental health” October 28-30 - 2019 Sorrento, Italy – GRAND HOTEL RIVIERA.

2018

- **Forte N**, Imperatore R, Cristino L. Orexin-endocannabinoid interaction is modulated by retinal innervation. Frontiers in Neurophotonics Summer School in “Advanced Optical Imaging and Photoactivation Techniques”. University of Laval, CERVO (Brain Research Center) 10-20 June, Quebec, Canada.

2017

- **Forte N**, Imperatore R, Cristino L. Orexin-endocannabinoid interaction is modulated by retinal innervation. IBRO- KEMALI School on “Brain Connectivity and Connectomics”, 1421 September. Rabat, Marocco.
- Tunisi L, Imperatore R, Fernández-Rilo A, Palomba L, **Forte N**, Di Marzo V Cristino L. Orexin-endocannabinoid interaction affects hypothalamic tau phosphorylation by glycogen synthase kinase-3beta activation. IBRO- KEMALI School on “Brain Connectivity and Connectomics”, 14-21 September. Rabat, Marocco.

- Tunisi L, Imperatore R, **Forte N**, Leo R, D'Angelo L, De Girolamo P, Cristino L. Trafficking and release of Orexin-A are increased in the LH target areas of the brain. 11th Congresso associazione morfologi Veterinari, 25-26 May, Roma, Italia.
- Imperatore R, Annona G, Coccia E, **Forte N**, Leo R, Lucini C, Varricchio E, Paolucci M. Zebrafish: an attractive vertebrate model to study orexin and endocannabinoid morphological interaction in the brain. 11th Congresso associazione morfologi Veterinari, 25-26 May, Roma,Italia.

2016

- Michetti C, Castroflorio E, Marchionni I, **Forte N**, Sterlini B, Corradi A, Benfenati F. Paroxysmal behavior and excitation/inhibition imbalance in PRRT2 knockout mice. Neuroscience (SFN) 2016. 12-16 November, San Diego, California, USA.
- **Forte N**, Contestabile A, Baldelli P, Benfenati F. Synapsin 1 regulates the balance between synchronous and asynchronous GABA release of parvalbumin interneurons. 10th FENS forum. 2-6 July, Copenhagen, Denmark.

2015

- **Forte N**, Contestabile A, Baldelli P, Benfenati F. Synapsin 1 regulates the balance between synchronous and asynchronous GABA release of parvalbumin interneurons. 66th Congress of the Italian Physiological Society SIF. 16-18 September. ISBN 9788894010527. Genova,italia
- Barbieri R, Contestabile A, Marte A, **Forte N**, Baldelli P, Benfenati F, Onofri F. Effects of synapsin I and II in the hippocampal neurogenesis in the adult brain. 66th Congress of the Italian Physiological Society SIF. 16-18 September. ISBN 9788894010527. Genova, Italia.
- **Forte N**, Contestabile A, Baldelli P, Benfenati F. Synapsin 1 regulates the balance between synchronous and asynchronous GABA release of parvalbumin interneurons". Neurizons 2015, 6th biennial neuroscience conference. 26t-29 Maggio 29, Göttingen, Germania.
- **Forte N**, Contestabile A, Baldelli P, Benfenati F. Synapsin 1 regulates the balance between synchronous and asynchronous GABA release of parvalbumin interneurons. SINS. New Perspectives in Neuroscience: Research Results of Young Italian Neuroscientists. National Meeting of PhD Students in Neuroscience Naples. 26 February, Napoli, Italia.

2014

- **Forte N**, Medrihan L, Baldelli P, Benfenati F. Cellular mechanisms of the antiepileptic activity of the ketogenic diet. 9th FENS forum. 5-9 Luglio. Milano, Italia

2012

- **Forte N**, Polese G, Vicidomini R, Maselli V, Fulgione D. Effetti della Domesticazione sulla Mucosa Olfattiva di Sus Scrofa. 73th UZI Congress. 24-27 September. ISBN 978-88- 6655347-2. Pag. 110. Firenze, Italia.

Awards

Best Poster (Sezione: Plasticity, Memory and Behavior) "Synapsin 1 regulates the balance between synchronous and asynchronous GABA release of parvalbumin interneurons". SINS. New Perspectives in Neuroscience: Research Results of Young Italian Neuroscientists. 26 February, Napoli, Italy. **Annex 12**

Technical Skills

- Extracellular and Whole cell Patch clamp in brain slice
- Extracellular and Whole cell Patch clamp recording in Vivo
- In vivo micro-optrode
- In vivo viral Injection
- Optogenetic
- In situ hybridization
- Immunohistochemistry.

NOTE: I am reviewer for Aging. https://www.aging-us.com/. **Annex 13**