ARIANNA BELLUCCI - BIOGRAPHICAL SKETCH

NAME Arianna Bellucci, PhD	POSITION TITLE Assistant Professor of Pharmacology

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	MM/YY	FIELD OF STUDY
University of Florence, Italy	Master degree in Biological Sciences	07/2000	Molecular Biology
University of Florence, Italy	PhD in Pharmacology and Toxicology	04/2005	Neuroscience and Pharmacology
University of Brescia, Italy	Postdoctoral	04/2006	Neuroscience and Pharmacology

Affiliation: Laboratory for Parkinson's Disease Research, Division of Pharmacology and Statistics, Department of Molecular and Translational Medicine, University of Brescia, Brescia, Italy

B Positions and Honors

Positions and Employment

2005-2006 Post-Doc Fellow, Department of Biomedical Sciences and Biotechnologies, University of Brescia.
2007-2008 Research Assistant (Permanent position) Department of Biomedical Sciences and Biotechnologies, University of Brescia
Apr. 2008 - Jan.2018 Assistant Professor of Pharmacology and Senior Researcher, Department of Molecular and Translational Medicine, University of Brescia.
Feb 2018-present (Current position) Associate Professor of Pharmacology, Department of Molecular and Translational Medicine, University of Brescia.

Other Experience and Professional Memberships

Member of the Italian Society of Pharmacology and of the Italian Society for Neuroscience. Member of the Editorial board of Frontiers in Neuropharmacology. Guest Editor of the Special Issue: "Novel perspectives in Parkinson's disease therapy" *CNS & Neurological Disorders-Drug Targets* Dec. 2013. Member of the board for the assignment of the Young Investigator Award of the IBRO 2011 Conference, Florence, Italy. Member of the Basic Research Editorial Board of the Italian Society of Pharmacology. Guest Editor of the Special Issue "Protein Misfolding and Spreading Pathology in Neurodegenerative Diseases" on Frontiers in Molecular Neuroscience. https://www.frontiersin.org/research-topics/8935/protein-misfolding-and-spreading-pathology-in-neurodegenerative-diseases.

Honors

2002: "Italian Society for Pharmacology" International Mobility Project Research Award;
2015: "Italian society for Pharmacology" Basic Research Award
2016: Italian society for Pharmacology Basic Research Award
2017: Italian society for Pharmacology Basic Research Award

Current National and International Collaborations

Prof. MariaGrazia Spillantini, Cambridge Centre for Brain Repair, Cambridge, UK;
Dr. Alessio Di Fonzo, IRCCS Ca Granda Policlinico di Milano, Milan, Italy;
Prof. Luigi Bubacco, Department of Biology, University of Padova, Italy;
Prof. Ermanno Valoti, Department of Pharmacy, University of Milan, Italy;

Publications

1) Scali C., Casamenti F., **Bellucci, A.**, Costagli C., Schmidt B. and Pepeu, G. *Effect of subchronic administration of metrifonate, rivastigmine and donepezil on brain acetylcholine in aged F344 rats*. J. Neur. Transm. 2002 Jul;109(7-8):1067-80.
2) Giovannini M.G., Scali C. ,Prosperi C., **Bellucci A**., Vannucchi M.G., Rosi S., Pepeu, G. and Casamenti, F. *Beta-amyloid-induced inflammation and cholinergic hypofunction in the rat brain in vivo: involvement of p38MAPK pathway*. Neurobiol. Dis. 2002 Nov;11(2):257-74.
3) Scali C., Giovannini M.G., Prosperi C., **Bellucci A**., Pepeu, G. and Casamenti, F. *The selective cyclooxigenase-2 inhibitor rofecoxib suppresses brain inflammation and protects cholinergic neurons from excitotoxic degeneration in vivo.* Neuroscience. 2003;117(4):909-19.
4) Giovannini M.G., Scali C., Prosperi C., **Bellucci A**., Pepeu G. and Casamenti F. *Experimental brain inflammation and neurodegeneration as model of Alzheimer's disease: protective effects of selective COX-2 inhibitors*. Int J Immunopathol Pharmacol. 2003 May-Aug;16(2 S):31-40.
5) Prosperi C., Scali C., Barba M., **Bellucci A.**, Giovannini M.G., Pepeu G. and Casamenti F. *Comparison between Flurbiprofen and its nitric oxide-releasing derivatives HCT-1026 and NCX-2216 on Abeta(1-42)-induced brain inflammation and neuronal demage in the rat.* Int J Immunopathol Pharmacol. 2004 Sep; 17(3): 317-330.
6) **Bellucci A.**, Westwood A.J., Ingram E., Casamenti F., Goedert M. and Spillantini M.G. *Induction of inlammatory mediators and microglial activation in mice transgenic for mutant P301S tau protein.* 2004 Am. J. Pathol. 165(5): 1-10.
7) **Bellucci A**, Luccarini I, Scali C, Prosperi C, Giovannini MG, Pepeu G, Casamenti F. *Cholinergic dysfunction, neuronal damage and axonal loss in TgCRND8 mice.* Neurobiol Dis. 2006; 23(2):260-72.
8) **Bellucci A**, Rosi MC, Grossi C, Fiorentini A, Luccarini I, Casamenti F. *Abnormal processing of tau in the brain of aged TgCRND8 mice.* Neurobiol Dis. 2007; 27(3):328-38.
9) Luccarini I, Ballerini C, Biagioli T, Biamonte F, **Bellucci A**, Rosi MC, Grossi C, Massacesi L, Casamenti F. *Combined treatment with atorvastatin and minocycline suppresses severity of EAE.* Exp Neurol. 2008; 211(1):214-26.
10) Giovannini MG, Cerbai F, **Bellucci A**, Melani C, Grossi C, Bartolozzi C, Nosi D, Casamenti F. *Differential activation of mitogen-activated protein kinase signalling pathways in the hippocampus of CRND8 transgenic mouse, a model of Alzheimer's disease.* Neuroscience. 2008; 153(3):618-33.
11) **Bellucci A**, Collo G, Sarnico I, Battistin L, Missale C, Spano P. *Alpha-synuclein aggregation and cell death triggered by energy deprivation and dopamine overload are counteracted by D2/D3 receptor activation.* J Neurochem. 2008; 106(2):560-77.
12) Garcia-Reitböck P., Anichtchik O., **Bellucci A.**, Iovino M., Ballini C., Fineberg E., Ghetti B., Della Corte L., Spano PF, Tofaris G.K., Goedert M and Spillantini M.G. *SNARE protein redistribution and synaptic failure in a transgenic mouse model of Parkinson's disease*. Brain 2010; 133: 2032-2044.
13) **Bellucci A.**, Navarria L., Zaltieri M., Falarti E., Bodei S., Sigala S., Battistin L., Spillantini M.G., Missale C. and Spano PF. Induction of the unfolded protein response by alpha-synuclein in experimental models of Parkinson disease. Journal of Neurochem. 2011;116(4):588-605.
14) Stoppani E., Rossi S., Meacci E., Penna F., Costelli P., **Bellucci A.**; Faggi F., Maiolo D., Monti E and Fanzani A. *Point mutated Caveolin-3 form (P104L) impairs myoblast differentiation via Akt and p38 signalling reduction, leading to an immature cell signature.* Biochem. Biophys. Acta, 2011; 1812(4):468-79.
15) **Bellucci A.**, Bugiani O., Ghetti B. and Spillantini M.G. *Presence of reactive microglia and neuroinflammatory mediators in a case of Frontotemporal Dementia with P301S mutation.* Neurodegenerative diseases, 2011; 8(4):221-9.

16) **Bellucci A**., Navarria L., Falarti E., Zaltieri M., Bono F., Collo G., Spillantini MG., Missale C., Spano P. *Redistribution of DAT/α-synuclein complexes visualized by "in situ" proximity ligation assay in transgenic mice modelling early Parkinson's disease.* PLoS ONE, 2011, 6(12):e27959.

17) **Bellucci A.**, Navarria L., Zaltieri M., Missale C., Spano P. *Alpha-synuclein synaptic pathology and its implications in the development of novel therapeutic approaches to cure Parkinson's disease.* Brain Res., 2012, 1432:95-113.

18) **Bellucci A**., Zaltieri M., Navarria L., Grigoletto J., Missale C., Spano P. From alpha-synuclein to syanptic dysfunction: new insights into the pathophysiology of Parkinson's disease. Brain Res. 2012; Special Issue: Brain Integration. 1476: 183-202. IF: 2.879

19) Baiguera C, Alghisi M, Pinna A, **Bellucci A**, De Luca MA, Frau L, Morelli M, Ingrassia R, Benarese M, Porrini V, Pellitteri M, Bertini G, Fabene PF, Sigala S, Spillantini MG, Liou HC, Spano PF, Pizzi M. Late-onset Parkinsonism in NFκB/c-Rel-deficient mice. Brain. 2012 Sep;135(Pt 9):2750-6520)

20) Spano P and **Bellucci A**. Novel perspectives for Parkinson's disease therapy: insights from the latest advances in disease pathophysiology, diagnostic and experimental tools and molecular targets. Editoriale dello Special Issue: "Novel Perspectives for Parkinson's Disease Therapy" curato dalla Dott.ssa Arianna Bellucci in qualità di Invited Editor per CNS Neurol Disord Drug Targets. 2013;12:1083-5.

21) Zaltieri M., Grigoletto J., Navarria L., Favero G., Castrezzati S., Colivicchi M.A., Della Corte L., Rezzani R., Pizzi M., Benfenati F., Spillantini M.G., Missale C., Spano P. and **Bellucci A**. Alpha-synuclein and synapsin III cooperatively regulate synaptic function in dopamine neurons. J. Cell. Sci. 2015; 128, 2231-2243.

22) Lanzillotta A., Porrini V., **Bellucci A**., Benarese M., Branca C., Parrella E., Spano P. and Pizzi M. NF-κB unbalance and dysfunction in acute and age-related neurodegenerative disease. European Journal of Neurodegenerative diseases. 2014, 3: 13-24.

23) Navarria L., Zaltieri M., Spillantini MG., Missale C., Spano P. and **Bellucci A**. Alpha-synuclein modulates NR2B-containing NMDA receptors and decreases their levels after rotenone exposure. Neurochem. Int. 2015; 85-86: 14-23.

24) Zaltieri M., Longhena F., Pizzi M., Missale C., Spano P. and **Bellucci A**., Mitochondrial dysfunction and alpha-synuclein synaptic pathology in Parkinson's disease: who's on first?. Parkinsons Dis. 2015; 2015:108029.

25) Lanzillotta A., Porrini V., **Bellucci A**., Benarese M., Branca C., Parrella E., Spano P. and Pizzi M. NF-κB unbalance and dysfunction in acute and age-related neurodegenerative disease. Front Neurol. 2015; 6:98.

26) **Bellucci A.**, Mercuri N., Venneri A., Faustini G., Longhena F., Pizzi M., Missale C. and Spano P. Parkinson's disease: from synaptic loss to connectome dysfunction. Invited review for the annual special issue of Neuropathology and Applied Neurobiology. 42(1):77-94.

27) Schlich M, Longhena F, Faustini G, O'iscoll C.M., Sinico C, Fadda A.M., **Bellucci A**, Lai F. Anionic liposomes for siRNA delivery to primary neuronal cells: evaluation of alpha synuclein knockdown efficacy. Nano Research. May 2017:1-13.

28) Porrini V, Sarnico I, Benarese M, Branca C, Mota M, Lanzillotta A, **Bellucci A**., Parrella E, Faggi L, Spano P, Imbimbo BP, Pizzi M. Neuroprotective and Anti-Apoptotic Effects of CSP-1103 in Primary Cortical Neurons Exposed to Oxygen and Glucose Deprivation. Int J Mol Sci. 2017; 18(1). pii: E184.

29) Longhena F, Faustini G, Missale C, Pizzi M, Spano P, **Bellucci A**. The Contribution of α-Synuclein Spreading to Parkinson's Disease Synaptopathy. Neural Plast. 2017:5012129.

30) Porrini V., Mota M., Parrella E., **Bellucci A**., Benarese M., Faggi L., Tonin P., Spano P. and Pizzi M. Mild Inflammatory Profile without Gliosis in the c-Rel Deficient Mouse Modeling a Late-Onset Parkinsonism. Frontiers in Aging Neuroscience 2017 July 2017.

31) **Bellucci A**, Antonini A, Pizzi M, Spano P. The End Is the Beginning: Parkinson's Disease in the Light of Brain Imaging. Front Aging Neurosci. 2017 Oct 10;9:330. doi: 10.3389/fnagi.2017.00330.

32) Faustini G, Bono F, Valerio A, Pizzi M, Spano P, **Bellucci A**. Mitochondria and α-Synuclein: Friends or Foes in the Pathogenesis of Parkinson's Disease? Genes (Basel). 2017 Dec 8;8(12). pii: E377. doi: 10.3390/genes8120377.

33) Longhena F, Faustini G, Varanita T, Zaltieri M, Porrini V, Tessari I, Poliani PL, Missale C, Borroni B, Padovani A, Bubacco L, Pizzi M, Spano P, **Bellucci A**. Synapsin III is a key component of α-synuclein fibrils in Lewy bodies of PD brains. Brain Pathol. 2018 Jan 13. doi: 10.1111/bpa.12587.

34) Longhena F, Faustini G, Missale C, Pizzi M and Bellucci A. Dopamine transporter/ α-synuclein complexes are altered in the post mortem caudate putamen of Parkinson's Disease: an *in situ* proximity ligation assay study. Int. J. Mol.Sci. 2018, 19, 1611; doi:10.3390/ijms19061611.

35) Faustini G, Longhena F, Varanita T, Bubacco L, Pizzi M, Missale C, Benfenati F, Björklund A, Spano P, **Bellucci A**. *Synapsin III deficiency hampers α-synuclein aggregation, striatal synaptic damage and nigral cell loss in an AAV-based mouse model of Parkinson's disease*. Acta Neuropathol. 2018 Oct;136(4):621-639.

36) Monzio Compagnoni G, Kleiner G, Samarani M, Aureli M, Faustini G, **Bellucci A**, Ronchi D, Bordoni A, Garbellini M, Salani S, Fortunato F, Frattini E, Abati E, Bergamini C, Fato R, Tabano S, Miozzo M, Serratto G, Passafaro M, Deleidi M, Silipigni R, Nizzardo M, Bresolin N, Comi GP, Corti S, Quinzii CM, Di Fonzo A. *Mitochondrial Dysregulation and Impaired Autophagy in iPSC-Derived Dopaminergic Neurons of Multiple System Atrophy*. Stem Cell Reports. 2018 Nov 13;11(5):1185-1198.

37) Longhena F, Faustini G, Spillantini MG, **Bellucci A**. Living in Promiscuity: The Multiple Partners of Alpha-Synuclein at the Synapse in Physiology and Pathology. Int J Mol Sci. 2019 20(1). pii: E141.

38) Fragni M, Galli D, Nardini M, Rossini E, Vezzoli S, Zametta M, Longhena F, **Bellucci A**, Roca E, Memo M, Berruti A, Sigala S. Abiraterone acetate exerts a cytotoxic effect in human prostate cancer cell lines. Naunyn Schmiedebergs Arch Pharmacol. 2019 Feb 15. doi: 10.1007/s00210-019-01622-5.

39) Bono F, Mutti V, Savoia P, Barbon A, **Bellucci A**, Missale C, Fiorentini C. Nicotine prevents alpha-synuclein accumulation in mouse and human iPSC-derived dopaminergic neurons through activation of the dopamine D3- acetylcholine nicotinic receptor heteromer. Neurobiol Dis. 2019 Apr 30. pii: S0969-9961(19)30106-8. doi: 10.1016/j.nbd.2019.04.017.

40) Parrella E, **Bellucci A***, Porrini V, Benarese M, Lanzillotta A, Faustini G, Longhena F, Abate G, Uberti D, Pizzi M. NF-κB/c-Rel deficiency causes Parkinson's disease-like prodromal symptoms and progressive pathology in mice. Translational Neurodegenration. In press. * Corresponding author