

BIOGRAPHICAL SKETCH

NAME Antonio Pisani		POSITION TITLE Associate Professor of Neurology	
eRA COMMONS USER NAME: PISANIA ORCID 0000-0002-8432-594X			
EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
University of Catania, Italy	MD	1991	Medicine
University of Catania, Italy	Intern	1990-1991	Pharmacology
University of Rome, Italy	Residency	1995	Neurology
Ciba-Geigy Laboratories for Neuroscience, Basel, Switzerland	Fellow	1993-1994	Physiology
Dept. of Physiology, New York Medical College, Valhalla, NY	Fellow	1997	Physiology
University of Perugia, Italy	PhD	2012	Neuroscience

A. Personal Statement

Dr. Pisani is a physician-scientist with a long-standing interest in the basic and clinical aspects of basal ganglia dysfunction, with a specific interest in dystonia and Parkinson's disease. As Head of the Neurophysiology and Plasticity laboratory at Fondazione Santa Lucia, in Rome, he provides guidance in the planning and execution of the experiments to >10 fellows, PhD students and post-docs. Since early 2000', he has been deeply involved in experimental research on dystonia and Parkinson's disease models, focusing on the role of striatal function in the pathogenesis of movement disorders. In detail, he focused on the functional interplay between striatal dopamine and acetylcholine, characterizing the alterations occurring in distinct rodent models of movement disorders and their consequences on synaptic plasticity.

The international profile of his scientific activities is testified both by the number of publications co-authored by international scientists, as well as by the grants obtained by international organizations and foundations. His long-term involvement in this field of research is consistent with the number of peer-review publications, and a total h-index of 60 (source Scopus). His commitment is witnessed by the organization of six editions of an internationally recognized workshop on dystonia and Parkinson's disease, from 2007 to 2017: <http://dystonia.uniroma2.it/>.

As a neurologist involved full-time in clinical practice, his main scope is to fill the gaps between basic neuroscience and clinical neurology, by bridging the experimental findings to the clinical setting.

As senior clinical neurologist, he chairs the Neuropathophysiology Unit at Rome University Hospital "Policlinico Tor Vergata", leading and planning the clinical activities of MDs, residents, technicians, nurses (> 20 employees).

B. Positions and Honors.

Positions and Employment

- 1996 – 2006 Assistant Professor of Neurology, Dept. Neuroscience, University Tor Vergata, Rome, Italy
- 2007- Associate Professor of Neurology, Dept. Systems Medicine, University Tor Vergata, Rome, Italy
- 2007- Head of Neurophysiology and Plasticity laboratory at University of Rome Tor Vergata and Fondazione Santa Lucia, Rome, Italy (<http://www.hsantalucia.it/laboratorio-neurofisiologia-plasticita%3%A0#presentazione>)
- 2015- Head, “Neuropathophysiology Unit” of the University Hospital “Policlinico Tor Vergata”, Rome Italy

Other Experience and Professional Memberships

- 2007- Member of AERES committee (Inserm Experts, Dept. de l’Evaluation Scientifique), France
- 2010-2013: Medical and Scientific Advisory Council (MSAC), Dystonia Medical Research Foundation
- 2009-2012: Scientific Advisory Board (SAB), Bachmann Strauss Dystonia and Parkinson’s Foundation
- 2010- Member Editorial Board Frontiers in Psychopharmacology, Frontiers in Neuroanatomy
- 2009- Member Editorial Board Parkinson’s Disease
- 2010- Member, Editorial Board, Neurobiology of Disease
- 2014- Associate Editor, Frontiers in Neurology, Movement Disorders section
- 2011-2015: Member of the Steering Committee for the European project COST on dystonia syndromes, and coordinator of the working group on animal models (WG2) (http://www.cost.eu/domains_actions/bmbs/Actions/BM1101)
- 2015-2019 Directory Board, Italian Society for Neuroscience (SINS), www.sins.it
- 2017-2020 Council Board, International Basal Ganglia Society (IBAGS)

Ad-hoc Reviewer for: Brain, Movement Disorders, Journal of Neuroscience, European Journal of Neuroscience, Neuroscience, Experimental Neurology, Neural Plasticity, Cerebral Cortex, Biological Psychiatry, Frontiers in Neurology, Neurobiology of Disease, Scientific Reports, Human Molecular Genetics

Honors

- 2012 Recipient of the “Stanley Fahn Award”, Dystonia Medical Research Foundation, USA
- 1995: Award "Azione Parkinson" for best original basic science work on Parkinson’s disease, Italy

C. Selected peer-reviewed publications (selected from >230, h-index: 60, without self-citations: 57; source Scopus)

1. Maltese M, Stanic J, Tassone A, Sciamanna G, Ponterio G, Vanni V, Martella G, Imbriani P, Bonsi P, Mercuri NB, Gardoni F, Pisani A. Early structural and functional plasticity alterations in a susceptibility period of DYT1 dystonia mouse striatum. *eLife*. 2018 Mar 5;7. pii: e33331. doi: 10.7554/eLife.33331.
2. Balint B, Mencacci NE, Valente EM, Pisani A, Rothwell J, Jankovic J, Vidailhet M, Bhatia KP. Dystonia. *Nat Rev Dis Primers*. 2018 Sep 20;4(1):25. doi:10.1038/s41572-018-0023-6.
3. Ponterio G, Tassone A, Sciamanna G, Vanni V, Meringolo M, Santoro M, Mercuri NB, Bonsi P, Pisani A. Enhanced mu opioid receptor-dependent opioidergic modulation of striatal cholinergic transmission in DYT1 dystonia. *Mov Disord*. 2018 Feb;33(2):310-320. doi: 10.1002/mds.27212.
4. Schirinzi T, Di Lazzaro G, Colona VL, Imbriani P, Alwardat M, Sancesario GM, Martorana A, Pisani A. Assessment of serum uric acid as risk factor for tauopathies. *J Neural Transm* (Vienna). 2017 Sep;124(9):1105-1108. doi: 10.1007/s00702-017-1743-6.
5. Calabresi P, Pisani A, Rothwell J, Ghiglieri V, Obeso JA, Picconi B. Hyperkinetic disorders and loss of synaptic downscaling. *Nat Neurosci*. 2016 Jun 28;19(7):868-75.
6. Martella G, Madeo G, Maltese M, Vanni V, Puglisi F, Ferraro E, Schirinzi T, Valente EM, Bonanni L, Shen J, Mandolesi G, Mercuri NB, Bonsi P, Pisani A. Exposure to low-dose rotenone precipitates synaptic plasticity alterations in PINK1 heterozygous knockout mice. *Neurobiol Dis*. 2016 Jul;91:21-36.
7. Madeo G, Schirinzi T, Natoli S, Pierantozzi M, Stefani A, Dauri M, Pisani A. Efficacy and safety profile of prolonged release oxycodone in combination with naloxone (OXN PR) in Parkinson's disease patients with chronic pain. *J Neurol*. 2015. 262(9):2164-70
8. Sciamanna G, Ponterio G, Mandolesi G, Bonsi P, Pisani A. Optogenetic stimulation reveals distinct modulatory properties of thalamostriatal vs corticostriatal glutamatergic inputs to fast-spiking interneurons. *Scientific Rep*. 2015 Nov 17;5:16742.
9. Eskow Jaunarajs KL, Bonsi P, Chesselet MF, Standaert DG, Pisani A. Striatal cholinergic dysfunction as a unifying theme in the pathophysiology of dystonia. *Prog Neurobiol*. 2015 Apr;127-128:91-107. doi: 10.1016/j.pneurobio.2015.02.002.
10. Maltese M, Martella G, Madeo G, Fagiolo I, Tassone A, Ponterio G, Sciamanna G, Burbaud P, Conn PJ, Bonsi P, Pisani A. Anticholinergic drugs rescue synaptic plasticity in DYT1 dystonia: role of M1 muscarinic receptors. *Mov Disord*. 2014 Nov;29(13):1655-65.
11. Madeo G, Schirinzi T, Martella G, Latagliata EC, Puglisi F, Shen J, Valente EM, Federici M, Mercuri NB, Puglisi-Allegra S, Bonsi P, Pisani A. PINK1 heterozygous mutations induce subtle alterations in dopamine-dependent synaptic plasticity. *Mov Disord*. 2014 Jan;29(1):41-53.
12. Martella G, Maltese M, Nisticò R, Schirinzi T, Madeo G, Sciamanna G, Ponterio G, Tassone A, Mandolesi G, Vanni V, Pignatelli M, Bonsi P, Pisani A. Regional specificity of synaptic plasticity deficits in a knock-in mouse model of DYT1 dystonia. *Neurobiol Dis*. 2014 May;65:124-32.
13. Goodchild RE, Grundmann K, Pisani A. New genetic insights highlight 'old' ideas on motor dysfunction in dystonia. *Trends Neurosci*. 2013 Dec;36(12):717-25. doi: 10.1016/j.tins.2013.09.003.
14. Sciamanna G, Tassone A, Mandolesi G, Puglisi F, Ponterio G, Martella G, Madeo G, Bernardi G, Standaert DG, Bonsi P, Pisani A. Cholinergic dysfunction alters synaptic integration between thalamostriatal and corticostriatal inputs in DYT1 dystonia. *J Neurosci*. 2012 Aug 29;32(35):11991-2004.
15. Pisani V, Stefani A, Pierantozzi M, Natoli S, Stanzione P, Franciotta D, Pisani A. Increased cerebrospinal fluid transfer of albumin in advanced Parkinson's disease. *J Neuroinflammation*. 2012.vol. 9, doi: doi:10.1186/1742-2094-9-188.
16. Martella G, Tassone A, Sciamanna G, Platania P, Cuomo D, Viscomi MT, Bonsi P, Cacci E, Biagioni S, Usiello A, Bernardi G, Sharma N, Standaert DG, Pisani A. Impairment of bidirectional synaptic plasticity in the striatum of a mouse model of DYT1 dystonia: role of endogenous acetylcholine. *Brain*. 2009 Sep;132(Pt 9):2336-49.
17. Tong Y, Pisani A, Martella G, Karouani M, Yamaguchi H, Pothos EN, Shen J. R1441C mutation in LRRK2 impairs dopaminergic neurotransmission in mice. *PROC NATL ACAD SCI*. 2009. vol. 106, p. 14622-14627.
18. Lunardi G, Galati S, Tropepi D, Moschella V, Brusa L, Pierantozzi M, Stefani A, Rossi S, Fornai F, Fedele E, Stanzione P, Hainsworth AH, Pisani A. Correlation between changes in CSF dopamine turnover and development of dyskinesia in Parkinson's disease. *Parkinsonism Relat Disord*. 2009 Jun;15(5):383-9.

19. Pisani A, Fezza F, Galati S, Battista N, Napolitano S, Finazzi-Agrò A, Bernardi G, Brusa L, Pierantozzi M, Stanzione P, Maccarrone M. High endogenous cannabinoid levels in the cerebrospinal fluid of untreated Parkinson's disease patients. *Ann Neurol*. 2005 May;57(5):777-9.
20. Goldberg MS, Pisani A, Haburcak M, Vortherms TA, Kitada T, Costa C, Tong Y, Martella G, Tscherter A, Martins A, Bernardi G, Roth BL, Pothos EN, Calabresi P, Shen J. Nigrostriatal dopaminergic deficits and hypokinesia caused by inactivation of the familial Parkinsonism-linked gene DJ-1. *Neuron*. 2005 Feb 17;45(4):489-96.

D. Recent research Support

Ongoing Research Support

- **PRIN:** Italian Ministry of Education and University: *Targeting early synaptic dysfunctions induced by alpha-synuclein as a novel therapeutic approach in Parkinson's disease*- Role: Co-investigator 2015-2017
- **Cariplo Foundation:** *Dysregulation of serine metabolism in physical and cognitive frailty in Parkinson's disease: characterization of a novel pathobiological mechanism potentially amenable to treatment*- Role: Co-Investigator 2017-2019

Completed Research Support (most recent selected)

- **Progetto Giovani Ricercatori Italian Ministry of Health** 2011-2014
In pursuit of novel neuroprotective strategies for Parkinson's disease: understanding the role of PINK1 in regulating autophagy and apoptosis - Role: Co-Investigator
- **Dystonia Medical Research Foundation, USA** 2015-2016
"Evaluation of the effects of a novel nicotinic agonist, AZD1446, on neurochemical and electrophysiologic endpoints in DYT1 mouse models". Role: Co-PI.
- **FDR- Foundation for Dystonia Research** 2012-2015
"Assessing the role of dopaminergic signal transduction pathway in primary dystonia". Role: PI.
- **COST project** (European Cooperation in Science and Technology)- Action BM1101 2011-2015
"European network for the study of dystonia syndromes"
Role: Working group coordinator
- **Progetto Finalizzato Italian Ministry of Health** 2012-2015
"Recovery of cholinergic neurotransmission dysfunction in DYT1 dystonia"- Role: PI
- **"Stanley Fahn Award", Dystonia Medical Research Foundation** 2011-2014
"D2 dopamine receptor signalling alteration in a mouse model of DYT1 dystonia".
Role: PI