

Editorial:

Welcome to the IEEE Neural Networks Society

I WANT to welcome you to our newly formed society. On February 17, 2002, the IEEE Neural Networks Council (NNC), publisher of the IEEE TRANSACTIONS ON NEURAL NETWORKS (TNN), the IEEE TRANSACTIONS ON FUZZY SYSTEMS (TFS), and the IEEE TRANSACTIONS ON EVOLUTIONARY COMPUTATION (TEC), became the IEEE Neural Networks Society (NNS). This accomplishment was made possible by the relentless efforts of our ExCom members, and in particular by the 2001 NNC President, Dr. Enrique Ruspini, who led us through this transition. I want to take this opportunity to thank them all for their devotion and hard work.

Our society covers the same field of interest as the previous council, namely: “the theory, design, application, and development of biologically and linguistically motivated computational paradigms emphasizing neural networks, including connectionist systems, genetic algorithms, evolutionary programming, fuzzy systems, and hybrid intelligent systems in which these paradigms are contained.” These topics are sometimes included in broader frameworks, usually referred to as computational intelligence or soft computing. Such frameworks allow us to represent and integrate these approaches, and provide us with a flexible paradigm to leverage knowledge from domain experts and information from field data. These hybrid systems are covered routinely in our transactions and can also be found in recent special issues of the PROCEEDINGS OF THE IEEE [1]–[2].

We have a vibrant, dynamic, technical community, which we try to serve through a variety of product offerings. In addition to our journals, we organize three main conferences, the International Joint Conference on Neural Networks (IJCNN), the Congress on Evolutionary Computation (CEC), and the IEEE International Conference on Fuzzy Systems (FUZZ-IEEE), which parallel the scope of our three transactions. In May 2002, we held the 2002 IEEE World Congress on Computational Intelligence (WCCI), a scientific forum that combines our three key conferences. Every four years, we organize WCCI to allow our three scientific communities to have more opportunities for cross-education and awareness of our related fields. Next year, in addition to our three traditional conferences, we will also organize the 2003 International Conference on Computational Intelligence for Financial Engineering (CIFE), which will take place in Hong Kong, in March. The NNS is also trying to function as an incubator for emerging technologies that are germane to our field of interest, such as evolutionary multi-ob-

jective optimization, particle swarm optimization, data mining and knowledge extraction, neuro-informatics, computational neuroscience, artificial life and artificial immune systems, etc. We have devoted special issues of our transactions to some of these topics, organized special tracks at our conferences, and sponsored specialized symposia, workshops, and satellite conferences to provide a nurturing environment for these new fields.

As a subscriber of one of our TRANSACTIONS, I also want to congratulate you, because you finally have a home, a professional society whose identity truly reflects your technical area of expertise. Individual subscribers such as you, representing the best of our technical and scientific communities, will be part of this new society. You are now entitled to receive a free copy of our electronic newsletter, containing information about our society, calendar of events, review articles, and other items of interest. We would also like to extend to you an invitation to become a member of the IEEE Neural Networks Society for 2003. Our yearly membership fee of \$10.00 for IEEE members or IEEE affiliates will allow you to take full advantage of our high-quality educational product offerings. Next year’s membership benefits will include a newsletter, access (for a subscription fee of \$15.00) to all our current and archival electronic publications, and the opportunity to buy the “computational intelligence package” that contains all three transactions (TNN, TEC, TFS) at a bundled price of \$50.00 (a \$24.00 discount). As a member, you may also have an active participation in the operations of the IEEE NNS, by running for an AdCom representative position, nominating candidates, and voting for the candidates. Membership renewal for 2003 will start around September 2002.

We look forward to your participation in our new society, and we are certain that the IEEE NNS will continue to grow and provide you with the best educational and professional services that you deserve. For more information, please visit our site at www.ieee-nns.org.

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REFERENCES

- [1] *Proc. IEEE (Special Issue on Computational Intelligence)*, vol. 87, Sept. 1999.
- [2] *Proc. IEEE (Special Issue on Industrial Innovation Using Soft Computing)*, vol. 89, Sept. 2001.



Piero P. Bonissone (S'75–M'79–SM'02) received the B.S. degree in electrical engineering and mechanical engineering from the University of Mexico City, Mexico City, Mexico, in 1975, the M.S. degrees in electrical engineering and computer science and in mechanical engineering, and the Ph.D. degree in electrical engineering, all from the University of California, Berkeley, in 1976, 1978, and 1979, respectively.

Since 1979, he has been a Computer Scientist at the General Electric Corporate Research and Development Center (GE CRD), Niskayuna, NY, carrying out research and projects in artificial intelligence, expert systems, simulation, fuzzy sets, and soft computing (SC). In the early 1980s, he led the development team for diesel electric locomotive troubleshooting aid (DELTA), one of the first fielded expert systems, which helped maintenance technicians in troubleshooting diesel electric locomotives. He was the Principal Investigator in a five-year research program on reasoning with incomplete and uncertain information, as part of the knowledge-based systems technology base in DARPA's strategic computing program. He was responsible for the development

of the situation assessment modules in DARPA's pilot's associate and submarine operational automation system (SOAS) projects. He led the development of the reasoning with uncertainty module (RUM), and PRIMO, two GE proprietary expert system tools for plausible reasoning. He has led many projects in fuzzy logic control and SC, ranging from the control of turbo-shaft engines to the use of fuzzy logic in dishwashers, locomotives, and power supplies. He has also developed case-based and fuzzy-neural systems to accurately estimate the value of single-family residential properties when used as mortgage collaterals. In 1990, he developed combined approximate reasoning systems (CARS), a case-based reasoning tool integrated with PRIMO, and applied to military transportation planning problems. Recently, he led an SC group in the development of SC application to diagnostics and prognostics of processes and products. He has been an Adjunct Professor with the Electrical and Computer Science Engineering Department, Rensselaer Polytechnic Institute, Troy, NY, since 1982. He has published more than 100 articles in the area of expert systems, approximate reasoning, fuzzy sets, pattern recognition, decision analysis, and SC. He holds 21 United States patents for his work on reasoning with uncertainty, fuzzy control, and automated decision making.

Dr. Bonissone received the Dushman Award from GE CRD in 1989 for his work on reasoning with uncertainty. In 1993, he received the Coolidge Fellowship Award from GE CRD for overall technical accomplishments. In 1996, he became a Fellow of the American Association for Artificial Intelligence (AAAI). In 1999, he received the Dushman Award from GE CRD for his work on medical equipment diagnostics. Since 1993, he has been the Editor-in-Chief of the *International Journal of Approximate Reasoning*. He coedited the book *Expert Systems in Structural Safety Assessment* (New York: Springer-Verlag, 1989), *Uncertainty in Artificial Intelligence, vol. 6* (Amsterdam, The Netherlands: North-Holland, 1991), and *Uncertainty in Artificial Intelligence, vol. 7* (San Mateo, CA: Morgan Kaufmann, 1991). He is also one of the three Editors-in-Chief of the *Handbook of Fuzzy Computation* (Institute of Physics Publishing). He was the VP of Finances of the IEEE Neural Networks Council (NNC) from 1994 to 2000. In 2001, he became the NNC President-Elect.