2014 TAB HALL OF HONOR RECIPIENT

EVANGELIA MICHELI-TZANAKOU (deceased)

Professor Dr. Micheli-Tzanakou received the MS and PhD degrees in Physics at the Syracuse University, N.Y., USA. She was Full Professor at Rutgers University, New Brunswick, N.J., USA, where she was also Director of the Department of Biomedical Engineering and Director of the Computational Intelligence Laboratories.

Her main research area was biomedical engineering, with specific emphasis on neural networks, information processing in the brain, image and signal processing applied to biomedicine, telemedicine, mammography, hearing aids and electronic equivalents of neurons. Dr. Micheli-Tzanakou received international attention in 1974 when she established the first Brain to Computer Interface using her algorithm ALOPEX. This method was used in the study of Parkinson's disease as well as in various applications in signal processing, image processing, and pattern recognition.

She wrote and/or edited several books in her field, and published over 300 scientific articles in journals, conference proceedings, books and encyclopedia chapters.

CITATION:

For outstanding leadership in technical activities and TAB, creating technical communities, and having established IEEE as worldwide reference in biometrics.

DESCRIPTION OF ACCOMPLISHMENT(S) RELATIVE TO THE CREATION, DEVELOPMENT, OR ADVANCEMENT OF THE TECHNICAL OBJECTIVES OF THE IEEE:

In many years of volunteer service to IEEE, Dr. Micheli-Tzanakou proposed and nurtured the creation of several technical communities within Societies, Councils, and TAB NTDC.

In particular, she promoted and nurtured first the transition of the community working in the area of computational intelligence from the Neural Networks Council to the Computational Intelligence Society.

She significantly contributed to aggregating the community interested in biometrics by promoting and guiding the creation, first, of the IEEE TAB NTDC Technical Committee on Biometrics and, then, the IEEE Biometrics Council. Her pro-active role, with unique vision and understanding, passion and care, was essential in coalescing various groups dispersed in several Societies into a strong and growing community, counting now about 3,000 IEEE members and over additional 5,000 professionals. She played a central role also in starting the educational activities in this area, especially as life-

long professional education, and the creation of the body of knowledge on Biometrics. All of her work greatly contributed to establishing the IEEE leadership role in this field worldwide.

She also played a critical role in the creation of the IEEE TFA Rosenblatt Award, devoted to recognize outstanding contributions to the advancement of the design, practice, techniques, or theory in biologically and linguistically motivated computational paradigms, including but not limited to neural networks, connectionist systems, evolutionary computation, fuzzy systems, and hybrid intelligent systems in which these paradigms are contained.

As an individual, Dr. Micheli-Tzanakou was an extraordinary example of leadership and collegiality promoter, to which all future TAB and IEEE members should look for inspiration.

RELEVANT IEEE ACTIVITIES:

COMMITTEES/BOARDS:
- IEEE Vice President for Educational Activities and EAB Chair (2008)
- IEEE Board of Directors, Member (2008, 2005-06)
- IEEE Technical Activities Board, Member (2008, 2005-06, 2003)
- IEEE Strategic Planning Committee, Member (2008)
- IEEE Director - Division X (2005-06)
- EAB Expert Now Committee, Member (2007)
- IEEE Medal of Honor Committee, Chair (2004-06)
- IEEE Awards Board Nominations and Appointments Committee, Chair (2004-06)
- IEEE Awards Board, Chair (2002-03) and Vice-Chair (2000-01)

TECHNICAL ACTIVITIES:
- TAB Strategic Planning Committee, Member (2007)
- TAB Nominations and Appointments Committee, Chair (2006)
- TAB NTDC BCI, Chair (2006-10)
- TAB NTDC Biometrics, Chair (2005-07)

SOCIETIES:
- Biometrics Council, Interim President (2008)
- Neural Networks Society, President (2003)
- Neural Networks Society, President Elect (2002)
- Neural Networks Council, Vice President (2000-01)
- NNC Technical Activities, Chair (1999)
- NNC AdCom, EMBS Representative (1998-99)
- IES Educational Committee, Chair (1996-99)
- EMBS AdCom, Member at Large (1996-99)
- IES AdCom, Member at Large (1994-2000)
- NNC AdCom, IES Representative (1992-97)
- IEEE Council on Neural Networks, Secretary (1990-91)
- IEEE Neural Network Committee, Secretary (1989-90)
- IEEE Neural Network Committee - Bylaws Committee, Chair (1989-91)
- IEEE Neural Network Committee, EMBS Representative (1987-89)

CONFERENCES:

- Experience includes General Chair and Program Committee Chair of many conferences and workshops, mainly sponsored by IEEE (since 1989)

PUBLICATIONS:
- IEEE Transactions on Computational Biology and Biomedicine - Steering Committee, Member (2002-11)
- IEEE Transactions on Nano-BioScience, Associate Editor (2002-07)
- IEEE Transactions on Biomedical Information Technology, Associate Editor (1997-2001)
- IEEE Transactions on Neural Networks, Associate Editor (2000-06, 1989-92)

Elevated to Fellow of the IEEE in 1992 - Citation: "for contributions to the application of neural networks to the analysis of the operation of the visual system"