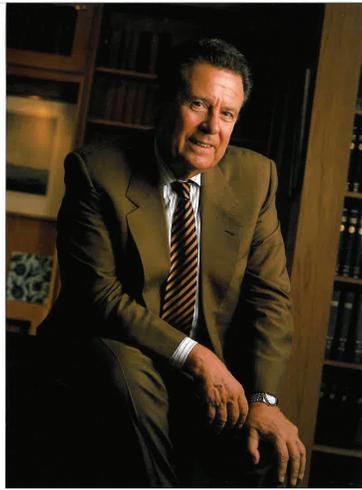


## Obituary

### Erminio Costa, M.D. (1924-2009)



Erminio (Mimo) Costa, one of the co-founding members of the ACNP, died Saturday, November 28, from complications of multiple myeloma. Dr. Costa is survived by his wife Ingeborg Hanbaur and sons Michael and Max. His son Robert, passed away on September 1, 2006.

#### Curriculum Vitae (summary)

Dr. Costa was born in Cagliari, Italy and obtained an MD from the University of Cagliari, graduating in 1947. He continued his studies at the University becoming Professor of Pharmacology by 1954. In 1956, Dr. Costa joined the Thudichum Research Laboratory in Galesburg, Illinois. In 1958, Dr. Costa became Deputy Chief of the National Heart Institute's Laboratory of Chemical Pharmacology. In 1965, Dr. Costa joined Columbia University as Director of Pharmacology of the W. Black Center and later returned to NIH, where for 17 years he directed the Laboratory of Preclinical Pharmacology of the NIMH at St. Elizabeth's Hospital. In 1982, Dr. Costa was elected to the National Academy of Sciences (USA).

In 1985, Dr. Costa became Director of the Fidia-Georgetown Institute for the Neurosciences (FGIN) at Georgetown University (1985-1994).

In 1996, Dr. Costa was appointed Director of The Psychiatric Research Institute, Department of Psychiatry at the University of Illinois Chicago (UIC) where he worked until his recent death.

Dr. Costa's enthusiasm and ability to translate scientific hypotheses into successful experiments were contagious for all his collaborators—more than 300 in 60 years. Dr. Costa had an exceptional lifelong scientific career completely dedicated to discovery in neuroscience. His leadership and fostering of international scientific exchange has had a great impact in modern neuroscience for which he will long be remembered. During his long career, Dr. Costa authored over 1,000 manuscripts in prestigious scientific journals. He will be fondly remembered by his former students, collaborators and peers.

#### Scientific Accomplishments

Dr. Costa was recognized with numerous awards for his contributions over the years, which have always been at the forefront of research in neuroscience and particularly in neuropsychopharmacology. 1) In 1958, his studies on serotonin established that this neurotransmitter binds to multiple receptor subtypes and is a target for the action of antidepressant and antipsychotic drugs. 2) In the early 1970's, Dr. Costa revealed the role of cyclic AMP in the transsynaptic induction of tyrosine hydroxylase via a cascade of molecular cytosolic and nuclear events triggered by the activation and nuclear translocation of protein kinase A. Currently this mechanism is considered to play an important role in the pathophysiology of depression and in the mechanism of dependence of drugs of abuse. 3) He first proposed and discovered that the GABA<sub>A</sub> receptor is the target of anxiolytic benzodiazepines (1974). From

these pioneering studies, he explored the mechanisms of GABA<sub>A</sub> receptor allosteric modulation and regulation that led to the discovery of the molecular mechanisms underlying benzodiazepine tolerance and dependence. 4) In 1985, he provided the first biochemical evidence for the existence of metabotropic glutamate receptors which were cloned several years later. 5) In 1998, Dr. Costa and his collaborators discovered that reelin and the enzyme that makes GABA (GAD67) were down-regulated in the brains of schizophrenia patients. Interestingly, those neurons that show reduced expression of reelin and GAD67 also show an increased expression of the DNA-methylating enzyme DNMT1. These findings point to the possibility that an epigenetic mechanism underlies schizophrenia morbidity.

Dr. Costa was an incredibly passionate leader and outstanding scientist. He was a creative, dynamic, indefatigable scientist, teacher, editor, organizer and catalyzer of people and ideas. He has clearly been a major force in the field of neuroscience over the last half a century.

Biography was written by Drs. Dennis Grayson and Alessandro Guidotti, Department of Psychiatry, University of Illinois Chicago.

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