



## CHIARA ZUCCATO

### Associate Professor of Pharmacology – University of Milan

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Citizenship: Italian

Date of Birth: 08/07/1972

## WORK EXPERIENCE

2015-present	Associate Professor Dept. Biosciences – University of Milan (UNIMI)
2012-2015	Assistant Professor Dept. Biosciences – UNIMI
2006-2012	Assistant Professor Dept. of Pharmacology – UNIMI
1999-2005	Research Fellow Dept. of Pharmacology – UNIMI
1998-1999	Research Fellow Dept. Pharmacology and Medical Chemotherapy – UNIMI
1996-1998	Master Student, University of Insubria, Varese (Italy)

## EDUCATION

2005	PhD in Biotechnology applied to Pharmacology (UNIMI)
2003	Professional Biologist
1998	Graduation in Biological Sciences, University of Insubria. Score: 110/110 cum laude

## CERTIFICATIONS

2018	Habilitation as a Full Professor in Pharmacology. Valid until 2027.
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## RESEARCH ACTIVITY

Since 1999, my research activity is focused on Huntington's disease (HD) with the aim to understand HTT normal function(s) in neurons which can be affected by the HD mutation. I'm also interested in uncovering new pharmacological targets and neuroprotective drugs to face HD synaptic dysfunction. Main results achieved:

(i) The discovery that the ADAM10/N-Cadherin pathway is implicated in synaptic dysfunctions and cognitive defects observed in HD (*Vezzoli, JCI 2019; Cozzolino, Hum Mol Genet 2021*). The modulation of this pathway in the animal model prevents disease phenotypes and opens the possibility of developing ADAM10 inhibitors to counteract synaptic defects in HD.

(ii) The discovery that huntingtin in its normal version has neuroprotective function because it stimulates the expression of Brain Derived Neurotrophic Factor (BDNF) and the demonstration that in HD the reduced production of BDNF contributes to the observed selective neurodegeneration (*Zuccato, Science 2001; Zuccato, Nat Genet 2003; Zuccato, J Neurosci. 2007; Zuccato, Brain Pathol, 2008; Zuccato, PLoS ONE 2011*). These results, widely consolidated in the mouse models and in the HD patient, have been reproduced by Italian and foreign laboratories so much that the measurement of the BDNF is now deemed necessary to validate new models of Huntington's Disease (*Zuccato and Cattaneo, Prog Neurobiol 2007; Zuccato and Cattaneo, Nat Rev Neurol 2009; Zuccato e Cattaneo, Handb Exp Pharmacol. 2014*).

(iii) The reconstruction of the evolutionary passages of the Huntington gene and the demonstration that Huntington genes from species with progressively longer CAG tracts have greater neural capacity. (*Tartari, Mol Biol Evol 2008; Lo Sardo, Nat Neurosci 2012*). More recently, I have contributed to discover that, during evolution, natural selection promotes the conservation and purity of the CAG tract and that small increases in its physiological length influence neural functions of HTT (*Iennaco, Cell Death Differ, 2022*).

List of Publications: ORCID: [HTTPS://ORCID.ORG/0000-0003-1771-3392](https://orcid.org/0000-0003-1771-3392)

Original manuscripts: 44; Reviews: 10; Book chapters: 4

**H index (Scopus, April 2022): 33**

**Citations (Scopus, April 2022): 7240**

**Average IF: 7.9**

#### Invited Talks

2001-present 32 oral presentations to national and international meetings  
2001-present 22 seminars in Italy and abroad

#### FUNDING

2004-2006 CRUI – British Council  
2007-2010 PRIN (Italian Ministry of University and Research)  
2006 FIRST (UNIMI)  
2007 FIRST (UNIMI)  
2008 PUR (UNIMI)  
2010-2013 FIRB (Italian Ministry of University and Research)  
2013-2016 Telethon  
2014-2017 PRIN (Italian Ministry of University and Research)  
2017-2020 Collaborator JPND project "CircProt"  
2021-2023 Telethon

#### TEACHING and TUTOR ACTIVITY

2008-2012 Faculty of Pharmacy, Univ. of Milan  
2011-2014 Faculty of Pharmacy University Our Lady of Good Counsel, Tirana  
2013-present Faculty of Science and Technology Univ. of Milan  
Lecturer for:  
*Molecular and Cellular Pharmacology (48 hours/year)*  
*Stem cells and Genetic diseases (48 hours/year)*  
*Neurobiology (32 hours/year)*  
Total 128 hours/year  
2001-present Tutor and/or co-tutor of 20 master students and 2 PhD students

#### REVIEWER DUTIES

2001-present Manuscript reviewer for international journals including Human Molecular Genetics, Molecular Neurobiology, Cell Death & Disease, Neurobiology of Disease, Brain Research, Brain, The Journal of Clinical Investigation, EMBO Molecular Medicine, The Journal of Neuroscience.  
  
Grant reviewer for National Academy of Research of France and Neurological Foundation of New Zealand.

#### OUTREACH and DISSEMINATION

Aside from dedicating time to research on HD I am involved in science divulgation initiatives for the general public. Since 2001 I am close to HD families and patients.

2006-2007-2012-2013-2021 Telethon Marathon  
2017 *Il Giardino della Scienza* - Dept. Biosciences (UNIMI)  
2015 to 2019 *Huntington Days* - meeting for HD families and patients  
2008-present 35 seminars for HD patient associations and students  
9 TV and radio interviews on HD  
7 articles for magazines and national newspapers

#### HONORS and PRIZES

2008 Ricerca.Tissimi, Premio Ricerca & Internazionalizzazione - Lombardy Region.  
2006 Prize "Le Scienze 2006", a gold medal for Molecular Biomedicine and a medal for scientific merits conferred by the President of the Italian Republic.  
2003 Awarded by the association "Ricerca in Movimento" (Rome)  
2003 Award "The Outstanding Young Persons" (TOYP) - Junior Chamber International (Italy)