

Valentina Caputi, Ph.D.

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EDUCATION AND TRAINING

01/2013 - 01/2016 University of Padova (Italy)

Doctoral degree; Awarded 2016

Ph.D. student, Graduate Program in Pharmacological Sciences (Pharmacology, Toxicology and Therapy), University of Padova, Italy (Supervisor: Maria Cecilia Giron, Pharm.D., Ph.D.).

Brief Summary of the Research: Study of molecular alteration of the enteric nervous system and gut function in several mouse models (i.e., generation of DSS- or DNBS-induced colitis, generation of bone marrow chimeric mice, microbiota depletion by daily intragastric administration of a cocktail of antibiotics for two weeks, murine model of high fat diet). Design and implementation of several *in vivo* experiments (i.e., gastrointestinal transit and permeability) as well as *ex vivo* assays (i.e., immunohistochemical, immunocytochemical and biochemical staining, western blot and *in vitro* contractility tests on isolated intestinal preparations) in mice.

10/2000 - 03/2011 University of Padova (Italy)

Master of Science; Awarded 2011

Pharmaceutical Chemistry and Technology, University of Padova, Italy.

09/2009 - 03/2011: Research Internship at the Department of Molecular Medicine, Section of Microbiology, University of Padova, Italy (Supervisor: Arianna Loregian, PhD) for performing the 9-month master's degree Research Thesis entitled "Study of sumoylation of the UL44 subunit of human cytomegalovirus DNA polymerase".

Brief Summary of the Research: Characterization of the sumoylation of the UL44 protein of human cytomegalovirus DNA polymerase and identification of sumoylation target sites in the UL44 sequence, through techniques of molecular biology by cloning UL44 transcripts in plasmids, by performing Site Directed Mutagenesis, expression of proteins in *E. coli* and purification, SDS-PAGE and Western Blot. Study of *in vitro* sumoylation on proteins purified and evaluation of DNA stimulatory effect on sumoylation of UL44 protein.

Other Research performed in Prof. Loregian lab: Study of the relationship between PA and PB1 subunits of influenza virus RNA polymerase through *in vitro* screening (ELISA tests on proteins expressed and purified from *E. coli*) of small molecules able to disrupt PA–PB1 subunits interaction.

- 12/2011** Board Certified as Community Pharmacist, University of Padova, Italy.
- 11/2006 – 05/2007** Internship in Pharmacy ‘Arcella’, Padova, Italy.
- 02/2009 – 03/2009** Internship in Pharmacy ‘Mirci, Dott.Alberto’, Santa Maria di Sala (VE), Italy.

RESEARCH AND PROFESSIONAL EXPERIENCE

- 08/2026-present** Assistant Research Professor in Poultry Health, Department of Poultry Science, Auburn University, Auburn, AL, US.
- 07/2022-07/2026** USDA, Agricultural Research Service, Poultry Production and Product Safety Research—Fayetteville, AR, US.
Research Microbiologist (Postdoctoral researcher)
Research project: Role of the enteric nervous system in modulating the intestinal epithelial immune responses against foodborne pathogens in poultry.
Laboratory techniques:
-Isolated organ functional assays, intestinal primary cell cultures, 3D immunohistochemistry and confocal microscopy; functional measurement of gastrointestinal transit; in vitro cellular assays.
- 05/2021 –06/2022** Postdoctoral researcher at the Department of Poultry Science, University of Arkansas, Fayetteville, AR, US.
Research project: Study of the development and function of the enteric nervous system (ENS) in avian models of early life stress, intestinal parasites and foodborne pathogens infections.’
Brief Summary of the Research: To assess the structural and functional alterations in the ENS of chickens, quails, turkeys, subjected to early life stress and subsequent infectious challenge.
- 01/2019 –01/2021** Alimentary-Pharmabiotic Postdoctoral Excellence (APEX) fellowship Marie Skłodowska-Curie Action Cofound at the Neurogastroenterology Lab of Dr. Siobhain O’Mahony and Prof. John Cryan., Alimentary Pharmabiotic Centre (APC) Microbiome Ireland, University College Cork, Cork, Ireland.
Research project: ‘Early-life prediction of stress-induced visceral sensitivity’
Brief Summary of the Research: To identify a microbiome-gut-brain axis signature of visceral pain to predict in early life the susceptibility or resilience to stress-induced gastrointestinal and mental disorders later in adulthood.
- 03/2018 –12/2018** Postdoctoral researcher at the Neurogastroenterology Lab of Dr. Siobhain O’Mahony and Prof. John Cryan., APC Microbiome Ireland, University College Cork, Cork, Ireland.
Brief Summary of the Research: Evaluation of the effect of dietary supplementation (prebiotics) during pregnancy and weaning on the gut and brain dysfunctions caused by early-life adverse events.

Design and implementation of in vitro and in vivo experiments to assess gut epithelial function, enteric nervous system development and to evaluate brain structural integrity and behavioral phenotypes in a rat model of early-life stress (maternal separation) with or without prebiotics treatment during pregnancy and weaning.

02/2016 - 02/2018 Postdoctoral researcher at the Gastrointestinal Pharmacology Lab of Prof. Maria Cecilia Giron, PharmD, PhD, Department of Pharmaceutical and Pharmacological Sciences, University of Padova, Italy.

Brief Summary of the Research: Design and implementation of in vivo and in vitro experiments to assess the influence of catechol-O-methyltransferase (COMT) or dopamine transporter (DAT) genetic reduction on structural and functional integrity of murine enteric nervous system in terms of morphology, neurochemical phenotype and function, and the related consequences on intestinal motility.

PEER-REVIEWED SCIENTIFIC PUBLICATIONS

1. **Caputi V**, Wickramasuriya SS, Bacon T, Lyte JM. Full thickness three-dimensional mapping of neuronal populations within the avian enteric nervous system. *Poult Sci.* 2026 Aug 20;105(12):107669.
2. Pierucci C, Faggin S, Benvenuti L, **Caputi V**, Ippolito C, Segnani C, D'Antongiovanni V, Valdiserra G, Flori L, Colucci R, Giron MC, Antonioli L, Bernardini N, Pellegrini C. CCR2-dependent monocytes gut-homing contributes to enteric neuroplastic changes in a mouse model of diet-induced obesity. *Mol Med.* 2026 Jul 15.
3. Lyte JM, Seyoum MM, Ayala D, Kers JG, **Caputi V**, Johnson T, Zhang L, Rehberger J, Zhang G, Dridi S, Hale B, De Oliveira JE, Grum D, Smith AH, Robinson K, Kogut M, Olson EG, Ricke SC, Ballou A, Potter B, Proszkowiec-Weglarz M. Best practices framework for using 16S rRNA gene sequencing in poultry microbiota research. *Poult Sci.* 2026 Sep;105(9):107275.
4. **Caputi V**. Functional role of the enteric nervous system in poultry intestinal health and production. *Poult Sci.* 2026 Jan 30;105(4):106563.
5. Assumpcao ALFV, **Caputi V**, Ashwell CM, Honaker CF, Siegel PB, Taylor RL Jr, Lyte JM. Serum biochemical profiles are distinct between White Leghorn chicken lines selected for divergent antibody response to sheep red blood cells. *BMC Vet Res.* 2026 Jan 13.
6. Wickramasuriya SS, Oluwagbenga EM, **Caputi V**, Daniels K, Lyte M, Fraley GS, Lyte JM. Orange corn diet modulates Pekin duck cecal neurochemistry under normal and heat stress conditions. *Poult Sci.* 2025 Dec 11;105(2):106250.
7. Faggin S, Cerantola S, Bosi A, Giaroni C, Napoli E, Savarino EV, Contran M, Porzionato A, Pellegrini C, Antonioli L, **Caputi V**, Giron MC. Small Intestine Neuromuscular Dysfunctions and Neurogliopathy in a Mouse Model of High-Fat Diet-Induced Obesity: Involvement of Toll-Like Receptor 4. *Int J Mol Sci.* 2025 Nov 3;26(21):10710.
8. Faggin S, **Caputi V**, Tietto A, Giron MC. Immunohistochemical Localization and Anatomical Distribution of Enteric Glia Cells in Enteric Nervous System. *Methods Mol Biol.* 2026; 2971:7-19.

9. Bosi A, Banfi D, Capó JD, Ponti A, Faggin S, Moro E, **Caputi V**, Bresesti I, Crema F, Giron MC, Agosti M, Salvatore S, Baj A, Giaroni C. Sex-dependent alteration of the enteric neuromuscular function after antibiotic-induced dysbiosis in juvenile mice and effect of *Lactocaseibacillus rhamnosus* GG. *Biomed Pharmacother*. 2025 Aug;189:118263.
10. Lyte JM, Seyoum MM, Ayala D, Kers JG, **Caputi V**, Johnson T, Zhang L, Rehberger J, Zhang G, Dridi S, Hale B, De Oliveira JE, Grum D, Smith AH, Kogut M, Ricke SC, Ballou A, Potter B, Proszkowiec-Weglarz M. Do we need a standardized 16S rRNA gene amplicon sequencing analysis protocol for poultry microbiota research? *Poult Sci*. 2025 Jul;104(7):105242.
11. Seyoum MM, Assumpcao ALFV, **Caputi V**, Ashwell CM, Honaker CF, Daniels KM, Lyte M, Siegel PB, Taylor RL Jr, Lyte JM. Multigenerational selection for high or low antibody response to sheep red blood cells modulates the chicken cecal microbiome and its relationship to the immune and serotonergic systems. *Poult Sci*. 2025 Apr;104(4):104943.
12. Lyte JM, Jia X, **Caputi V**, Zhang D, Daniels KM, Phillips GJ, Lyte M. Heat stress in chickens induces temporal changes in the cecal microbiome concomitant with host enteric serotonin responses. *Poult Sci*. 2025 Mar;104(3):104886.
13. Faggin S, Cerantola S, **Caputi V**, Tietto A, Stocco E, Bosi A, Ponti A, Bertazzo A, Macchi V, Porzionato A, Savarino EV, Giaroni C, Giron MC. Toll-like receptor 4 deficiency ameliorates experimental ileitis and enteric neuropathy: Involvement of nitrergic and 5-hydroxytryptaminergic neurotransmission. *Br J Pharmacol*. 2025 Apr;182(8):1803-1822.
14. Lyte JM, Assumpcao ALFV, **Caputi V**, Ashwell CM, Seyoum M, Honaker CF, Daniels KM, Lyte M, Siegel PB, Taylor RL Jr. Co-evolution of the humoral immune and serotonergic systems in chickens selected for high or low blood antibody titer response to sheep red blood cells. *Poult Sci*. 2025 Feb;104(2):104699.
15. Wilmes L, **Caputi V**, Bastiaanssen TFS, Collins JM, Crispie F, Cotter PD, Dinan TG, Cryan JF, Clarke G, O'Mahony SM. Sex specific gut-microbiota signatures of resilient and comorbid gut-brain phenotypes induced by early life stress. *Neurobiol Stress*. 2024 Nov 4;33:100686.
16. Ratsika A, Codagnone MG, Bastiaanssen TFS, Hoffmann Sarda FA, Lynch CMK, Ventura-Silva AP, Rosell-Cardona C, **Caputi V**, Stanton C, Fülling C, Clarke G, Cryan JF. Maternal high-fat diet-induced microbiota changes are associated with alterations in embryonic brain metabolites and adolescent behaviour. *Brain Behav Immun*. 2024 Oct;121:317-330.
17. Collins JM, Keane JM, Deady C, Khashan AS, McCarthy FP, O'Keeffe GW, Clarke G, Cryan JF, **Caputi V**, O'Mahony SM. Prenatal stress impacts foetal neurodevelopment: Temporal windows of gestational vulnerability. *Neurosci Biobehav Rev*. 2024 Sep;164:105793.
18. Caputi V, Hill L, Figueiredo M, Popov J, Hartung E, Margolis KG, Baskaran K, Joharapurkar P, Moshkovich M, Pai N. Functional contribution of the intestinal microbiome in autism spectrum disorder, attention deficit hyperactivity disorder, and Rett syndrome: a systematic review of pediatric and adult studies. *Front Neurosci*. 2024 Mar 7;18:1341656.
19. Lyte JM, Eckenberger J, Keane J, Robinson K, Bacon T, Assumpcao ALFV, Donoghue AM, Liyanage R, Daniels KM, **Caputi V**, Lyte M. Cold stress initiates catecholaminergic and serotonergic responses in the chicken gut that are associated with functional shifts in the microbiome. *Poult Sci*. 2024 Mar;103(3):103393.

20. Lyte JM, Arsi K, **Caputi V**, Liyanage R, Assumpcao ALFV, Jesudhasan PRR, Donoghue AM. Inclusion of trans-cinnamaldehyde and caprylic acid in feed results in detectable concentrations in the chicken gut and reduces foodborne pathogen carriage. *Poult Sci.* 2024 Feb;103(2):103368.
21. **Caputi V**, Bastiaanssen TFS, Peterson V, Sajjad J, Murphy A, Stanton C, McNamara B, Shorten GD, Cryan JF, O'Mahony SM. Sex, pain, and the microbiome: The relationship between baseline gut microbiota composition, gender and somatic pain in healthy individuals. *Brain Behav Immun.* 2022 Aug;104:191-204.
22. Cerantola S, Faggin S, **Caputi V**, Bosi A, Banfi D, Rambaldo A, Porzionato A, Di Liddo R, De Caro R, Savarino EV, Giaroni C, Giron MC. Small intestine neuromuscular dysfunction in a mouse model of dextran sulfate sodium-induced ileitis: Involvement of dopaminergic neurotransmission. *Life Sci.* 2022 Jul 15;301:120562.
23. Collins JM, **Caputi V**, Manurung S, Gross G, Fitzgerald P, Golubeva AV, Popov J, Deady C, Dinan TG, Cryan JF, O'Mahony SM. Supplementation with milk fat globule membrane from early life reduces maternal separation-induced visceral pain independent of enteric nervous system or intestinal permeability changes in the rat. *Neuropharmacology.* 2022 Jun 1;210:109026.
24. Lyte JM, Keane J, Eckenberger J, Anthony N, Shrestha S, Marasini D, Daniels KM, **Caputi V**, Donoghue AM, Lyte M. Japanese quail (*Coturnix japonica*) as a novel model to study the relationship between the avian microbiome and microbial endocrinology-based host-microbe interactions. *Microbiome.* 2021 Feb 2;9(1):38.
25. Diviccaro S, **Caputi V**, Cioffi, L, Giatti S, Lyte JM, Caruso D, O'Mahony SM, Melcangi RC. Exploring the Impact of the Microbiome on Neuroactive Steroid Levels in Germ-Free Animals. *Int J Mol Sci.* 2021. 22(22):12551.
26. Popov J, **Caputi V**, Nandeesh N, Rodriguez DA, Pai N. Microbiota-Immune Interactions in Ulcerative Colitis and Colitis Associated Cancer and Emerging Microbiota-Based Therapies. *Int J Mol Sci.* 2021 Oct 21;22(21):11365.
27. **Caputi V**, Popov J, Giron MC, O'Mahony SM. Gut Microbiota as a Mediator of Host Neuro-Immune Interactions: Implications in Neuroinflammatory Disorders. *Mod Trends Psychiatry.* 2021;32:40-57. *Book chapter.*
28. Pellegrini C, Fornai M, Benvenuti L, Colucci R, **Caputi V**, Palazon-Riquelme P, Giron MC, Nericcio A, Garelli F, D'Antongiovanni V, Segnani C, Ippolito C, Nannipieri M, Lopez-Castejon G, Pelegrin P, Haskó G, Bernardini N, Blandizzi C, Antonioli L. NLRP3 at the crossroads between immune/inflammatory responses and enteric neuroplastic remodelling in a mouse model of diet-induced obesity. *Br J Pharmacol.* 2021 Oct;178(19):3924-3942.
29. Cerantola S, **Caputi V**, Contarini G, Mereu M, Bertazzo A, Bosi A, Banfi D, Mantini D, Giaroni C, Giron MC. Dopamine Transporter Genetic Reduction Induces Morpho-Functional Changes in the Enteric Nervous System. *Biomedicines.* 2021 Apr 24;9(5):465.
30. Hill L, Popov J, Figueiredo M, **Caputi V**, Hartung E, Moshkovich M, Pai N. Protocol for a systematic review on the role of the gut microbiome in paediatric neurological disorders. *Acta Neuropsychiatr.* 2021 Aug;33(4):211-216.
31. Marsilio I, **Caputi V**, Latorre E, Cerantola S, Paquola A, Alcalde AI, Mesonero JE, O'Mahony SM, Bertazzo A, Giaroni C, Giron MC. Oxidized phospholipids affect small intestine

neuromuscular transmission and serotonergic pathways in juvenile mice. *Neurogastroenterol Motil.* 2020 Nov 22:e14036.

32. D'Antongiovanni V, Benvenuti L, Fornai M, Pellegrini C, van den Wijngaard R, Cerantola S, Giron MC, **Caputi V**, Colucci R, Haskó G, Németh ZH, Blandizzi C, Antonioli L. Glial A2B Adenosine Receptors Modulate Abnormal Tachykininergic Responses and Prevent Enteric Inflammation Associated with High Fat Diet-Induced Obesity. *Cells.* 2020 May 18;9(5):1245.
33. Cerantola S, **Caputi V**, Marsilio I, Ridolfi M, Faggin S, Bistoletti M, Giaroni C, Giron MC. Involvement of Enteric Glia in Small Intestine Neuromuscular Dysfunction of Toll-Like Receptor 4-Deficient Mice. *Cells.* 2020 Mar 31;9(4):838.
34. Antonioli L, D'Antongiovanni V, Pellegrini C, Fornai M., Van den Wijngaard R., **Caputi V et al.** Colonic dysmotility associated with high-fat diet-induced obesity: Role of enteric glia. *FASEB J.* [published online ahead of print, 2020 Feb 21.
35. Bistoletti M, **Caputi V**, Baranzini N, Marchesi N, Filpa V, *et al.* Antibiotic treatment-induced dysbiosis differently affects BDNF and TrkB expression in the brain and in the gut of juvenile mice. *PLoS One.* 2019; 14(2): e0212856.
36. Bin A, **Caputi V**, Bistoletti M, Montopoli M, Colucci R, Antonioli L, De Martin S, Castagliuolo I, Orso G, Giaroni C, Debetto P, Giron MC. The ecto-enzymes CD73 and adenosine deaminase modulate 5'-AMP-derived adenosine in myofibroblasts of the rat small intestine. *Purinergic Signal.* 2018; 14(4):409-421.
37. Antonioli L, **Caputi V**, Fornai M, Pellegrini C, Gentile D, *et al.* Interplay between colonic inflammation and tachykininergic pathways in the onset of colonic dysmotility in a mouse model of diet-induced obesity. *Int J Obes (Lond).* 2019; 43(2):331-343.
38. **Caputi V**, Giron MC. Microbiome-Gut-Brain Axis and Toll-Like Receptors in Parkinson's Disease. *Int J Mol Sci.* 2018; 19(6).
39. Antonioli L, Pellegrini C, Fornai M, Tirota E, Gentile D, Benvenuti L, Giron MC, **Caputi V, et al.** Colonic motor dysfunctions in a mouse model of high-fat diet-induced obesity: an involvement of A(2B) adenosine receptors. *Purinergic Signal.* 2017; Aug 14. doi: 10.1007/s11302-017-9577-0.
40. **Caputi V**, Marsilio I, Filpa V, Cerantola S, Orso G, *et al.* Antibiotic-induced dysbiosis of the microbiota impairs gut neuromuscular function in juvenile mice. *Br J Pharmacol.* 2017; Jul 29. doi: 10.1111/bph.13965.
41. Brun P, Scarpa M, Marchiori C, Sarasin G, **Caputi V, et al.** *Saccharomyces boulardii* CNCM I-745 supplementation reduces gastrointestinal dysfunction in an animal model of IBS. *PLoS One.* 2017; 12: e0181863.
42. **Caputi V**, Marsilio I, Cerantola S, Roozfarakh M, Lante I, Galuppini F, *et al.* Toll-Like Receptor 4 Modulates Small Intestine Neuromuscular Function through Nitrergic and Purinergic Pathways. *Front Pharmacol.* 2017; 8:350.
43. Gabbia D, Dall'Acqua S, Di Gangi IM, Bogialli S, **Caputi V, et al.** The phytocomplex from *Fucus*

vesiculosus and *Ascophyllum nodosum* controls postprandial plasma glucose levels: an in vitro and in vivo study in a mouse model of NASH. *Mar Drugs*. 2017; 15(2).

44. Antonioli L, Colucci R, Pellegrini C, Giustarini G, Sacco D, Tirotta E, **Caputi V**, *et al*. The AMPK enzyme-complex: from the regulation of cellular energy homeostasis to a possible new molecular target in the management of chronic inflammatory disorders. *Expert Opin Ther Targets*. 2015; 28: 1-13.
45. Brun P, Gobbo S, **Caputi V**, Spagnol L, Schirato G, *et al*. Toll like receptor-2 regulates production of glial-derived neurotrophic factors in murine intestinal smooth muscle cells. *Mol Cell Neurosci*. 2015; 68: 24-35.
46. Antonioli L, Giron MC, Colucci R, Pellegrini C, Sacco D, **Caputi V**, *et al*. Involvement of the P2X7 purinergic receptor in colonic motor dysfunction associated with bowel inflammation in rats. *PLoS One*. 2014; 9: e116253.
47. Antonioli L, Fornai M, Awwad O, Giustarini G, Pellegrini C, Tuccori M, **Caputi V**, *et al*. Role of the A(2B) receptor-adenosine deaminase complex in colonic dysmotility associated with bowel inflammation in rats. *Br J Pharmacol*. 2014; 171: 1314-29.
48. Brun P, Giron MC, Qesari M, Porzionato A, **Caputi V**, *et al*. Toll-like receptor 2 regulates intestinal inflammation by controlling integrity of the enteric nervous system. *Gastroenterology*. 2013; 145:1323-33.

CONFERENCE PRESENTATIONS

1. **Caputi V**, Arsi K, Bacon T, Donoghue A, Lyte J, Jesudhasan P. *Salmonella* impacts the intestinal neuroimmune barrier by modulating aquaporin 4 expression in the chicken enteric nervous system Accepted as Poster presentation. Poultry Science Association Annual Meeting 2024, July 15-18, 2024, Louisville, KY.
2. **Caputi V**, Bacon T, Arsi K, Jesudhasan P, Donoghue A, Lyte J. Heat stress induces regional-dependent modulation of aquaporin 4 expression in the enteric nervous system of broiler chickens. Accepted as Poster presentation. Poultry Science Association Annual Meeting 2023, July 10-13, 2023, Philadelphia, PA.
3. **Caputi V**, Robinson K, Arsi K, Donoghue A, Lyte J. Exposure to heat stress alters the structural integrity of the enteric nervous system in the broiler chicken ileum. Accepted as Poster presentation. Poultry Science Association Annual Meeting 2022, July 11-14, 2022, San Antonio, TX.
4. Lyte JM., Eckenberger J., Keane J., Robinson K., Shrestha S., Donoghue AM., **Caputi V.**, and Lyte M. Early life exposure to cold stress causes distinct changes in broiler chicken gut neurochemistry and microbiome that persist into later life. *Accepted as Oral presentation*. Poultry Science Association. December 2021. Virtual meeting.
5. **Caputi V**, Wilmes L, Bastiaanssen TSF, Collins JM, Clarke G, Cryan JF, O'Mahony SM. Decoding Early-Life Stress-induced Comorbidities: Susceptibility to Different Domains of Altered Microbiota-Gut-Brain Axis Signaling. *Accepted as Oral presentation*. Virtual

NeuroGASTRO 2021 Meeting of the European Society of Neurogastroenterology and Motility (ESNM), 02-04 September 2021.

6. **Caputi V**, Wilmes L, Bastiaanssen TSF, Collins JM, Clarke G, Cryan JF, O'Mahony SM. Decoding Early-Life Stress-induced Comorbidities: Susceptibility to Different Domains of Altered Microbiota-Gut-Brain Axis Signaling. *Accepted as Poster presentation*. Irish Pain Society 21st Annual Scientific Meeting (Virtual). October 16th, 2021.
7. **Caputi V**, Collins JM, Manurung S, Lambers TT, Gross G, Dinan TG, Cryan JF, O'Mahony SM. "The impact of DHA and MFGM supplementation in rats on gut-brain axis components and potential health implications". *Accepted as ePoster presentation* at the 6th World Congress of Pediatric Gastroenterology, Hepatology and Nutrition, 03-06 June, 2020 (Copenhagen, Denmark).
8. **Caputi V.**, Cerantola S., Marsilio I., Bistoletti M., Gucciardi A., Mereu M., Giordano G., Giaroni C., Papaleo F., Giron M.C. Genetically-driven reduction of catechol-O-methyltransferase expression affects dopaminergic pathways in mouse ileum. *Accepted as Poster presentation* at the 3rd Meeting of the Federation of Neurogastroenterology and Motility, 29 August - 01 September, 2018 (Amsterdam, The Netherlands).
9. Marsilio I., Cerantola S., Paquola A., **Caputi V.**, Bucciol C., Bertazzo A., Giron M.C. Regulation of serotonergic neurotransmission by microbiota-gut axis in mouse small intestine. *Accepted as Poster presentation* at the 3rd Meeting of the Federation of Neurogastroenterology and Motility, 29 August - 01 September, 2018 (Amsterdam, The Netherlands).
10. Cerantola S., Marsilio I., **Caputi V.**, Garelli F., Nericcio A., Colucci R., Giron M.C. Influence of Toll-like 4 receptor signalling on high fat diet induced dysmotility in mouse small intestine. *Accepted as Poster presentation* at the 3rd Meeting of the Federation of Neurogastroenterology and Motility, 29 August - 01 September, 2018 (Amsterdam, The Netherlands).
11. **Caputi V**, Marsilio I, Cerantola S, Contarini G, Mereu M, Galuppini F. et al. Involvement of Catechol-O-methyltransferase activity in the modulation of enteric neuromotor function: implication in functional gastrointestinal disorders. Book of Abstracts; 38th National Congress of the Italian Society of Pharmacology, 25-28 October 2017 (Rimini, Italy).
12. Marsilio I, Cerantola S, **Caputi V**, Napoli E, Giulivi C, Orso G, Giron MC. Changes of small bowel inhibitory neurotransmission in mice lacking TLR4 signalling. Book of Abstracts; 38th National Congress of the Italian Society of Pharmacology, 25-28 October 2017 (Rimini, Italy).
13. **Caputi V**, Marsilio I, Cerantola S, Mereu M, Contarini G, Paquola A, et al. Dopamine transporter genetic reduction affects small-bowel neuromuscular contractility in mice. *Neurogastroenterology and Motility* 2017, 29 (Supplement 2): 17. Meeting NeuroGASTRO 2017 of the European Society of Neurogastroenterology and Motility (ESNM), 24-26 August (Cork, Ireland).
14. Marsilio I, **Caputi V**, Cerantola S, Latorre E, Paquola A, Pattarello A, et al. Involvement of the serotonin pathway in ileal neuromotor dysfunction associated with TLR2 and TLR4 inhibition in juvenile mice. *Neurogastroenterology and Motility* 2017, 29 (Supplement 2): 14. Meeting NeuroGASTRO 2017 of the European Society of Neurogastroenterology and Motility (ESNM), 24-26 August (Cork, Ireland).

15. Cerantola S, **Caputi V**, Marsilio I, Paquola A, Contarini G, Debetto P, *et al.* Small intestine neuromuscular dysfunctions in Toll-like receptor 4-null mice: role of enteric glia. *Neurogastroenterology and Motility* 2017, 29 (Supplement 2): 9. Meeting NeuroGASTRO 2017 of the European Society of Neurogastroenterology and Motility (ESNM), 24-26 August (Cork, Ireland).
16. Giaroni C, Bistoletti M, **Caputi V**, Fagiani F, Filpa V, Marsilio I, *et al.* nELAV mRNA-binding protein, HuC/D alteration in the small intestine of adolescent mice after antibiotic treatment-induced dysbiosis. *Neurogastroenterology and Motility* 2017, 29 (Supplement 2): 14. Meeting NeuroGASTRO 2017 of the European Society of Neurogastroenterology and Motility (ESNM), 24-26 August (Cork, Ireland).
17. **Caputi V**, Marsilio I, Cerantola S, Filpa V, Lante I, Debetto P, *et al.* Impact of antibiotic-induced microbiota depletion on small bowel excitatory and inhibitory neuromuscular pathways in adolescent mice. DDW, *Gastroenterology* 2017; 152 (5, Suppl 1): S710. Digestive Disease Week (DDW) 2017 of the American Gastroenterological Association, 6-9 May 2017 (Chicago, IL, USA).
18. Marsilio I, **Caputi V**, Cerantola S, Ravazzolo C, Brigato A, Lante I, *et al.* Toll-like receptor 4 modulates neuromuscular function through nitrergic and purinergic pathways in mouse small intestine. *Gastroenterology* 2017; 152 (5, Suppl 1): S710–S711. Digestive Disease Week (DDW) 2017 of the American Gastroenterological Association, 6-9 May 2017 (Chicago, IL, USA).
19. Antonioli L, Fornai M, Pellegrini C, Tirotta E, Gentile D, Benedetti N, **Caputi V**, *et al.* Colonic dysmotility associated with high fat diet-induced obesity: role of the enteric glia. *Gastroenterology* 2017; 152 (5, Suppl 1): S180. Digestive Disease Week (DDW) 2017 of the American Gastroenterological Association, 6-9 May 2017 (Chicago, IL, USA).
20. Latorre E, Marsilio I, **Caputi V**, Layunta E, Cerantola S, Mesonero JE, Giron MC. Effects of Toll-like receptors 2 and 4 inhibition in intestinal contractility and in serotonergic system of mouse enteric nervous system. *J Physiol Biochem* 2016; 72 (Suppl 1): S73. XXXVIII Congreso de la Sociedad Española de Ciencias Fisiológicas (SECF), 13-16 September 2016 (Zaragoza, Spain).
21. Caputi V. Gut microbiota depletion alters the structure and function of murine enteric nervous system. Partecipazione al corso Basic Science Course ‘Hot topics in experimental GI cancer’ organizzato dalla United European Gastroenterology a Monaco (Germania), 30 giugno-2 Luglio 2016.
22. **Caputi V**, Marsilio I, Cerantola S, Filpa V, Lante I, Galuppini F, *et al.* Gut microbiota depletion affects enteric nervous system homeostasis in juvenile mice. *Gastroenterology* 2017; 150 (4, Suppl 1): S96. Digestive Disease Week (DDW) 2016 of the American Gastroenterological Association, 21-24 May 2016 (San Diego, CA, USA).
23. Antonioli L, Pellegrini C, Fornai M, Colucci R, Tirotta E, Sacco D, **Caputi V**, *et al.* Alterations of colonic neuromuscular excitatory tachykininergic pathways in a mouse model of diet induced-obesity. *Gastroenterology* 2017; 150 (4, Suppl 1): S351. Digestive Disease Week (DDW) 2016 of the American Gastroenterological Association, 21-24 May 2016 (San Diego, CA, USA).
24. **Caputi V**, Marsilio I, Mereu M, Contarini G, Galuppini F, Lante I, *et al.* Gut dysmotility after catechol-O-methyltransferase and dopamine transporter genetic reduction in mice: implication

in irritable bowel syndrome pathogenesis. *United European Gastroenterology Journal* 2015; 3(5S): A639. UEG Week Conference, 24-28 October 2015 (Barcelona, Spain).

25. **Caputi V**, Marsilio I, Marinelli F, Filpa V, Lante I, Galuppini F, *et al.* Gut microbiota depletion alters the structure and the function of the enteric nervous system in adolescent mice. *United European Gastroenterology Journal* 2015; 3(5S): A100. UEG Week Conference, 24-28 October 2015 (Barcelona, Spain).
26. Caputi V. Commensal microbiota finely tunes intestinal inflammation by regulating ENS integrity and function via TLR2 signalling. Selected PhD student for participation at Basic Science Course "IBD: models & methods" organized by the United European Gastroenterology, 9-11 July 2015 (Amsterdam/Rotterdam, The Netherlands).
27. **Caputi V**, Marsilio I, Cavallo L, Frizzo S, Marinelli F, Mereu M, *et al.* Involvement of catechol-O-methyltransferase genetic reduction in murine intestinal dysmotility: a possible link between psychiatric disorders and irritable bowel syndrome. *Gastroenterology* 2015; 148(4, Suppl 1): S774-S775. Digestive Disease Week (DDW) 2015 of the American Gastroenterological Association, 17-19 May 2015 (Washington DC).
28. Brun P, Grandis E, Filippetto T, Schirato G, Russo V, Spagnol L, Pasqualin M, **Caputi V**, *et al.* *Saccharomyces boulardii* reduces the severity of herpes simplex virus type 1- induced gastrointestinal dysfunction. *United European Gastroenterology Journal* 2 (5S):A555- A555. UEG week, 18-22 October 2014 (Vienna).
29. **Caputi V**, Marsilio I, Latorre Duque E, Banzato S, Tafuro G, *et al.* Depletion of the gut microbiota affects the structure and the function of the enteric nervous system in mice. Book of Abstracts; 17° National Meeting for PhD students of the Italian Society of Pharmacology, 15-18 September 2014 (Rimini, Italy),
30. Brun P, **Caputi V**, Spagnol L, Schirato G, Petrelli L, Porzionato A, *et al.* TLR9 Signalling Tunes Innate Immunity and Neuromuscular Function in Murine Small Intestine. *Gastroenterology* 2014; 146 (5, Suppl 1): S-91. Digestive Disease Week (DDW) 2014 of the American Gastroenterological Association, 3-6 May 2014 (Chicago, IL, USA).
31. **Caputi V**, Qesari M, Brun P, Spagnol L, Porzionato A, Galeazzi F, *et al.* Intestinal expression of glial-derived neurotrophic factor is dependent on Toll-like receptor 2 signalling. Book of Abstracts; 36th National Congress of the Italian Society of Pharmacology, 23-26 October 2013 (Torino, Italy).

INVITED TALKS

1. 'Functional contributions of the enteric nervous system in clearance of foodborne pathogens from the poultry intestinal tract' at the POSC research Series organized by the Department of Poultry Science, University of Arkansas, March 10th, 2026.
2. 'Functional role of the enteric nervous system in poultry intestinal health and production' at the symposium 'Genetic bases for resistance and immunity to avian diseases', organized by the Poultry Science Annual Meeting 2025, July 16th, 2025.
3. 'Functional and structural characterization of the enteric nervous system in broiler chickens: the inner intestinal barrier of defense against foodborne pathogens' at the 2024 Symposium on Gut Health in Production of Food Animals, St. Louis, Nov 11th, 2024.

4. 'The microbiome as a bridge linking antibiotics and intestinal function' at the 8th World Congress of Targeting Microbiota of the International Society of Microbiota, Paris, France, October 21st, 2021.
5. 'Microbiota, enteric nervous and immune systems: barrier defenses against foodborne pathogens carriage in poultry' at the 10th World Congress of Targeting Microbiota of the International Society of Microbiota, Venice, Italy, October 18th, 2023.
6. 'Structural and functional analyses of the enteric nervous system in animal models of gut neuropathies' at the Cellular and Molecular Biology Program, University of Arkansas, Fayetteville, AR, US; April 23rd, 2021.
7. 'Exploring the crosstalk between the gut microbiota and the enteric nervous system in animal models of gut-brain axis dysfunctions' at the Biological Sciences Program, University of Arkansas, Fayetteville, AR, US; April 29th, 2021.
8. 'The microbiome as bridge linking the antibiotics and intestinal function' at the 8th World Congress Targeting the Microbiota 2021; October 22nd, 2021.
9. 'Catechol-o-methyltransferase genetic reduction evokes small-bowel neuromuscular adaptive changes' at the Department of Medicine and Surgery, University of Insubria, Varese, Italy; April 26th 2016.
10. 'Impact of antibiotic-induced microbiota depletion on small bowel excitatory and inhibitory neuromuscular pathways in adolescent mice' at Department of Clinical and Experimental Medicine, University of Pisa, Pisa, Italy; Jan 19th 2017.
11. 'Functional and molecular alterations of the enteric nervous system in murine models of gut neuropathies' at the Department of Anatomy and Neuroscience (Professor J.F. Cryan), University College Cork, Ireland; April 03rd 2017.

RECOGNITION AND AWARDS

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| 07-2023 | Selected for podcast interview for the Real Science Exchange podcast episodes organized by Balchem Company with the abstract 'Heat stress induces regional-dependent modulation of aquaporin 4 expression in the enteric nervous system of broiler chickens' presented at the 2023 Poultry Science Annual Meeting, Philadelphia, July 2023. |
| 10-2021 | Awarded medal Irish Pain Society for the 'Non Clinical best poster' with the poster entitled "Decoding early-life stress-induced comorbidities: susceptibility to different domains of altered microbiota-gut-brain axis signalling" presented at the 21st Annual Scientific Meeting of the Irish Pain Society (IPS) (virtual meeting) on October 2021. |
| 03/2020 | Awarded a 2020 WCPGHAN Young Investigator Award to travel and attend the 6th World Congress of Pediatric Gastroenterology, Hepatology and Nutrition, 03-06 June 2020; Copenhagen (Denmark). |

- 08/2018** Merit-based selected to participate at the 15th Little Brain Big Brain Meeting, 26-29 August 2018, Kleve (Germany).
- 11/2018** Awarded a Prize of 5.000,00 € from the Italian Society of Pharmacology for the publication 'Antibiotic-induced dysbiosis of the microbiota impairs gut neuromuscular function in juvenile mice. *Br J Pharmacol.* 2017; Jul 29.
- 10/2017** Awarded a Best Poster Presentation at the 38^o National Congress of Italian Society of Pharmacology, 25-28 October, 2017, Rimini (Italy).
- 08/2017** Awarded a Student Travel Grant to attend the NeuroGASTRO 2017 conference in Cork (Ireland).
- 02/2017** Awarded a Poster of Distinction for the abstract presentation in Poster Session denominated "Enteric Neurobiology: Pharmacology and Physiology" at DDW 2017 Conference in Chicago (IL, USA).
- 06/2016** Merit-based selected to participate at the Basic Science Course on "Hot topics in experimental GI cancer" organized by United European Gastroenterology in Munich (Germany), 30 June-2 July, 2016.
- 05/2016** Certificate of Recognition for the "Scientific Accomplishment as an Early Stage Investigator" received after the oral presentation in the session denominated "Gastric and Small Bowel Motility and Dysmotility" at DDW 2016 Conference in San Diego (CA, USA).
- 07/2015** Merit-based selected to participate at the Basic Science Course on "IBD: models & methods" organized by United European Gastroenterology in Amsterdam/Rotterdam, 9-11 July 2015.
- 10/2015** Awarded an Oral Paper Prize and a Student Travel Grant for the abstract presentation in the Free Paper Session denominated "Visceral hypersensitivity and altered gut motility: Mechanistic insights" at UEG Week 2015 Conference in Barcelona (Spain).

DIRECT CO-SUPERVISORY ROLE IN GRADUATE AND UNDERGRADUATE STUDENT RESEARCH

- 12/2020** Jelena Popov, MD student at University College Cork, Ireland- co-supervisor of her final project: "Role of LCPUFA on Offspring Neurodevelopmental Outcomes" (systematic review).
- 10/2018** James Collins, MS in Neuroscience, University College Cork- co-supervisor of his PhD project 'Effect of prebiotic treatment during the perinatal period of life on functional gut-brain axis disorders induced by early life stress'.
- 03/2018** Greta Mason, bachelor's degree in Applied Pharmaceutical Sciences, University of Padova, co-supervisor in the Research Thesis entitled 'Intestinal microbiota modulation during childhood: risk and benefit of probiotics'.

- 12/2017** Sabrina Battistella, MS Degree in Pharmaceutical Chemistry and Technology, University of Padova, co-supervisor in the Research Thesis entitled 'Effect of oxidized phospholipids on the murine enteric nervous system'.
- 11/2017** Annalisa Brigato, MS Degree in Pharmaceutical Chemistry and Technology, University of Padova, co-supervisor in the Research Thesis entitled 'Role of dopamine transporter and catechol-O-methyltransferase in regulating gastrointestinal motility'.
- 12/2016** Cristina Ravazzolo, MS Degree in Pharmaceutical Chemistry and Technology, University of Padova, co-supervisor in the Research Thesis entitled 'Role of catechol-O-methyltransferase in the modulation of enteric nervous system in murine models'.
- 03/2016** Francesca Coppo, bachelor's degree in Herbal Sciences, University of Padova, co-supervisor in the Research Thesis entitled 'Use of herbal products in the management of irritable bowel syndrome'.

MENTORING ROLE IN UNDERGRADUATE STUDENT RESEARCH (DURING THE PH.D.)

- 12/2015** Silvia Cerantola, MS Degree in Pharmaceutical Chemistry and Technology, University of Padova, mentor in the Research Thesis entitled 'Neuropathological changes of the enteric nervous system in mice fed with high fat diet'.
- 06/2015** Stefania Frizzo, MS Degree in Pharmacy, University of Padova, mentor and co-supervisor in the Research Thesis entitled 'Catechol-O-methyltransferase and dopamine transporter genetic reduction induces alterations in gastrointestinal motility'.
- 03/2015** Lucia Cavallo, MS Degree in Pharmacy, University of Padova, mentor in the Research Thesis entitled 'Catechol-O-methyltransferase genetic reduction: a novel model of irritable bowel syndrome'.
- 10/2014** Ilaria Marsilio, MS Degree in Pharmacy, University of Padova, mentor in the Research Thesis entitled 'Intestinal microbiota dysbiosis causes intestinal neuromuscular dysfunction'.
- 12/2013** Serena Banzato, MS Degree in Pharmacy, University of Padova, mentor in the Research Thesis entitled 'The crosstalk between the intestinal microbiome and innate immune system regulates the neuromuscular activity in the mouse gut'.

COMMITTEE MEMBERSHIP

1. Co-chair of the committee for *AgriCulture* seminar series organized by the ARS-postdoc network (May 2025-July 2026)
2. Co-chair of the Post Doctoral Advisory Council (USDA-ARS) (May 2025-July 2026)

MEMBERSHIPS OF SCIENTIFIC SOCIETIES

1. Poultry Science Association (PSA), postdoctoral member, since 2022.
2. Italian Society of Pharmacology, full member since 2013.
3. Italian Group for the Study of the motility of digestive system (G.I.S.M.A.D), subsidiary to European Society of neurogastroenterology and motility (ESNM), full member since 2016.

