

Curriculum vitae

Family Name: Centonze

Given Name: Diego

Place and Date of Birth: Carmiano (Lecce), February 24th, 1970

Indirizzo:

Clinica Neurologica, Dipartimento di Neuroscienze, Università Tor Vergata, Via Montpellier 1, 00133 Rome, Italy. Tel. +39-06-7259-6010; Fax: +39-06-7259-6006; Email: centonze@uniroma2.it

Education:

1994: Degree in Medicine, cum laude, University of Rome "La Sapienza".

1999: Specialization in Neurology, cum laude, University of Rome "Tor Vergata".

2006: Specialization in Psychiatry, cum laude, University of Rome "Tor Vergata".

Present academic position:

2001-present: Assistant Professor of Neurology (Department of Neuroscience, University of Rome "Tor Vergata").

Present clinical position:

Head of the UOSD Centro di Riferimento Regionale per lo Studio della Sclerosi Multipla, Tor Vergata University Hospital, Rome.

Present scientific roles:

(1) Co-director of CENTERS. (2) Head of the Laboratory of non-invasive Brain Stimulation, Tor Vergata Hospital, University of Rome, Tor Vergata. (3) Head of the Experimental Neurology Laboratory, Department of Neuroscience, University of Rome, Tor Vergata. (4) Head of the Neuroimmunology and Synaptic Plasticity Laboratory, Fondazione Santa Lucia/CERC (Centro Europeo per la Ricerca sul Cervello), Rome.

Previous positions:

1998-1999: Research Fellow at the Department of Neuroscience, Division of Pharmacology, University of Birmingham, Birmingham, UK.

1999-2001: Post-doctoral fellow at the Neurophysiology Laboratory, Fondazione Santa Lucia, Rome, Italy.

Pre-clinical Research Activity:

- 1994-present: Role of dopamine in physiological and pathological conditions.
- 1996-2005: Electrophysiological characterization of excitatory and inhibitory synaptic transmission in experimental models of Parkinson's disease (PD), Huntington's disease (HD), brain ischemia.
- 1998-1999: Electrophysiology of dopamine in subthalamic nucleus neurons.
- 1999-2003: Receptor and post-receptor events involved in the modulation of corticostriatal transmission and synaptic plasticity (long-term potentiation, long-term depression, synaptic depotentiation).
- 2000-present: Cellular and molecular mechanisms of reward and drug addiction.
- 2004-present: Physiology of the endocannabinoid system and its involvement in psychiatric and neurological diseases (experimental HD, PD, MS, ADHD, schizophrenia, depression).
- 2005-present: Electrophysiological characterization of excitatory and inhibitory synaptic transmission in experimental models of Multiple Sclerosis (MS).

Clinical Research Activity:

- 2004-present: Synaptic plasticity and connectivity in neurological and psychiatric disorders by means of non invasive transcranial brain stimulation (rTMS, twin coil TMS, tDCS).
- 2006-present: Therapeutic use of non-Invasive Brain Stimulation in MS-related symptoms.
- 2005-present: Principal Investigator of phase II, III and IV National and International Multicenter Trials with new therapeutic agents for MS.

Publications:

Author of about 175 peer-reviewed papers published in International Journals of Neuroscience, Neurology and Psychiatry.

Honours:

In October 2005, the international journal "Science" published an Interview to Dr. Diego Centonze, and included him among "Six stellar neuroscientists based in North America and Europe".

Selection of the most significant publications (30 max).

1. Mori F, Codecà C, Kusayanagi H, Monteleone F, Buttari F, Fiore S, Bernardi G, Koch G, **Centonze D**. Effects of Anodal Transcranial Direct Current Stimulation on Chronic Neuropathic Pain in Patients With Multiple Sclerosis. *The Journal of Pain*, 2010 (in press)
2. Musella A, De Chiara V, Rossi S, Prosperetti C, Bernardi G, Maccarrone M, **Centonze D**. TRPV1 channels facilitate glutamate transmission in the striatum. *Molecular and Cellular Neurosciences*, 2009 vol. 40; p. 89-97.
3. **Centonze D**, Bari M, Di Michele B, Rossi S, Gasperi V, Pasini A, Battista N, Bernardi G, Curatolo P, Maccarrone M (2009). Altered anandamide degradation in attention-deficit/hyperactivity disorder. *Neurology*, vol. 72; p. 1526-1527.
4. **Centonze D**, Di Muzio L, Rossi S, Cavasinni F, De Chiara V, Bergami A, Musella A, D'Amelio M, Cavallucci V, Martorana A, Bergamaschi A, Cencioni MT, Diamantini A, Butti E, Comi G, Bernardi G, Cecconi F, Battistini L, Furlan R, Martino G (2009). Inflammation triggers synaptic alteration and degeneration in experimental autoimmune encephalomyelitis. *The Journal of Neuroscience*, vol. 29; p. 3442-3452.
5. **Centonze D**, Mori F, Koch G, Buttari F, Codecà C, Rossi S, Cencioni MT, Bari M, Fiore S, Bernardi G, Battistini L, Maccarrone M (2009). Lack of effect of cannabis-based treatment on clinical and laboratory measures in multiple sclerosis. *Neurological Sciences*, vol. 30; p. 531-534.
6. **Centonze D**, Muzio L, Rossi S, Furlan R, Bernardi G, Martino G (2009). The link between inflammation, synaptic transmission and neurodegeneration in multiple sclerosis. *Cell Death and Differentiation*.
7. De Chiara V, Errico F, Musella A, Rossi S, Mataluni G, Sacchetti L, Siracusano A, Castelli M, Cavasinni F, Bernardi G, Usiello A, **Centonze D**. (2009). Voluntary exercise and sucrose consumption enhance cannabinoid CB1 receptor sensitivity in the striatum. *Neuropsychopharmacology*, vol. 35; p. 374-387.
8. Fazio R, Malosio ML, Lampasona V, De Feo D, Privitera D, Marnetto F, **Centonze D**, Ghezzi A, Comi G, Furlan R, Martino G (2009). Anti-aquaporin 4 antibodies detection by different techniques in neuromyelitis optica patients. *Multiple Sclerosis*, vol. 15; p. 1153-1163.
9. Mori F, Codecà C, Kusayanagi H, Monteleone F, Boffa L, Rimano A, Bernardi G, Koch G, **Centonze D**. (2009). Effects of intermittent theta burst stimulation on spasticity in patients with multiple sclerosis. *European Journal of Neurology*.
10. Mori F, Koch G, Foti C, Bernardi G, **Centonze D**. (2009). The use of repetitive transcranial magnetic stimulation (rTMS) for the treatment of spasticity. *Progress in Brain Research*, vol. 175; p. 429-439.
11. Rossi S, Furlan R, De Chiara V, Musella A, Lo giudice T, Mataluni G, Cavasinni F, Cantarella C, Bernardi G, Muzio L, Martorana A, Martini G, **Centonze D**. (2009). Exercise attenuates the clinical, synaptic and dendritic abnormalities of experimental autoimmune encephalomyelitis. *Neurobiology of Disease* vol. 36; p. 51-59.
12. Rossi S, Mataluni G, Codecà C, Fiore S, Buttari F, Musella A, Castelli M, Bernardi G, **Centonze D**. (2009). Effects of levetiracetam on chronic pain in multiple sclerosis: results of a pilot, randomized, placebo-controlled study. *European Journal of Neurology*, vol. 16; p. 360-366.
13. **Centonze D**, Battistini L, Maccarrone M (2008). The endocannabinoid system in peripheral lymphocytes as a mirror of neuroinflammatory diseases. *Current Pharmaceutical Design* vol. 14; p. 2370-2342.
14. **Centonze D**, Furlan R, Gasperini C, Salvetti M, Battistini L (2008). Early relapses after the first dose of natalizumab in active multiple sclerosis patients. *Multiple Sclerosis*, vol. 14; p. 1137-1138.
15. **Centonze D**, Rossi S, De Bartolo P, De Chiara V, Foti F, Musella A, Mataluni G, Rossi S, Bernardi G, Koch G, Petrini L (2008). Adaptations of glutamatergic synapses

- in the striatum contribute to recovery from cerebellar damage. *European Journal of Neuroscience*, vol. 27; p. 2188-2196.
16. **Centonze D**, Rossi S, Mercaldo V, Napoli I, Ciotti MT, De Chiara V, Musella A, Prosperetti C, Calabresi P, Bernardi G, Bagni C (2008). Abnormal striatal GABA transmission in the mouse model for the fragile X syndrome. *Biological Psychiatry*, vol. 63; p. 963-973.
 17. Koch G, Ribolsi M, Mori F, Sacchetti L, Codecà C, Rubino IA, Siracusano A, Bernardi G, **Centonze D**. (2008). Connectivity between posterior parietal cortex and ipsilateral motor cortex is altered in schizophrenia. *Biological Psychiatry*, vol. 64; p. 815-819.
 18. Koch G, Rossi S, Prosperetti C, Codecà C, Monteleone F, Petrosini L, Bernardi G, **Centonze D**. (2008). Improvement of hand dexterity following motor cortex rTMS in multiple sclerosis patients with cerebellar impairment. *Multiple Sclerosis*, vol. 14; p. 995-998.
 19. Maccarrone M, Rossi S, Bari M, De Chiara V, Fezza F, Musella A, Gasperi V, Prosperetti C, Bernardi G, Finazzi -Agrò' A, Cravatt BF, **Centonze D**. (2008). Anandamide inhibits metabolism and physiological actions of 2-arachidonoylglycerol in the striatum. *Nature Neuroscience* vol. 11; p. 152-159.
 20. Rossi S, De Chiara V, Musella A, Kusayanagi H, Mataluni G, Bernardi G, Usiello A, **Centonze D**. (2008). Chronic psychoemotional stress impairs cannabinoid-receptor-mediated control of GABA transmission in the striatum. *The Journal of Neuroscience*, vol. 28; p. 7284-7292.
 21. **Centonze D**, Bernardi G, Koch G. Mechanisms of disease: basic-research-driven investigations in humans--the case of hyperkinetic disorders. *Nat Clin Pract Neurol*. 2007 Oct;3(10):572-80.
 22. **Centonze D**, Bari M, Rossi S, Prosperetti C, Furlan R, Fezza F, De Chiara V, Battistini L, Bernardi G, Bernardini S, Martino G, Maccarrone M. The endocannabinoid system is dysregulated in multiple sclerosis and in experimental autoimmune encephalomyelitis. *Brain*. 2007 Oct;130(Pt 10):2543-53.
 23. **Centonze D**, Rossi S, Tortiglione A, Picconi B, Prosperetti C, De Chiara V, Bernardi G, Calabresi P. Synaptic plasticity during recovery from permanent occlusion of the middle cerebral artery. *Neurobiol Dis*. 2007 Jul;27(1):44-53.
 24. Borsellino G, Kleinewietfeld M, Di Mitri D, Sternjak A, Diamantini A, Giometto R, Höpner S, **Centonze D**, Bernardi G, Dell'Acqua ML, Rossini PM, Battistini L, Röttschke O, Falk K. Expression of ectonucleotidase CD39 by Foxp3+ Treg cells: hydrolysis of extracellular ATP and immune suppression. *Blood*. 2007 Aug 15;110(4):1225-32.
 25. **Centonze D**, Petta F, Versace V, Rossi S, Torelli F, Prosperetti C, Rossi S, Marfia GA, Bernardi G, Koch G, Miano R, Boffa L, Finazzi-Agrò E. Effects of motor cortex rTMS on lower urinary tract dysfunction in multiple sclerosis. *Mult Scler*. 2007 Mar;13(2):269-71.
 26. **Centonze D**, Koch G, Versace V, Mori F, Rossi S, Brusa L, Grossi K, Torelli F, Prosperetti C, Cervellino A, Marfia GA, Stanzione P, Marciani MG, Boffa L, Bernardi G. Repetitive transcranial magnetic stimulation of the motor cortex ameliorates spasticity in multiple sclerosis. *Neurology*. 2007 Mar 27;68(13):1045-50.
 27. **Centonze D**, Finazzi-Agrò A, Bernardi G, Maccarrone M. The endocannabinoid system in targeting inflammatory neurodegenerative diseases. *Trends Pharmacol Sci*. 2007 Apr;28(4):180-7.
 28. Brusa L, Versace V, Koch G, Bernardi G, Iani C, Stanzione P, **Centonze D**. Improvement of choreic movements by 1 Hz repetitive transcranial magnetic stimulation in Huntington's disease patients. *Ann Neurol*. 2005 Oct;58(4):655-6.
 29. Koch G, Brusa L, Caltagirone C, Peppe A, Oliveri M, Stanzione P, **Centonze D**. rTMS of supplementary motor area modulates therapy-induced dyskinesias in Parkinson disease. *Neurology*. 2005 Aug 23;65(4):623-5.
 30. **Centonze D**, Rossi S, Prosperetti C, Tschertter A, Bernardi G, Maccarrone M, Calabresi P. Abnormal sensitivity to cannabinoid receptor stimulation might contribute to altered gamma-aminobutyric acid transmission in the striatum of R6/2 Huntington's disease mice. *Biol Psychiatry*. 2005 Jun 15;57(12):1583-9.