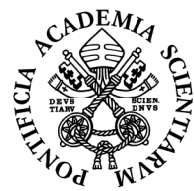


THE PONTIFICAL ACADEMY OF SCIENCES

International Consensus Conference on
Neuroprotection
in Parkinson's Disease
5 - 6 April 2011 - Casina Pio IV - Vatican City



VATICAN CITY 2011



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The Pontifical Academy of Sciences, whose purpose is to promote the progress of the sciences for the common good of the human person, in its Study Week of 5-6 April 2011 at its headquarters in the Vatican, would like to focus on the wellbeing of the nervous central system, taking into account the revolutionary contributions of the last century in relation to the human brain and movement.

PD is a neurodegenerative disorder characterized by degeneration of dopamine neurons in the substantia nigra pars compacta (SNc) coupled with intracellular proteinaceous inclusions or Lewy bodies. Current therapies effectively treat dopaminergic motor features. However, features emerge that are not satisfactorily controlled with dopaminergic therapies, such as falling, freezing, and dementia that are not adequately controlled with available medical or surgical therapies. Indeed, these "non-dopaminergic" features represent the major source of disability and need for nursing home placement in advanced PD patients. A disease-modifying or neuroprotective therapy that slows or stops disease progression and prevents the emergence of these problems is an urgent priority.

Both autosomal-dominant and recessive gene mutations have been reported to cause PD. There is also evidence that environmental factors contribute to the etiology of PD, as suggested by the association of parkinsonian syndromes with exposure to neurotoxins such as 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP) or hydrocarbons. Further, epidemiological studies indicate that rural living, well-water consumption and exposure to pesticides increase the risk of developing PD, whereas there is a decreased risk of PD associated with smoking and coffee consumption.

None of these factors, however, explain the large majority of cases that appear to have a sporadic form of the disease. Indeed, twin studies suggest that genetic factors probably play a dominant role in young-onset cases where environmental factors are likely to be more important in most older sporadic cases. It is likely that sporadic PD is related to a complex interaction between a variety of genetic and environmental factors that may be different in different individuals. This implies that there are many different causes of PD and makes it unlikely that a single neuroprotective treatment aimed at interfering with a single etiologic factor will be effective in the majority of PD patients.

Other opportunities for neuroprotection in PD derive from studies on the pathogenesis and mechanism of cell death. Current information suggests that neurodegeneration in PD is associated with a cascade of events including oxidant stress, mitochondrial abnormalities, excitotoxicity and inflammation. Based on this evidence, a number of theoretical neuroprotective strategies can be designed. What is not clear, however, is whether these processes are primary or secondary, which if any is the driving force that initiates neurodegeneration and what role each plays in the neurodegenerative process that occurs in an individual patient.

While no therapy has as yet been demonstrated to be neuroprotective in PD, it is anticipated that with advances in mechanisms responsible for cell death, better animal models in which to test promising new therapies, and new clinical trial designs such as delayed-start and long-term

simple study, disease-modifying drugs will soon be forthcoming. Indeed, we and others have recently demonstrated in a large delayed start study that early treatment with rasagiline 1 mg provides benefits that are not achieved with delayed introduction of the same therapy, consistent with a disease-modifying effect.

The development of a marker of pre-motor PD would offer many important advantages. First, it would help to define an at-risk population that could be used in clinical trials to help develop a disease-modifying therapy. If it could be determined that a therapy has a disease modifying effect, introduction of such an agent at the earliest possible time point might be essential in order to maximize its effect on disease progression. Indeed, introduction of an effective disease-modifying agent in the pre-motor stage might significantly delay or even entirely prevent the development of the classical motor features of the disease.

Pathology studies indicate that neurodegeneration with Lewy body and Lewy neurite pathology affects multiple non-dopaminergic sites throughout the central nervous system and the peripheral autonomic nervous system. This non-dopaminergic pathology is thought to account for the non-dopaminergic features of PD. Further, Braak and colleagues have suggested that alpha synuclein pathology accumulates in a sequential manner, with degeneration of SNc dopamine neurons occurring at a mid-stage of the disease. In keeping with these pathologic findings, numerous studies indicate that several non-dopaminergic clinical features precede, or represent risk factors for, the development of the classic motor features of PD. These include anosmia, constipation, depression and REM behavior sleep disorder (RBD). Indeed, studies suggest that these non-motor features can predate the development of motor features by several years. Further, anosmia and RBD are associated with reduced striatal uptake of biomarkers of nigrostriatal function and anosmia, and reduced FD uptake on PET in first degree family members of PD patients are associated with a strikingly greater risk that the patients will be diagnosed as having PD. Recently a large number of studies are trying to find these kinds of precocious symptoms, in order to obtain an early diagnosis, possibly in a pre-clinical (or pre-motor) phase, and test drugs capable of slowing down or stopping degeneration. Often several symptoms like anosmia, some sleep disorders and constipation appear before motor symptoms.

Hypo/anosmia is a characteristic premotor symptom in PD complex; in a recent review, Haehner found the prevalence of smell disorders should be more than 95% and should be present also in the early stage of the disease. Ponsen and coll. found a high risk of developing PD in first degree PD relatives.

Several lines of evidence suggest that dopamine denervation of the heart might also precede the onset of PD motor features.

This international symposium on neuroprotection in PD will be focused on discussion about all these topics, bringing together the top experts in the field. The meeting will be a great occasion to reach a consensus on debated topics and design a common research line to achieve neuroprotection in PD. The proceedings of the meeting, including the discussion will be published in the prestigious journal *Movement Disorders*.

Prof. Stefano Maria Zuccaro
Vatican Health Officer

Honorary President of the Italian Society of Hospital Geriatrics

H.E. Msgr. Marcelo Sánchez Sorondo, Chancellor
The Pontifical Academy of Sciences



Chairmen: **Fabrizio Stocchi** (Italy), **Jose A. Obeso** (Spain), **C. Warren Olanow** (Canada)

Day 1 – Tuesday 5 April

9:00 Welcome
Stefano Maria Zuccaro (Italy), **H.E. Msgr. Marcelo Sánchez Sorondo** (Vatican City)

9:15 Introduction
F. Stocchi (Italy), **Jose A. Obeso** (Spain), **C. Warren Olanow** (Canada)

PD ETIOLOGY

9:30 Environmental Factors
K.D. Kiebertz (USA)

10:00 Overview of genetics - new approaches and new directions
J. Hardy (UK)

10:30 Alpha-Synuclein
A.B. Singleton (USA)

11:00 *Break*

11:30 Parkin
Y. Mizuno (Japan)

12:00 LARK2
V.L. Dawson (USA)

12:30 PINK1/DJ1
V. Bonifati (The Netherlands)

13:00 Others (other genes, mitochondrial genes, susceptibility genes)
M. Farrer (Canada)

13:30 *Lunch*

PATHOGENESIS OF CELL DEATH

15:00 Oxidative stress and mitochondria
S. Przedborski (USA)

15:30 Calcium cytotoxicity
J. Surmeier (USA)

16:00 Inflammation
E.C. Hirsch (France)

16:30 *Break*

17:00 Proteins and Prions
C. W. Olanow (USA)

17:30 Cell signaling and cell death
P. Calabresi (Italy)

18:00 Terminal degeneration
D.L. Sulzer (USA)

18:30 *Discussion*

20:30 **Gala Dinner - Eden Terrace**

Chairmen: **Fabrizio Stocchi** (Italy), **Jose A. Obeso** (Spain), **C. Warren Olanow** (Canada)

Day 2 – Wednesday 6 April

ANIMAL MODELS

8:30 Classic Animal Models I
E. Bezard (France)

9:00 Genetic Animal Models II
Z. Yue (USA)

9:30 Gene delivery models
D. Kirik (Sweden)

10:00 **Audience with the Holy Father**

12:30 *Lunch*

CLINICAL CONCEPTS

13:30 Attempts to obtain neuroprotection
A.E. Lang (Canada)

14:00 Biomarkers
J. Stoessl (Canada)

14:30 Cell-based therapies
A. Björklund (Sweden)

15:00 Gene therapies
J.H. Kordower (USA)

15:30 *Break*

16:00 Rehabilitation and digital environment for PD and related pathologies
A.M. Battersby (Argentina)

16:30 Future directions in the development of neuroprotective therapies
A. Schapira (UK)

17:00 Can we achieve neuroprotection – General discussion

17:30 Closing Comments
C. Warren Olanow (Canada), **Jose A. Obeso** (Spain)

Discussants:

Olivier Rascol (France), **Werner Poewe** (Austria),
Peter Jenner (UK), **Eldad Melamed** (Israel), **Maria Grazia Spillantini** (UK)



A.M. Baggio (Argentina)

E. Bezard (France)

A. Björklund (Sweden)

V. Bonifati (The Netherlands)

P. Calabresi (Italy)

V.L. Dawson (USA)

M. Farrer (Canada)

J. Hardy (UK)

E.C. Hirsch (France)

K.D. Kiebertz (USA)

D. Kirik (Sweden)

J.H. Kordower (USA)

A.E. Lang (Canada)

Y. Mizuno (Japan)

J.A. Obeso (Spain)

C.W. Olanow (Canada)

S. Przedborski (USA)

M. Sánchez Sorondo (Vatican City)

A. Schapira (UK)

A.B. Singleton (USA)

F. Stocchi (Italy)

J. Stoessl (Canada)

D.L. Sulzer (USA)

J. Surmeier (USA)

Z. Yue (USA)

S.M. Zuccaro (Italy)





ANTONIO M. BATTRO

He was born in 1936 in Mar del Plata, Argentina.

CURRENT POSITION

- Founder member of Centro de Investigaciones Filosóficas (CIF) of Buenos Aires (since 1965)
- Education consultant at Battro & Denham in Buenos Aires (since 1988)
- Chief Education Officer at One Laptop Per Child – OLPC in Cambridge Mass. (since 2006)

EDUCATION

Medical Degree University of Buenos Aires (1951-1958)
Specialty Psychology, University of Paris, Sorbonne (1958-1961)
Logics and Mathematics, Freiburg University, CH (1961-1962)
Genetic Epistemology, Geneva University, CH (1967-1968)

CLINICAL INTERNSHIP AND ACADEMIC APPOINTMENTS

- Practicing, Hospital Nacional de Clínicas, Universidad de Buenos Aires (1955-1958)
- Scholar Bursar of French Government, Laboratoire de Psychologie Expérimentale et Comparée, Sorbonne (1958-1959) Prof. Paul Fraise
- Scholar Bursar of Universidad de Buenos Aires (1959-1960)
- Leonard Nelson Foundation Grant in New York (1964)
- J.S. Guggenheim Fellow (1968) Brain Research Laboratories, New York College of Medicine
- Fulbright Fellow (1972) Massachusetts Institute of Technology
- Associate Director, Experimental and Compared Psychology Lab., Ecole Pratique des Hautes Etudes, Paris (1979)
- UNESCO, Co-Director Project MAB 13, Prof. Kevin Lynch (1979)
- Eisenhower Fellow (1986) Philadelphia
- Visiting Scholar Harvard University, Graduate School of Education (1997)
- Director International School of Mind, Brain and Education, Ettore Majorana Centre for Scientific Culture, Erice Italy (since 2006)

MEMBERSHIP IN INTERNATIONAL SOCIETIES

- Fundación Banco Francés
- Wisemen Committee member of the Cooperation Committee
- Instituto Cultural Argentino-Norteamericano
- Fondo Nacional de las Artes
- Academia Nacional de Educación, Argentina
- Pontifical Academy of Sciences, Vatican City
- National Committee of Scientific and Technical Investigations, CONICET

He published several books and papers. In cooperation with Percival J. Denham he wrote *Discomunicaciones*, computers and digital education for deaf children, *Digital Education*, *Aprender Hoy*: a collection of ideas. B&D (Battro and Denham Company) was the first company to have produced in Argentina a textbook on Internet, that can be downloaded, free, in the Spanish and English version from internet. Professor Battro was one of the first in Argentina and Brazil to introduce the use of computer in the schools. As member of Battro & Denham Company he is consultant of many international Institutions and Companies. He now is involved in the application of new technologies in the development of neurocognitive ability.





ERWAN BEZARD

CURRENT POSITION

INSERM Research Director (DR2), Laboratoire "Mouvement-Adaptation-Cognition",
Université de Bordeaux 2, France.
Co-director of the "French Bank of Cells and Tissus from Primates" (J.L. Nahon, Nice)
Leader of the research group: Pathophysiology of parkinsonian syndromes
Research Delegate, Agence Evaluation de la Recherche et de l'Enseignement
Supérieur

EDUCATION

1995 DEA, University of Bordeaux 2 (Bordeaux, France)
1998 PhD, University of Bordeaux 2 (Bordeaux, France)
1999-2001 Post-Doc, University of Manchester (Manchester, UK)
2003 Habilitation, University of Bordeaux 2 (Bordeaux, France)

CLINICAL INTERNSHIP AND ACADEMIC APPOINTMENTS

Since 2000 Director, Plénitudes Sarl (Consulting in management), France
Since 2003 Director, Motac Neuroscience (Contract research organization), UK
Since 2004 Director, Motac Cognition (Contract research organization), USA/UK
Since 2006 Visiting Professor, China Academy of Medical Sciences, Beijing, China
Since 2007 Collegium of Professors, Neurosciences PhD program, Tor Vergata University, Roma

OTHER COMMITMENTS

Since 2001 Drug Development Expert for Movement Disorders in several drug companies
Since 2001 Expert for Movement Disorders at Motac Neuroscience (UK)
Since 2003 Member of grant review committees at the Michael J. Fox Foundation (USA)
Since 2005 Member of scientific advisory board at the Michael J. Fox Foundation (USA)
Since 2007 Member of executive scientific advisory board at the Michael J. Fox Foundation (USA)
Since 2004 Member of Synapse Editorial Board
Since 2004 Member of Neurobiology of Disease Editorial Board
Since 2006 Associate Editor of Neurobiology of Disease
2006 Editor of the book "Recent Breakthroughs in basal Ganglia Research", Nova Pub., USA
Since 2007 Member of Targeted Proteins database (Dopamine receptors section) Editorial Board
Since 2008 Member of Movement Disorders Editorial Board
Since 2008 Member of Neurological Research Editorial Board
Since 2008 Member of Current Neuropharmacology Editorial Board
Since 2009 Member of the FENS publication committee

PROFESSIONAL MEMBERSHIPS

Since 1996 Member, Société des Neurosciences (France)
Since 1996 Member, Federation of European Neuroscience Societies
Since 1996 Member, Society for Neuroscience (USA)
Since 1999 Member, Club des Ganglions de la Base (France)
Since 2002 Member, Movement Disorders Society (USA).
Since 2003 Member, American Association for the Advancement of Science (USA).
Since 2004 Member, International Basal Ganglia Society
Since 2005 Member of the DopaNet network

Publications: 101 / Total number of citations: 2255 / Mean citation per publication: 22.3 / H factor: 27
Research interests: Parkinson disease, basal ganglia, physiology, functional anatomy, experimental therapeutics



ANDERS BJÖRKLUND

CURRENT POSITION

Professor of histology, Wallenberg Neuroscience Center, Department of Experimental Medical Science, University of Lund

EDUCATION

1964-1966 Bachelor of Medicine at the University of Lund
1966-1967 Preclinical training in pharmacology, microbiology and pathology 1
1969 Doctor of Medicine (Medical Sciences), PhD in histology
1970 Docent of histology at the University of Lund
Since 1983 Professor of Histology, University of Lund

CLINICAL INTERNSHIP AND ACADEMIC APPOINTMENTS

1987 Doctor Honoris Causa, University of Turin, Italy
1989 Doctor Honoris Causa, University of Copenhagen, Denmark
1989 Master of Science, University of Oxford, UK
1966-1969 Assistant teacher University of Lund, Sweden
1969-1971 Research Associate University of Lund, Sweden
1971-1972 Docent at the University of Lund, Sweden
1973-1983 Associate Professor at the University of Lund, Sweden
Since 1983 Professor of Histology at the University of Lund, Sweden
1985 Visiting Professor at the College de France, Paris
1989-1990 Newton-Abraham Visiting Professor at the University of Oxford, UK
Since 1996 Professor and Section Chief at Wallenberg Neuroscience Center University of Lund

Author of about 500 publications in the fields of neuroanatomy, neuronal regeneration, cell transplantation and repair in the central nervous system.

Chief editor of the Handbook of Chemical Neuroanatomy Series of Elsevier Biomedical Press since 1981 (together with Tomas Hökfelt)

HONORS AND AWARDS

Member of the Royal Swedish Academy of Sciences since 1989
President of the European Neuroscience Association 1996-1998
The Wakeman Award from Duke University, NC, USA, 1984 (with L Olson and U Stenevi)
The Zulch Prize from the Max-Planck Society, Germany, 1990 (with Lars Olson)
The Göran Gustafsson Prize and Award from the Swedish Academy of Sciences, 1990
The IPSEN Prize in Neuronal Plasticity from the IPSEN Foundation, Paris, 1990 (with A. Aguayo and F. H. Gage)
The International Cajal Award from the Cajal Institute, Madrid, Spain, 1991
The Charles A. Dana Award from the Dana Foundation, New York, 1992 (with Fred H. Gage)
The Jubilee Medal Prize from the Swedish Society for Medicine, Stockholm, 1993
The Koester Memorial Lectureship and Award, University of Zürich, Switzerland, 1995
The Anders Jahre Prize for Medical Research from Oslo University, Norway, 1995 (with Lars Olson)
The Söderberg Prize for Medical Research from the Swedish Society for Medicine, Stockholm, 2000 (with Olle Lindvall)
The Wendell JS Krieg Lifetime Achievement Award from the Cajal Club, June 2006
Lundbeck Foundation Nordic Award for Outstanding Research, Copenhagen, March 2007
The Sven Berggren Prize from the Royal Physiographic Society, Lund, October 2008





VINCENZO BONIFATI

Dr. Vincenzo Bonifati was born in 1964 in Castrovillari.

CURRENT POSITION

Research fellow at the Department of Neurological Sciences of the University La Sapienza of Rome.

EDUCATION

Medical Degree	University of Rome La Sapienza 1988
Residency	Clinical Neurology, University of Rome La Sapienza 1992 Erasmus University Rotterdam (NL) Research Fellow 2000 - 2001

CLINICAL INTERNSHIP AND ACADEMIC APPOINTMENTS

1991-2000	Technical Researcher, Dept. Neurological Sciences, University of Rome La Sapienza
1994	Neurologist at the Dept. of Neurological Sciences
2001	Research Fellow, Dept. Neurological Sciences, University of Rome La Sapienza

More than 50 papers on International scientific revues ("PubMed").

MEMBERSHIP IN INTERNATIONAL SOCIETIES

Member of

- Italian Society of Neurology (SIN)
- Italian League against Parkinson's Disease (LIMPE)
- European Neurological Society (ENS)
- Movement Disorders Society.

Referee for international scientific revues: Parkinsonism and Related Disorders; Italian Journal of Neurological Sciences; European Journal of Neurology; Drugs & Aging; European Journal of Human Genetics.

TOPICS

Since 1987 he is coworker of the Unit for Diagnosis and Therapy of Parkinson's Disease of the Neurological Sciences Dept. of the University La Sapienza. He participates in clinical, epidemiological and genetics researches on degenerative diseases of the nervous system.

Since 1993 his research activities have centred on the study of etiopathogenesis of degenerative diseases and particularly on Parkinson's disease and on the role of genetic factors.





PAOLO CALABRESI

He was born in 1956.

CURRENT POSITION

University of Perugia, Professor of Clinical Neurology, Director of the Post-Graduate School of Neurology of the University of Perugia.

EDUCATION

Medical Degree University of Rome
Residency Clinical Neurology, University Tor Vergata, Rome in 1985

CLINICAL INTERSHIPS AND ACADEMIC APPOINTMENTS

1999-2005 Associate Professor Clinical Neurology, University Rome Tor Vergata

1986-1999 Fellow Research Neurology, University Rome, Tor Vergata

- Visiting scientist at Max Planck Institut für Psychiatrie in Munich (Germany)
- Visiting Scientist at Oregon Health Sciences University - Lab. of Neuropharmacology, Portland

He is Author of more than 300 papers on International Revues.

Editorial Board Member of: Lancet Neurology, The Journal of Neuroscience, Synapse, Movement Disorders.
Referee: Nature, Science, Nature Neuroscience, Nature Neuroscience Review, Neuron,
Trends in Neuroscience, Trends in Pharmacological Science, Journal of Neuroscience, Annals of Neurology,
Brain, Neurology, Stroke, Journal of Cerebral Blood Flow and Metabolism, Experimental Neurology, Neuropharmacology, British Journal of Pharmacology, Molecular Pharmacology, Journal of Physiology, Journal of Neurophysiology, Neuroscience, European Journal of Neuroscience, Journal Pharmacology and Experimental Therapeutics, Brain Research, Neurobiology of Diseases, Neuropsychopharmacology, Journal of Neurochemistry,
Clinical Neurophysiology.

His scientific projects have been financed by many Companies and Organizations: AIFA, European Community, Telethon, Ministry of Scientific Research, Ministry of Health, National Council of the Researches.





VALINA L. DAWSON

EDUCATION AND CURRENT POSITION

Director, Neuroregeneration and Stem Cell Programs, Institute for Cell Engineering
Professor, Departments of Neurology, Neuroscience and Physiology

Valina Dawson has devoted her career to revealing the cellular mechanisms that control neuronal cell death and neuronal cell survival. Her recent work has focused on critical signaling events in Parthanatos, understanding the biologic actions of newly identified neuronal survival proteins and determining the pathogenic events in familial and acquired Parkinson's disease.

Dr. Dawson grew up in the Sonoma Valley Wine Country in California. She received her B.S. in Environmental Toxicology at the University of California at Davis in 1983 and her Ph.D. in Pharmacology and Toxicology at the University of Utah in 1989. Postdoctoral training was conducted at the University of Pennsylvania and the National Institute on Drug Abuse. Dr. Dawson joined the faculty at Johns Hopkins University School of Medicine in 1994 and became Professor in 2001. In 2002 she founded the Neuroregeneration Program in the Institute of Cell Engineering and became Director of the Stem Cell Program in 2009.

HONORS AND AWARDS

Dr. Dawson's honors include the McKnight Neuroscience of Brain Disorders and American Heart Association Establish Investigator Award. She serves as Senior Editor for the Journal of Neuroscience and Reviewing Editor for the Journal of Molecular Medicine. She also serves on the editorial boards for the Journal of Cerebral Blood Flow and Metabolism, Neurobiology of Disease and NITRIC OXIDE Biology and Chemistry. Dr. Dawson has served on many advisory boards and is a current board member for the New York Stem Cell Foundation, NIH NeuroMab Facility, and the Society for Neuroscience Professional Development Committee. Since 2006, Dr. Dawson has been a member of the Faculty of 1000 Biology Neurobiology of Disease and Regeneration Section of the Neuroscience Faculty. In addition to her awards and honors, during her tenure at Johns Hopkins, 51 awards, fellowships, scholarships and training grants have been made to her trainees.

Many advances in the neurobiology of disease have stemmed from the basic discoveries made by Dr. Dawson. She has published over 270 articles and has an h-index of 80. She was recognized by the ISI as one of the top 100 cited Neuroscientists in the last decade and her work describing AIF as a mediator of neurotoxicity was designated as a Hot Paper by ISI. She pioneered the role of nitric oxide in neuronal injury relevant to excitotoxicity, stroke, and Parkinson's disease. The first paper describing the role for nitric oxide in excitotoxic cell death has been cited nearly 2,000 times (1796 citations). She has discovered a new signaling molecule poly(ADP-Ribose) (PAR) that is involved in cell death in many tissues including the brain. She coined the term, Parthanatos, and the term is now being used in the field to distinguish this form of cell death from others such as apoptosis, necrosis and autophagy.

To understand survival mechanisms in the brain her laboratory has undertaken gene discovery projects and found numerous new gene products that protect the brain from injury. These new proteins and the signaling pathways are activated may provide clues for the treatment of memory loss following stroke and cardiac by-pass surgery and treatment to slow neurodegenerative diseases. In addition new studies suggest that some of these new proteins may provide new understanding of autism and schizophrenia and drug addiction

The goal of the on-going research in her laboratory is to develop new models for neuroprotective and neuroregenerative studies in order to identify new targets for drug development and ultimately clinical use.





MATT FARRER

CURRENT POSITION

Consultant/Associate Professor, Genetics of Parkinson's & Related Disorders
Department of Neuroscience, Mayo Clinic, Jacksonville, Florida, USA

Matthew Farrer earned his PhD in 1995 from the St. Mary's Hospital Medical School, Imperial College, in London. From 1996-1997 he served as a Postdoctoral Fellow of Medical and Community Genetics at St. Marks NHS Trust in the United Kingdom. Dr. Farrer then moved to Mayo Clinic, Jacksonville, Florida to perform a senior postdoctoral fellowship from 1997-1999.

He is currently an Assistant Professor and a Senior Associate Consultant for the Department of Neuroscience at the Mayo Clinic Jacksonville, where his laboratory studies the genetics of parkinsonism and related movement disorders, exploring the clincogenetic and pathological correlates of disease. Areas of emphasis include linkage analysis within multigenerational pedigrees, linkage disequilibrium methods applied to American, European and Asian populations (homogeneous isolates and outbred, heterogeneous groups) and the molecular genetics of known genes/mutations. The laboratory is recognized as an NINDS Udall Center of Excellence for the genetics of Parkinson's disease.





JOHN HARDY

CURRENT POSITION

Professor of Neuroscience, Department of Molecular Neuroscience and Reta Lila Weston Laboratories, Institute of Neurology, University College, London.

EDUCATION AND EMPLOYMENT

1979-1983	Postdoctoral Fellow, MCR Neuropathogenesis Unit, Newcastle Upon Tyne, uk
1983-1984	Assistant Professor, Swedish Brain Bank, Umea, Sweden
1984-1992	Assistant, then (1989) Associate Professor, Department of Biochemistry and Molecular Genetics, St. Mary's Hospital Medical School, Imperial College, London.
1992-1996	Pfeiffer Professor in Alzheimer's Research, Departments of Psychiatry, Pharmacology and Neurology, University of South Florida, Tampa, Florida
1996-2001	Director of Neuroscience and Consultant (Professor), Mayo Clinic Jacksonville
2001-2004	Visiting Scientist, Mayo Clinic Jacksonville
2001-2007	Tenured Senior Investigator and Chief of Laboratory of Neurogenetics

HONORS

1986	Cottrell Fellowship (UK) for Research into Alzheimer's Disease
1991	Peter Debye Prize (Belgium), for Research into Alzheimer's Disease
1992	IPSEN Prize (France: shared) research into Alzheimer's Disease
1993	Potamkin Prize (USA: shared) for Alzheimer's Disease Research
1995	Met Life Prize (USA: shared) for Alzheimer's Disease Research
1995	Allied Signal Prize (USA) for Progress in Aging Research
2002	Kaul Prize for Alzheimer Research
2008	Elected Fellow of the Academy of Medical Science
2008	Honorary MD, Umea University, Sweden

Prof. Hardy published more than 500 papers.





ETIENNE C. HIRSCH

Prof. Etienne, Charles, Henri Hirsch is a neurobiologist involved in research on Parkinson's disease and related disorders. His work is aimed at understanding the cause of neuronal degeneration in Parkinson's disease and is focused on the role of the glial cells, the inflammatory cytokines and apoptosis but also on the consequences of neuronal degeneration in the circuitries downstream to the lesions. Currently, he is the president of the French society for Neuroscience, a member of the SAB of INSERM (French NIH) and is the Chairman of the scientific committee of the Fédération pour la recherche sur le cerveau (consortium of patients associations).

PRESENT POSITION

First Class Research Director (HEC3) at CNRS, Hôpital de la Salpêtrière, Paris, F

EDUCATION

1983 Graduation in Biochemistry, University of Paris VI, (P. et M. Curie).
1984 Master in molecular and cellular pharmacology, University of Paris VI (P. et M. Curie).
1987 PhD in Neurobiology, University of Paris VI, (P. et M. Curie).
1994 Habilitation à diriger les recherches, University of Paris VI, (P et M Curie)

CLINICAL EXPERIENCE AND ACADEMIC APPOINTMENTS

1983-1988 Researcher at Laboratoire de médecine expérimentale INSERM U289, Hôpital de la Salpêtrière, Paris
1985-1986 Visiting Scientist at the MIT, Department of Brain and Cognitive Sciences, laboratory of Neuroanatomy, Prof. GRAYBIEL. Cambridge, MA, USA
1988-1993 Consultant at BIOCOM SA, Les Ulis, F.
1988-1993 Permanent position researcher first category at CNRS, Research performed at Laboratoire de médecine expérimentale, INSERM U289, Hôpital de la Salpêtrière, Paris, F.
Since 1993 Research director at CNRS, Research performed at INSERM Salpêtrière, Paris, F
2001-2008 Director of INSERM U679, Neurology and experimental therapeutics (107 people)
Since 2009 Coordinator of the neurodegeneration axis (120 people) at INSERM 975 CRICM and leader of Experimental therapeutics of neurodegeneration group (25 people).

AWARDS

1986 Tourette Syndrome Association Award, Bayside, New York, USA
1990 Young researcher Award, European Society for Neurochemistry
1999 Grand Prix de l'Académie de Sciences, Prix de la Fondation pour la recherche biomédicale « Prix François Lhermitte »
2006 Member of EDAB

EDITORIAL BOARDS

Neuroscience (Clinical neuroscience Section editor)
Movement disorders (Scientific review editor),
Journal of Neural transmission (Parkinson's disease and related disorders section editor),
Journal of Neurochemistry (advisory board reviews),
Dementia and geriatric cognitive disorders,
Synapse,
Frontier in Neuroscience (Neuroanatomy)





KARL DAVID KIEBERTZ

CURRENT POSITION

Professor of Neurology, University of Rochester, School of Medicine and Dentistry
Director - Center for Human Experimental Therapeutics (SMD)
Professor - Department of Neurology (SMD)
Professor - Department of Environmental Medicine (SMD)
Professor - Department of Community and Preventive Medicine (SMD)

EDUCATION

MD	Medicine	Univ Rochester Sch Med/Dent 1985
M.P.H.		University of Rochester 1985
BA		Neuroscience and Religion Amherst College 1980

Karl Kiebertz is Professor of Neurology and of Community and Preventive Medicine at the University of Rochester School of Medicine and Dentistry in Rochester, New York. His primary clinical and research interests are in the treatment of neurodegenerative diseases affecting the basal ganglia, particularly Parkinson's disease, Huntington's disease, and HIV related neurologic disorders. He has been an active participant in the research activities of the Parkinson Study Group since 1989, and directs the Coordination Center for this and other multi-center academic consortia, including the Huntington Study Group. He is the principal investigator for the NINDS sponsored trials of neuroprotective agents for PD. His publications and presentations have focused on experimental therapeutics and clinical research design strategies





DENIZ KIRIK

He was born in 1972 in Turkey

CURRENT POSITION

Head Brain Repair And Imaging in Neural Systems, University of Lund, Sweden

EDUCATION

- 2009 Professorship Neuroscience, Lund University, Faculty of Medicine, Lund, Sweden
- 2005 Readership (docent) Neuroscience, Lund University, Faculty of Medicine, Lund, Sweden
- 2001 PhD Neurobiology, Lund University, Faculty of Medicine, Lund, Sweden
- 1999 MD, Hacettepe University, School of Medicine, Ankara, Turkey

ACADEMIC APPOINTMENTS

- Since 2008 Tenured faculty position, Lund University, Faculty of Medicine, Lund, Sweden
- 2006 – 2008 Tenure-track faculty position, Lund University, Faculty of Medicine, Lund, Sweden
- 2003 – 2006 Non-tenured junior faculty position, Lund University, Faculty of Medicine, Lund, Sweden

DISTINCTIONS AND AWARDS

- 2009 Maria and Allan Myers Fellow, Howard Florey Institute, Melbourne
- 2009 European Research Council, Starting Grant Award
- 2008 Senior Investigator Award, Swedish Research Council
- 2007 Honorary member, Turkish Hematological Society
- 2003 Junior Investigator Award, Swedish Research Council

COMMISSION OF TRUST

- 2008 **Co-director, Lund University Bioimaging Center (LBIC)**
- 2008 Board member, Department of Experimental Medical Science
- 2008 Contributing Editor, European Journal of Neuroscience
- 2008 Board member, Network of European CNS Transplantation and Restoration (NECTAR)
- 2007 – 2009 Board member, Swedish Parkinson Academy
- 2007 Board member, Swedish Parkinson Academy
- 2006 – 2009 Associate Editor, Experimental Neurology
- 2006 – 2007 President, NECTAR
- 2006 Associate Editor, Experimental Neurology
- 2004 – 2007 Director, Lund Experimental Bioimaging Program
- 2003 – 2005 Board member, NECTAR





JEFFREY H. KORDOWER

CURRENT POSITION

Professor of Neurosurgery.
Director, Research Center for Brain Repair, Department of Neurological Sciences,
Neurosurgery, Graduate College, Rush Medical College, Rush University, Chicago.

EDUCATION

PhD Queens College, City University of New York, 1984
MA Queens College, City University of New York, 1982
BA Queens College, City University of New York, 1980

RESEARCH AREAS

Behavior and Behavior Mechanisms, Biological Sciences, Laboratory Techniques and Procedures, Nervous System Diseases, Pathological Conditions Signs and Symptoms

LABORATORY TECHNIQUES

Animal surgery/Modeling, Gene Transfection, Imaging Technology, Immunohisto-/immunocytochemistry, In Situ Hybridization, Microscopy (Electron Transmission Fluorescence Confocal), PCR, Tissue Culture (Primary, Cell Line), Transgenic Animal Technology/Microinjection, Western Northern Southern Blotting





ANTHONY E. LANG

CURRENT POSITION

Professor and Director of the Division of Neurology, University of Toronto.
Director of the Movement Disorders Center at the Toronto Western Hospital, the Jack Clark Chair for Parkinson's Disease Research at the University of Toronto.

EDUCATION

Dr. Lang trained in Internal Medicine and Neurology at the University of Toronto. He then undertook postgraduate training in Movement Disorders at Kings College Hospital and the Institute of Psychiatry in London, UK. He returned to Toronto in 1982 and shortly thereafter initiated the Movement Disorders Clinic at the Toronto Western Hospital which has developed into the largest Movement Disorders Clinic in Canada and one of the most reputable units in the world for the investigation, assessment and treatment of patients with movement disorders.

Dr. Lang's research has included clinical studies of poorly recognized neurological disorders, clinical trials of new therapeutic modalities and collaborative basic and clinical studies involving molecular biology, neurophysiology, neuropsychology and imaging.

He has published over 370 peer reviewed papers, many in important medical journals including the New England Journal of Medicine, the Lancet, Nature Medicine, the Annals of Neurology, Brain.

Dr. Lang was one of the founding members and initial Executive Committee members of the Parkinson Study Group (PSG). He served on the Steering Committee of the first large scale neuroprotective therapies study in Parkinson's disease (the DATATOP trial) carried out by the PSG, and funded by NIH and has served on many other Steering Committees for PSG studies. He has served on the Movement Disorders Society (MDS) International Executive Committee and as Treasurer from 1988-1992 and Secretary from 1996-1998. He is the MDS President from January 2007- June 2009. He served as CoEditor-in-Chief of the international journal Movement Disorders between 1996 and 2003 inclusive

He was the recipient of the 2005 Research Award for the Department of Medicine at the University of Toronto and the Donald Calne Lectureship from Parkinson Society Canada in 2008.

Dr. Lang is a Fellow of the American Academy of Neurology and was the recipient of the AAN Movement Disorders Research Award in 2004.





YOSHIKUNI MIZUNO

CURRENT POSITION

Director of the Research Institute for Pathophysiology and Treatment of Diseases of old Ages.
Director of Juntendo Koshigaya Hospital of Tokyo.

Professor Yoshikuni Mizuno is a graduate of University of Tokyo, School of Medicine in 1965. He completed his residency training at the Department of Neurology, Northwestern University Medical Center, Chicago in 1973. He returned to Japan as Assistant Professor of Neurology at Jichi Medical School, Tochigi and served as Professor of Neurology at the Juntendo University School of Medicine from 1989 to 2006.

Dr. Mizuno has published more than 300 original articles on Parkinson's disease and related disorders and is particularly interested in the etiology and pathogenesis of Parkinson's disease. He and his collaborators identified the gene, parkin, for an autosomal recessive form of young onset familial Parkinson's disease. He received many awards for these activities.

Dr. Mizuno is a honorary member of the Japanese Neurological Society, a corresponding member of American Neurological Associations, an active member of the American Academy of Neurology, and an officer of the Movement Disorders Society from 2005 to 2009. He is also on the Editorial Board of several international journals.





JOSE A. OBESO

CURRENT POSITION

Professor of Neurology at the University of Navarra.
Professor of Neurology at the University of Pamplona.

EDUCATION

Medical Degree	University of Navarra in 1976
Residency	Neurology and Neurophysiology at the University of San Sebastian and Pamplona
1980–1982	Visiting Fellow at the Department of Prof C. David Marsden in London

Prof. Obeso's research activities have centred on movement disorders, particularly on Parkinson's Disease. He studied the abnormalities caused by dopamine reduction in animals affected by Parkinson's disease. He has been one of the pioneers of the concept of "Estimulación Dopaminérgica Continua" in Parkinson's disease patients and he played an important role in the revitalization of surgical treatment of Parkinson patients.

He published more than 150 papers.





C. WARREN OLANOW

CURRENT POSITION

Professor of Neurology, Professor of Neuroscience.
Department of Neurology and Professor of Neuroscience at the Mount Sinai School of Medicine, New York.

SPECIALTY

- Neurology
- Certifications
- Neurology, American Board of Psychiatry and Neurology
- Education
- MD, University of Toronto
- Residency, Neurology
Columbia-Presbyterian Medical Ctr.
- Residency, Internal Medicine
Toronto General Hospital
- Residency, Neurology
Toronto General Hospital
- Residency, Internal Medicine
Queen's Medical Center
- Fellowship, Neuro Anatomy
Columbia-Presbyterian Medical Ctr.

C. Warren Olanow received his medical degree from the University of Toronto, performed his neurology training at the New York Neurological Institute at Columbia University, and did post-graduate studies in neuroanatomy at Columbia University.

Dr. Olanow has served on the faculties of McGill University, Duke University, and the University of South Florida prior to joining Mount Sinai.

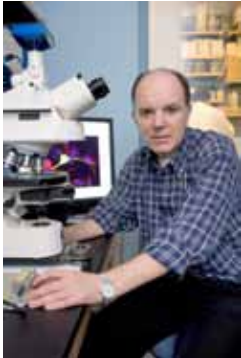
He has authored more than 300 publications primarily related to Parkinson's disease and neurodegeneration.

He is the past President of the Movement Disorder Society, past Treasurer of the American Neurological Association, and former President of the International Society of Motor Disturbances. He has been named an Honorary Professor at the University of London (Royal Free Hospital), and an Honorary Member of the French Neurological Society.

Dr. Olanow serves on the Board of Directors of the National Space Biomedical Research Institute (a NASA consortium).

Dr. Olanow has served on numerous editorial and scientific advisory boards and has lectured at universities and conferences throughout the world.





SERGE PRZEDBORSKI

CURRENT POSITION

Professor of Neurology and Pathology, Columbia University Medical Center, New York

EDUCATION AND TRAINING

M.D. 1983, Université Libre de Bruxelles
Ph.D. 1992 Université Libre de Bruxelles
Internship 1983-1984 Hôpital Brugman, Université Libre de Bruxelles
Residency 1984-1988 Neurology Hôpital Erasme, Université Libre de Bruxelles
Professor of Neurology and Pathology

HONORS AND AWARDS

1983 M.D. degree with "summa cum laude" from Université Libre de Bruxelles, Belgium
1990 Neurosciences Award at the International Congress of Movement Disorders
1998 The Doctor Harold and Golden Lamport Award for Excellence in Clinical Science Research
1999-2003 Editorial Board Member of Movement Disorder
Since 2000 Editorial Board Member of the Journal of Neurochemistry
2000-2002 Member of the Scientific Committee of the Huntington's Disease Society of America
Since 2001 Member of the Education subcommittee for the Annual Meeting of the American Academy of Neurology
Since 2001 Member of the Scientific Committee of the Muscular Disease Association
2001 The Schmitt Lecture (Program in Integrative Brain Research), U. Rochester, NY
Since 2001 Regular Member of the NINDS Study Section NSD-B
2002 The Sheila Essey Award for ALS Research (the American Academy of Neurology)





MARCELO SÁNCHEZ SORONDO

Date and place of birth: 8 Sept. 1942, Buenos Aires, Argentina
Appointment to the Academy: 5 October 1998
Scientific disciplines: Theology and Philosophy
Academic title: Professor of the History of Philosophy

MOST IMPORTANT AWARDS, PRIZES AND ACADEMIES

Academic Appointments:

Lecturer in the History of Philosophy (1976-82) and Full Professor (1982-98), Pontifical Lateran University; Dean of the Faculty of Philosophy, Pontifical Lateran University (1987-96); Professor of the History of Philosophy, Libera Università Maria SS. Assunta (1998-); Ordained Bishop by His Holiness John Paul II on 19 March 2001.

Awards: Cavaliere di Gran Croce, Italy (1999); Officier de la Légion d'honneur, France (2000), Grão Mestre da Ordem de Rio Branco, Brazil (2004); Official of the Republic of Austria (2004); Knight of the Republic of Chile (2006); Francesco Vito Award, Univ. Cattolica del Sacro Cuore, Milan (2001); Légion d'honneur, France (2002); Neruda Prize, Chile (2004); Grão Mestre da Ordem de Rio Branco, Brazilian Embassy to the Holy See (2004); "Bernardo O'Higgins" Grand Officer, Chile (2005); Award of the International Association of Catholic Doctors (2010).

Academies: Pontifical Academy of St Thomas Aquinas (1989) and Secretary Prelate (1999-); Chancellor, Pontifical Academy of Sciences (1998-); Chancellor, Pontifical Academy of Social Sciences (1998-); Member of the Accademia dei Gergofili (2008); Member of the Accademia Italiana del Vino (2010).

Summary of scientific research

My early work centred around an innovative examination of the primary function of the idea of participation in the core theological approach of St. Thomas Aquinas, especially with regard to the crucial point of the question of the "participation (of man) in the divine nature" (2 Pt 1:4).

The main and new conclusion was that man, because he is free, i.e. *causa sui*, his own cause in the order of the re-creation not only of his own growth but also of the communication of divine grace to another human being, to a "you" who freely wants that grace. As a subsequent follower of the contemporary philosophical current which seeks the "rehabilitation" of Aristotle, I emphasized that the "Stagirite" was the first to expound a positive notion of spiritual reality beginning with the human experience of superior activities such as feeling, thinking, wanting and enjoying. Aristotle did this through his meta-categories of power and energy which, although they serve initially to explain movement, subsequently allow a metaphysical explanation of the living human subject, of the suffering and acting "self" – a question discussed in detail by modern philosophy. Drawing upon the most recent developments in critical research into the structure of the thought of Aristotle (N. Hartman, P. Ricoeur and my teacher C. Fabro), I examined the different interpretations of this philosopher, especially those propounded during the medieval period by Thomas Aquinas and during the modern era by Hegel. In his *Encyclopaedia* (§ 482) Hegel rightly observes that no concept has been more subject to misunderstanding than that of freedom, which expresses the essence of the spirit. This was the new anthropological idea that the classical world, including Aristotle, was light years away from. For this reason, I have recently argued, "realised freedom" or freedom achieved by the truth (John Paul II) became the new criterion for the hermeneutics of history, culture and religions. I also proposed that realised freedom, as a real quality of the human being and not mere potentiality, should be the criterion to be employed in the analysis of Christian history.





ANTHONY SCHAPIRA

CURRENT POSITION

Head of the Department of Clinical Neurosciences, Institute of Neurology, University College of London.
Professor of Neurology at the National Hospital for Neurology and Neurosurgery and the Royal Free Hospital of London.

RESEARCH INTERESTS

Professor Schapira's research interests include the molecular and clinical aspects of neurodegenerative diseases, with special emphasis on Parkinson's disease, Friedreich's Ataxia and other movement disorders. Interest is mainly focused on the molecular mechanisms involved in pathogenesis. Additional research: mitochondrial dysfunction a.

He has over 300 reviewed publications and has edited over 15 books on aspects of neurology including Neurology and Clinical Neuroscience. He is Co-Editor-in-Chief of the European Journal of Neurology and is on the editorial board of several journals of neurology and neuroscience.

Professor Schapira is the recipient of the Harveian Medal, the Royal College of Physicians Clinical Science Prize, the 1998 European Prize for Clinical Science, the 1999 Opprecht Foundation Award and the Duchenne Prize in 2005.

He was elected a Fellow of the Academy of Medical Sciences in 1999.





ANDREW B. SINGLETON

CURRENT POSITION

Professor of Neuroscience, Chief of the Molecular Genetics Section.
Acting Chief of the Laboratory of Neurogenetics, National Institute on Aging.
National Institutes of Health, Bethesda.

EDUCATION

BSc University of Sunderland, UK. 1991-1995, Applied Physiology
PhD University of Newcastle upon Tyne, UK. 1995-1998, Neuroscience

CLINICAL INTERNSHIP AND ACADEMIC APPOINTMENTS

1996-1997 Visiting Lecturer, Physiology, University of Sunderland, UK
1998-1999 Research Scientist, Medical Research Council Neurochemical Pathology Unit,
Newcastle upon Tyne, UK
1999-2000 Postdoctoral Fellow, Mayo Clinic Jacksonville, Florida, USA
2000-2001 Instructor in Molecular Biology/Biochemistry, Mayo Clinic Jacksonville, Florida, USA
2001-2002 Research Scientist, Johns Hopkins University, Baltimore, Maryland, USA
2002-2007 Tenure Track Investigator and Chief, Molecular Genetics Unit, Laboratory of Neurogenetics,
National Institute on Aging, National Institutes of Health, Bethesda, Maryland, USA
Since 2007 present Senior Investigator with Tenure, Chief of the Molecular Genetics Section and
Acting Chief of the Laboratory of Neurogenetics, National Institute on Aging,
National Institutes of Health, Bethesda, Maryland, USA
Since 2007 Visiting Professor, Center for Public Health Genomics, University of Virginia, Virginia, USA

HONORS AND OTHER SPECIAL SCIENTIFIC RECOGNITION

2003 Research describing α -synuclein triplication mutations picked as one of NIH top 5
research advances for 2002-2003
2004 Article entitled "Alpha-synuclein locus triplication causes Parkinson's disease" listed by
ThomsonISI as one of the most cited papers (top 0.1%) in Neuroscience & Behavior and
listed as a Hot New Paper on the ISI website (cited >250 times)
2005 Boehringer Mannheim Research Award, 16th International congress on Parkinson's
disease and related disorders, Berlin, Germany
2005 Research describing LRRK2 mutations picked as one of NIH top 5 research advances for
2004-2005
2005 Article entitled "Alpha-synuclein locus triplication causes Parkinson's disease" listed by
ThomsonISI as the second most cited paper in Neuroscience & Behavior for 2005
2006 Profiled by Lancet Neurology in the first of the monthly Lifeline columns
2007 Genome-wide SNP association in Parkinson's disease picked as one of NIA top 20
advances for 2006

EXTERNAL AND INTERNAL FUNDING

1999-2000 Co-Principal Investigator "Assessing the role of alpha-synuclein in dementia with Lewy
bodies, Parkinson's disease and multi-system atrophy" funded by the Alzheimer's disease
Research Center
2000-2001 Principal Investigator "Identification and cloning of the gene defect responsible for X-linked
dystonia Parkinsonism (Lubag)" funded by the Dystonia Medical Research Foundation.
2004-2007 Genetics mentor, Elizabeth Peckham; Clinical Research Fellow from the Benign
Essential Blepharospasm Research Foundation Funded by NINDS intramural program.
2005-2006 Co-Principal Investigator, Office of the Scientific Director (NIA) set-aside funding,
"Atherosclerotic and inflammatory genetic profiles and the risk for brain disease".



- 2006-2007 Principal Investigator, USAMRMC proposal #06173004, "Molecular Genetic Characterization of Parkinson's Disease; Delineation of the Pathogenic Function of LRRK2 Mutations".
- 2006-2007 Principal Investigator, Office of the Scientific Director (NIA) set-aside funding, "Rapid Genetic Mapping in Movement Disorders using High Density SNP Arrays".
- 2006-2007 Principal Investigator, Office of the Scientific Director (NIA) set-aside funding, "Statistical Genetic Analysis of Genome-Scale Data".
- 2006-2007 Co-Principal Investigator, Office of the Scientific Director (NIA) set-aside funding, "The Aging Genome Association Study - 'Age-Gain'".
- 2006-2007 Co-Principal Investigator, Office of the Scientific Director (NIA) set-aside funding, "Whole Genome Association Studies in a Cohort of Patients with Fibromuscular Dysplasia with Connective Tissue Abnormalities".
- 2006 - 2007 Co-Principal Investigator, Office of the Scientific Director (NIA) set-aside funding, "The HANDLS Genotyping Project".

He is author of more than 130 peer reviewed articles and 26 invited reviews and book chapters. He has been invited to give plenary and invited Lectures in more than 50 International Symposia and Workshops.

Prof. Singleton is ad hoc reviewer of 40 journals of the field including Annals of Neurology (editorial board member), Brain, European Journal of Neurology, Future Neurology, Genetic Epidemiology, Genetics in Medicine, Human Genetics, Human Molecular Genetic, Journal of Neurology, The Lancet, The Lancet Neurology, Movement Disorders, Nature Genetics, Neurodegenerative Diseases (editorial board member), Neurogenetics (editorial board member), Neurology, Trends in Molecular Medicine,





FABRIZIO STOCCHI

Prof. Fabrizio Stocchi was born in 1958 in Montereale (L'Aquila).

CURRENT POSITION

- Professor of Neurology and Honorary Consultant
- Director of the Movement Disorders and Neurodegenerative disease center IRCCS San Raffaele Roma
- Professor Neurological school Dept. of Neurooncology, University of Chieti "G. D'Annunzio"
- Director of the research centre for Parkinson's disease and movement disorders, IRCCS San Raffaele Roma
- Director of the Clinical Trial Center IRCCS San raffaele Roma
- Consultant for the Institute for Parkinson's disease research "Antonio Benedetti" Vicenza, Italy

EDUCATION

Medical Degree University of L'Aquila, Faculty of Medicine (1977-1983)
Residency Clinical Neurology, University of Rome "La Sapienza" (1983-1987)
Ph.D. Neurobiology, University of Catania (1989-1992)

CLINICAL INTERNSHIPS AND ACADEMIC APPOINTMENTS

1979-1983 University of L'Aquila (Prof. A. Agnoli)
1984-1985 Research S.H.O., Dept. of Neurology, King's College Hospital, London, UK (Prof. C.D. Marsden)
1985-1986 Research fellow at the Dept. of Neurological Sciences, University of Rome
1986-1987 Research S.H.O., Dept. of Neurology, King's College Hospital, London, UK (Prof. C.D. Marsden)
1987-1990 Neurologist at the Dept. of Neuroscience, University of Rome "La Sapienza" (Prof. A. Agnoli)
1990-1992 Research Registrar at the National Hospital for Neurology and Neurosurgery, London, UK (Prof. C.D. Marsden)
1992-1993 Research Registrar at the Dept. of Neuroscience, University of Rome
1995-2001 Research supervisor of the "Neuromed" Pozzilli, (Is) Italy

MEMBERSHIP IN INTERNATIONAL SOCIETIES

- Italian Neurological Society
- American Academy of Neurology
- International Society of Motor Disturbances
- Italian Society for Parkinson's Disease
- Clinical Neuropharmacology Society
- British Medical Council
- European Neurological society
- European Federation Neurological Society
- Founder of the European Basal Ganglia Club and Movement Disorders Group
- Scientific Secretariat of the European Symposium on Parkinson's Disease
- Scientific Secretariat of the International Symposium on Parkinson's Disease
- International Advisory Board of the International Movement Disorders Symposium
- Past co-chairman of the MDS educational committee
- Member of the WFN extrapyramidal committee

Professor Stocchi's research activities have centred on neuropharmacology in the field of movement disorders and neurodegenerative diseases. He has published many books and papers on the genetics, clinical diagnosis, characterisation and treatment of Parkinson's disease, as well as on preclinical research into the disease. He is an active member of 11 societies, including the Movement Disorders Society, the European Clinical Neuropharmacology Society, and the European Federation of Neurological Societies. He is also one of the officers of the Italian Parkinson's Disease Society (LIMPE).





JON STOESSL

CURRENT POSITION

Professor and Acting Head of the Division of Neurology at the University of British Columbia & Vancouver Coastal Health, Canada
Director, Pacific Parkinson's Research Centre and National Parkinson Foundation Centre of Excellence at the University of British Columbia, Canada

He has held the position of Canada Research Chair in Parkinson's Disease since 2000 and Director, CIHR Team in Parkinson's Disease since 2001. He also serves on the MSFHR Research Unit in Parkinson's Disease and Monoaminergic Function in the Central Nervous System.

He has had many honours including becoming a member of the Order of Canada in 2007 and Fellow of the American Academy of Neurology and the Canadian Academy of Health Sciences.

Dr. Stoessl is on the Scientific Advisory Board of the National Parkinson Foundation and recently completed chairing the Scientific Advisory Board of the Parkinson Society of Canada.

He is on the editorial board of the Annals of Neurology, Lancet Neurology and Parkinsonism & Related Disorders.

He serves on the World Federation of Neurology Research Committee on Parkinsonism & Related Disorders, Movement Disorders Society Awards Committee and International Executive Committee, and the Interdisciplinary Advisory Committee, Canada Research Chairs program. He currently serves as Co-chair of the PSG Mentoring Committee.

Publications: more than 200 papers & book chapters





DAVID L. SULZER

CURRENT POSITION

Associate Professor of Clinical Psychiatry-Neuroscience and Pharmacology,
Dept. of Pharmacology, Columbia University, New York, USA

EDUCATION AND TRAINING

Ph.D.

Affiliations

- Psychiatry
- Neuroscience
- Neurology

Training Activities: Program Director, T32 Training Program in Basic Science and Drug Abuse
-Graduate Program in Pharmacology

Area of Research

Synapses & Circuits, Neural Degeneration & Repair

Specialization

Neurotransmission and mechanisms of neurodegeneration in basal ganglia and dopamine neurons





D. JAMES SURMEIER

CURRENT POSITION

Professor and Chairman, PhD University of Washington, USA

The research in his lab revolves around the question of how neuromodulators shape the excitability of basal ganglia neurons. The basal ganglia is a richly interconnected set of nuclei that regulate motor and cognitive behaviors. Disorders in basal ganglia function underlie a wide variety of psychomotor disorders including Parkinson's disease, dystonia, Huntington's disease, schizophrenia and Tourette's syndrome. In many of these diseases, the principal defect appears to involve an alteration in dopaminergic signaling. For example, the symptoms of Parkinson's disease are a consequence of the death of dopaminergic neurons that innervate one of the basal ganglia nuclei, the striatum.

One of our major goals has been to determine how dopamine modulates the excitability of striatal neurons

SELECTED PUBLICATIONS

Hernandez-Lopez S, Tkatch T, Perez-Garci E, Galarraga E, Bargas J, Hamm H, Surmeier DJ. (2000) D2 dopamine receptors in striatal medium spiny neurons reduce L-type Ca^{2+} currents and excitability via a novel PLCbeta1-IP3-calcineurin-signaling cascade. *J. Neurosci.* 20:8987-8995.

Flores-Hernandez J, Hernandez S, Snyder GL, Yan Z, Fienberg AA, Moss SJ, Greengard P, Surmeier DJ. (2000) D(1) dopamine receptor activation reduces GABA(A) receptor currents in neostriatal neurons through a PKA/DARPP-32/PP1 signaling cascade. *J. Neurophysiol.* 83:2996-3004.

Tkatch T, Baranauskas G, Surmeier DJ. (2000) Kv4.2 mRNA abundance and A-type K^{+} current amplitude are linearly related in basal ganglia and basal forebrain neurons. *J. Neurosci.* 20:579-588.

Kelz MB, Chen J, Carlezon WA Jr, Whisler K, Gilden L, Beckmann AM, Steffen C, Zhang YJ, Marotti L, Self DW, Tkatch T, Baranauskas G, Surmeier DJ, Neve RL, Duman RS, Picciotto MR, Nestler EJ. (1999) Expression of the transcription factor deltaFosB in the brain controls sensitivity to cocaine. *Nature* 401:272-276

Mermelstein PG, Foehring RC, Tkatch T, Song WJ, Baranauskas G, Surmeier DJ. (1999) Properties of Q-type calcium channels in neostriatal and cortical neurons are correlated with beta subunit expression. *J. Neurosci.* 19:7268-7277.

Baranauskas G, Tkatch T, Surmeier DJ. (1999) Delayed rectifier currents in rat globus pallidus neurons are attributable to Kv2.1 and Kv3.1/3.2 K^{+} channels. *J. Neurosci.* 19:6394-6404.





ZHENYU YUE

CURRENT POSITION

Associate Professor of Neurology
Associate Professor of Neuroscience
The Mount Sinai Medical Center, New York, USA

SPECIFIC RESEARCH INTERESTS:

Molecular mechanisms of neurodegeneration, Molecular basis of Parkinson's disease pathogenesis, Regulation of autophagy in neurons, Axonal transport and degeneration, Genetic mouse models for neurodegenerative diseases.

RESEARCH

Molecular and Cellular Process of Autophagy
Neuronal Autophagy in Axonal and Neuronal Degeneration
Molecular mechanisms for the pathogenesis of Parkinson's disease

PUBLICATIONS

Zhong Y, Wang QJ, Li X, Chait BT, Heintz N, Yue Z. Distinct Regulation of Autophagic Activity by Novel Components Atg14L and Rubicon in Beclin 1-Vps34/phosphatidylinositol (PtdIns) 3-kinase complex. *Nature Cell Biology* 2009;.

Arsov I, Li X, Matthews G, Coradin J, Hartmann B, Simon AK, Sealfon SC, Yue Z. BAC-mediated transgenic expression of fluorescent autophagic protein Beclin 1 reveals a role for Beclin 1 in lymphocyte development. *Cell Death and Differentiation* 2008; 15(9): 1385-1395.

Tang G, Yue Z, Hagemann T, Messing A, Goldman JE. Expression of Alexander Disease-mutant GFAP Stimulates Autophagy through p38 MAPK and mTOR signaling Pathways. *Human Molecular Genetics* 2008; 17(11): 1540-1555.

Komatsu M, Waguri S, Koike M, Sou YS, Ueno T, Hara T, Mizushima N, Iwata J, Ezaki J, Murata S, Hamazaki J, Nishito Y, Iemura S, Natsume T, Yanagawa T, Uwayama J, Warabi E, Yoshida H, Ishii T, Yue Z, Uchiyama Y, Kominami E, Tanaka K. Homeostatic levels of p62 control cytoplasmic inclusion body formation in autophagy-deficient mice. *Cell* 2007; 131(6): 1149-1163.

Ullman E, Fan Y, Stawowczyk M, Chen HM, Yue Z, Zong WX. Autophagy promotes necrosis in apoptosis-deficient cells in response to ER stress. *Cell Death and Differentiation* 2008 Feb; 15(2): 422-425.

Li X, Tan YC, Poulouse S, Olanow CW, Huang XY, Yue Z. Leucine-Rich Repeat Kinase 2 (LRRK2)/PARK8 Possesses GTPase Activity That is Altered in Familial Parkinsons' Disease R1441C/G Mutants. *Journal of Neurochemistry* 2007; 103(1): 238-247.

Komatsu M, Wang Q, Holstein G, Kominami E, Chait BT, Tanaka K, Yue Z. Essential role for autophagy protein Atg7 in the maintenance of axonal homeostasis and the prevention of axonal degeneration. *Proc. Natl. Acad. Sci. USA* 2007; 104(36): 14489-14494.

Wang Q, Ding Y, Kolh S, Mizushima N, Chait B, Zhong Y, Heintz N, Yue Z. Induction of autophagy in axonal dystrophy and degeneration. *Journal of Neuroscience* 2006; 26(31): 8057-8068.

Yue Z, Jin V, Yang C, Levine A, Heintz N. Beclin1, an autophagy gene essential for early embryonic development, is a haplo-insufficient tumor suppressor. *Proc. Natl. Acad. Sci. USA* 2003; 100(25): 15077-15082.

Yue Z, Horton A, Bravin M, DeJager PL, Selimi F, Heintz N. A 2) and Autophagy: S2 Glutamate Receptor (GluRS) Novel Protein Complex linking the Implications for Neurodegeneration in Lurcher Mice. *Neuron* 2002; 35(9): 921-933.





STEFANO MARIA ZUCCARO

Prof. Stefano Maria Zuccaro was born in Rome in 1949.

EDUCATION

Medical degree University of Rome in 1975 (magna cum laude)
Specialty Geriatrics and Gerontology, Cardiology Residency Chief of Geriatrics, Oncology and Broncopneumology Departments of the Ospedale Israelitico of Rome
Health Officer of the State of Vatican City and physician of the Salesian Community of the Vatican.

CLINICAL INTERNSHIPS AND ACADEMIC APPOINTMENTS

1975-1977 3rd Clinic of Internal Medicine of Rome University
1977-1980 Medical Assistant, Ospedale Addolorata of Rome
1980-1985 Medical Assistant, Ospedale Israelitico of Rome
Since 1985 Director of Geriatrics Department of the Ospedale Israelitico of Rome
Since 2005 he is Chief of the Alzheimer Unit of the ASL RM D.

In 1990 he was elected member of the Board of the Italian Society of Hospital Geriatrics - SIGOSs, in 1994 National Secretary and from 2002 to 2006 President of this Society. In 2010 he has been nominated Honorary President of SIGOs.

1980 - 1992 he was Medical Assistant at the Health Services Direction of Vatican City and he is still Health Officer of this State.

1996 - 2004 Adjunct Professor of the Specialty School of Geriatrics and Gerontology of the University of Rome "La Sapienza".

Since 2009 he is member of the Health Ministry Commission "Palliative Care and Pain Therapy" and of the Geriatric Working Group created by the Italian Agency for Drugs.

Since 2006 he is member of the Ethical Committee of the IRCCS San Raffaele and Ospedale Israelitico of Rome.

Prof. Zuccaro attended as speaker and chairman more than 100 International and National Meetings.

From 2002 to 2006 he was Editor of "Geriatrics" Edizione CESI.

He has published more than 50 scientific papers.

In cooperation with Prof. Massimo Palleschi he wrote four books on Geriatrics (Geriatrics Ed. SEU; Geriatrics rivoluzione nella sanità e negli ospedali Ed. CESI; Rapporto sulla cronicità in Italia Ed. CESI; Linee guida di Terapia Geriatrica Ed. CESI).



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