The XXI Ottorino Rossi Award “New Series”: The Founders of Neurology

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Who was Ottorino Rossi?

Ottorino Rossi was born on 17 January, 1877, in Solbiate Comasco, a tiny Italian village near Como. In 1895 he enrolled at the medical faculty of the University of Pavia as a student of the Ghislieri College and during his undergraduate years he was an intern pupil of the Institute of General Pathology and Histology, which was headed by Camillo Golgi (Fig. 1).

In 1901 Rossi obtained his medical doctor degree with the highest grades and a distinction. In October 1902 he went on to the Clinica Neuropatologica (Clinic for Nervous and Mental Diseases) directed by Casimiro Mondino to learn clinical neurology. In his spare time Rossi continued to frequent the Golgi Institute which was the leading Italian centre for biological research. Having completed his clinical preparation in Florence with Eugenio Tanzi, and in Munich at the Institute directed by Emil Kraepelin, he taught at the Universities of Siena, Sassari and Pavia. In Pavia he was made Rector of the University and was instrumental in getting the buildings of the new San Matteo Polyclinic completed.

He was the author of major scientific works including an extensive investigation of arteriosclerosis in the brain, giving a new interpretation of the development of lesions of vascular origin. These new concepts were included in the book “L’arteriosclerosi dei centri cerebrali e spinali” that was printed in 1906 by a print shop in Pavia (Fig. 2). His contributions to the field of neuroanatomy were numerous, and included his studies on the afferent fibres associated with the plexus of Meissner and Auerbach. These studies helped to pave the way for the understanding and treatment of Hirschprung’s disease and were considered so important that Ottorino Rossi’s profile was included in the book “The Founders of Neurology” (see later, Fig. 7), which contained 131 biographical sketches of the world’s most important neurologists. Ottorino Rossi also made other important contributions to different fields of clinical neurology, neuropathology and neuroanatomy. These include his demonstration that fibres from the spinal ganglia pass into the dorsal branch of the spinal roots, and his description of the cerebellar symptom which he termed “the primary asymmetries of positions”. Moreover, he conducted important studies on the immunopathology of the nervous system, the serodiagnosis of neurosyphilis and the regeneration of the nervous system. He died in 1936 at the age of 59, having named the Ghislieri College as his heir. Ottorino Rossi was one of Camillo Golgi’s most illustrious pupils as well as one of the most eminent descendants of Pavia’s medico-biological tradition (Fig. 2).

Since 1990, the year the initiative was introduced by the new Scientific Direction (under Prof. Giuseppe Nappi), the IRCCS “C. Mondino Institute of Neurology” Foundation has held an annual Conference at which the Ottorino Rossi
Award is presented to a scientist who has made an important contribution to research in the field of the neurosciences.

The Ottorino Rossi Award

The first Ottorino Rossi Award was conferred on Vittorio Erspamer in 1990 (Fig. 3). Erspamer graduated in medicine from the University of Pavia (1935), where he studied with Maffo Vialli, director of the Institute of Comparative Anatomy and Physiology. Dr Vialli and Dr Erspamer identified in the enterochromaffin cells of the intestines a substance that had never previously been isolated and they called it “enteramine”. Ten years later, in 1948, the scientific community renamed this substance “serotonin”. Dr Erspamer’s studies and career were characterised by many experiences: after having studied in Pavia, he studied in Berlin, Bonn, Rome, Bari, and Parma, before finally moving back to Rome, where, in 1984, he was appointed Professor Emeritus of Pharmacology. Subsequently, the Ottorino Rossi Award has been conferred on: Paolo Pinelli, Milan, Italy (1991); Giovanni Di Chiro, Bethesda, USA (1992); Clarence J. Gibbs Jr, Bethesda, USA (1993); David S. Zee, Baltimore, USA (1994); Elio Lugaresi, Bologna, Italy (1995); Michel Fardeau, Paris, France (1996); Salvador Moncada, London, UK (1997); Alain Berthoz, Paris, France (1998); Ottar Sjaastad, Trondheim, Norway (1999); J. Timothy Greenamyre, Atlanta, USA (2000); Salvatore DiMauro, New York, USA (2001) (Fig. 4); Elio Raviola, Boston, USA (2002); Kenneth Michael A. Welch, Chicago, USA (2003); François Boller, Paris, France (2004); Jes Olesen, Copenhagen, Denmark (2005); Stanley Finger, St Louis, USA (2006); Michael A. Moskowitz, Charlestown, MA, USA (2007), Patricia Smith Churchland, San Diego, USA (2008), and Stephen P. Hunt, London, UK (2009). These scientists have been interested in different aspects of the neurological sciences, such as sleep medicine, neuroinfectiology, neuroimaging, muscle disorders, stroke, mitochondrial diseases, neurodegenerative diseases, neuropathic pain, and the relationship between the body, the brain and the mind (Fig. 5). Others have studied headache disorders and some have worked in close scientific cooperation with the Mondino Institute. The Danish Headache Centre (University of Copenhagen), founded by Jes Olesen, provided the model for the creation of the Headache Science Centre at the C. Mondino National Institute of Neurology Foundation and University of Pavia. This may be taken as an example of one of the enduring international relationships that have developed around the study of the neurosciences, and of headache in particular, that have been developed in Pavia. Michael Moskowitz, winner of the 2007 Award with a lecture entitled “Genes, proteases, cortical, spreading, depression and migraine: impact on pathophysiology and treatment”, co-authored with Giuseppe Nappi the book “Headache: Handbook of Clinical Neurology Series” (Elsevier 2011). The Italians who have received the Ottorino Rossi Award include individuals who went abroad to study the neurological sciences and others who remained in their own country, becoming leading figures in important Italian universities (Fig. 6).

The XXI Ottorino Rossi Award. New Series: The Founders of Neurology

Since 1990 the Ottorino Rossi Award has been conferred on many scientists who have made important contributions to research in the field of the neurosciences.

Two decades after its creation, the Ottorino Rossi Award has...
taken a new direction. Indeed, the 2010 award was the first in a series devoted to scientists who have been instrumental in the birth of the different schools of neurology in the world. In particular, the XXI, XXII and XXIII editions of the Ottorino Rossi Award will see the prize awarded to the founders of the most important Italian schools of neurology. As reported in the book "The Founders of Neurology" (Fig. 7), many Italians have made important and internationally recognised contributions in different branches of the neurological sciences, such as neuroanatomy, neurophysiology, clinical neurology, neurosurgery and others.

In 2010, the IRCCS C. Mondino National Institute of Neurology Foundation conferred the XXI Ottorino Rossi Award, the first of the new series – The Founders of Neurology –, on Vincenzo Bonavita, Emeritus Professor of Neurology at the “Federico II” University of Naples. The awarding committee was composed of: Cosma F. Andreula (Bari), Lucio Annunziato (Naples), Umberto Balottin (Pavia), Marcello Bartolo (Pozzilli-IS), Agostino Baruzzi (Bologna), Stefano Bastianello (Pavia), Giorgio Bonu (Varese), Nereo Bresolin (Milan), Alberto Calligaro (Pavia), Carlo Caltagirone (Rome), Vittorio Cosi (Pavia), Antonio Dal Canton (Pavia), Elisa Fazzi (Brescia), Antonio Federico (Siena), Antonio Fiaschi (Verona), Gian Luigi Lenzi (Rome), Arrigo Moglia (Pavia), Giuseppe Nappi (Pavia), Alessandro Padovani (Brescia), Giorgio Sandrini (Pavia), Roberto Sterzi (Milan), Giuseppe Micieli (Pavia) – secretary, Angiolino Stella – President of the C. Mondino Foundation and Rector of the University of Pavia.

The XXI Ottorino Rossi Award was presented at the Pavia University Library, on 23 October 2010.

Academic profile and scientific achievements of the XXI Ottorino Rossi Award winner

Vincenzo Bonavita (photographed) was born on July 29, 1933, in Naples. He graduated with honours from the University of Naples on July 17, 1956. On December 3, 1958, he gained his specialisation in nervous and mental diseases, again graduating with honours and receiving a “dignità di stampa” (worthy of publication) mention for his thesis. He obtained a professorship in human physiology in 1961 and in nervous and mental diseases in 1966. As regards Prof. Vincenzo's experiences in the field of experimental research it is worth recalling his attendance of the Institute of Human Physiology of Ferrara (E. Boeri), the Brandeis University (N.O. Kaplan) and Columbia University (H. Waelsch).

In 1971, at the age of 38, he won a competition for a professorship in nervous and mental diseases, becoming, the same year, director of the University of Messina's Clinic of Nervous and Mental Diseases. Vincenzo Bonavita was a full professor of neurology at the School of Medicine, University “Federico II” of Naples, and is currently Professor Emeritus at the same university.

Professor Bonavita is a past president of the Italian Society of Neurology (1999-2002) and of the Italian College of Professors of Neurology. He is Honorary President of ANIRCEF (Italian Neurological Association for Research into Headache) and SINDEM (Italian Neurological Association for the Study of Dementia); he is President of FICef Onlus (Italian Headache Foundation).

Professor Bonavita's research was initially oriented towards more purely experimental areas (nervous system enzymology, neurochemistry of nucleotides). Subsequently, he turned his attention to possible links between physiology, biochemistry and pathology of the nervous system. In the early '80s he began studying the genetics of
Parkinson’s disease, identifying the Contursi kindred, in which the gene responsible for the disease on chromosome 4 and the alpha-synuclein point mutation (1990) were discovered. Professor Bonavita has also conducted clinical research in the field of primary headaches, where he is still carrying out research and training activities.

**Essential bibliography**

1. Bagetta G, Sandrini G. The Ottorino Rossi Award. Funct Neurol 2009;24:5-7