“HAPPY New Year!” At the beginning of 2016, I would like to take this opportunity to wish everyone a very happy, healthy, and prosperous new year! It is my great honor and privilege to serve as the Editor-in-Chief (EiC) of the IEEE TRANSACTIONS ON NEURAL NETWORKS AND LEARNING SYSTEMS (TNNLS), and I am excited to write this Editorial to start a new journey with you all.

A HEARTFELT THANK YOU!

First of all, I want to offer a heartfelt “Thank You” to my predecessor, Derong Liu, for his efforts and vision in leading TNNLS over the past six years with great success. Under his leadership, TNNLS has continued to grow in terms of both quantity and quality: the number of submissions reached 1261 in 2014 (see Fig. 1) and the latest impact factor (IF) is 4.291 according to Journal Citation Reports (see Fig. 2). This has placed TNNLS among the premier journals in the field. With the most recent release of the IF, TNNLS is now ranked #8 in all Electrical and Electronic Engineering journals. I would like to congratulate Derong for his leadership and dedicated service in achieving these significant outcomes!

Fig. 1. IEEE TNN/TNNLS submission total from 2003 to 2014.

Fig. 2. IEEE TNN/TNNLS IF from 1999 to 2014.

Color versions of one or more of the figures in this paper are available online at http://ieeexplore.ieee.org.

Digital Object Identifier 10.1109/TNNLS.2015.2504864
The success of TNNLS is also rooted in our large number of dedicated volunteers and supporters, including the IEEE Computational Intelligence Society (CIS) leadership, the IEEE Publication and Editorial Staff, our dedicated Editorial Board members, reviewers, authors, and readers. In particular, I would like to sincerely thank the entire team of Associate Editors for their tremendous work and effort. At any time point, the EiC and the Associate Editors are handling several hundred papers in various stages of the review process. This is a tremendous amount of work and commitment. Our Associate Editors are the “unsung heroes” behind each paper in identifying the most qualified reviewers to provide comprehensive and constructive review reports. I would also like to thank all the reviewers for their dedicated effort and time in evaluating each submission. They are the “gatekeepers” who ensure that each paper published in TNNLS meets our high standards for research and presentation. There is not enough space to mention all their names here, but it is clear that we could not achieve this level of success for TNNLS without their dedicated service.

I deeply appreciate and acknowledge all the hard work from all of you! THANK YOU!

A WARM WELCOME!

As we kick off the new year, it is my great pleasure to welcome the following new Associate Editors, whose term officially starts January 1, 2016. They are highly respected researchers worldwide in their corresponding subject areas relevant to neural networks and learning systems. Together with our existing Associate Editors, the entire editorial board will work closely with the EiC in handling all the submissions to TNNLS, ranging from selecting responsive and qualified reviewers to making a decision recommendation for each submission.

1) Nitesh Chawla, University of Notre Dame, USA
2) Huanhuan Chen, University of Science and Technology of China, China
3) Yoonsuck Choe, Texas A&M University, USA
4) Andries Engelbrecht, University of Pretoria, South Africa
5) Jayadeva, Indian Institute of Technology, Delhi, India
6) Lyle Long, Pennsylvania State University, USA
7) Ali Minai, University of Cincinnati, USA
8) Feiping Nie, Northwestern Polytechnic University, China
9) Ling Shao, Northumbria University, UK
10) Jennie Si, Arizona State University, USA
11) Joachim Stein, Bielefeld University, Germany
12) Brijesh Verma, Central Queensland University, Australia
13) Jennie Si, Arizona State University, USA
14) Barak Pearlmutter, Maynooth University, Ireland
15) Ling Shao, Northumbria University, UK
16) Barak Pearlmutter, Maynooth University, Ireland
17) Umut Ozertem, Microsoft, USA

A NEW ERA FOR TNNLS!

Founded in 1990, TNN/TNNLS has undergone many milestones and now is crossing into a young adult phase of its development. During Derong’s tenure as the EiC, one of the major milestones was that on January 1, 2012, the journal changed its name from the IEEE TRANSACTIONS ON NEURAL NETWORKS (TNN) to the IEEE TRANSACTIONS ON NEURAL NETWORKS AND LEARNING SYSTEMS (TNNLS), to reflect the evolving scope and interests of the community. This change has had far-reaching effects on our journal in terms of the quality, quantity, and breadth of the submissions.

As we are facing a new era of scientific publication today with many new initiatives and platforms, I would like to take this opportunity to highlight a few key challenges, as well as opportunities, for TNNLS to ensure its continuous growth and success.

A. Further Strengthen the Quality and Impact of TNNLS

As one of the IEEE CIS flagship journals, TNNLS covers the “theory, design, and applications of neural networks and related learning systems.” Although concise, this scope conveys rich information to our authors and readers. While the fast development we are experiencing in this field, we are receiving a steady increase in submissions in many emerging topics, such as deep learning and big data analytics. I am committed to further strengthen TNNLS with the goal of delivering innovative, in-depth, and broader impact publications to the community covering the already-rooted as well as emerging topics of “neural networks and related learning systems.”

B. Further Reduce the Submission-to-Decision Time Window

As an active researcher in the field, I understand how important it is for TNNLS to reduce the submission-to-decision window to benefit both our authors and readers. While many factors could impact this time window during the peer-review process, I will work closely with our team of Associate Editors to ensure a timely and high-quality review process for each submission. I am confident that with the expertise and dedicated service of our Editorial Board and reviewers, we can further reduce the submission-to-decision time while maintaining the highest standards for our TNNLS.

C. Further Increase the Readership and Outreach to the Community

As one of the premier journals in the field, it is very important for TNNLS to continue to increase its readership and outreach to the community. I will continue the “Publication Spotlight” by selecting high impact papers in each issue to be highlighted in the IEEE Computational Intelligence Magazine, and I will also continue with our tradition by sending the table-of-contents of each issue to TNNLS readers. Meanwhile, I hope that, whether you are a well-established senior researcher or a new member of our community, an industry scientist/engineer or an academic faculty member, you can continue to submit your best research results to TNNLS. As a team, we can help to increase the readership and outreach to the largest possible audience for a sustained and healthy long-term development of our community.

A BRIEF SELF-INTRODUCTION

Finally, I would like to say a few words about myself. I have had a passion for neural networks since I was a little boy.
Though I had no idea at that time what the term “Neural Network” meant, I was always curious about what goes on in the most amazing part of the human body, the brain.

After receiving my B.S. and M.S. degrees in electrical engineering from the Huazhong University of Science and Technology, Wuhan, China, I joined the Electrical Engineering and Computer Science program at Ohio University, Athens, OH, USA, for my Ph.D. degree, focusing on machine intelligence research. Immediately after receiving my Ph.D. degree in 2006, I joined the Stevens Institute of Technology, Hoboken, NJ, USA, as a tenure-track Assistant Professor and continued my passion in the field of computational intelligence and its wide applications to critical engineering problems. Now, I am the Robert Haas Endowed Chair Professor and Director of the Computational Intelligence and Self-Adaptive Systems Laboratory with the University of Rhode Island, Kingston, RI, USA, leading a group of Ph.D. students, Post-Doctoral researchers, and Visiting Scholars, working on various aspects of computational intelligence and related applications. I am very fortunate to be surrounded by a group of very talented students and collaborators, and we are having a lot of fun both within and outside the laboratory, exploring all the exciting aspects of the theories, designs, and applications of computational intelligence research.

In my spare time, I squeeze in playing basketball once or twice a week (by the way, we lost to our students by one point in the most recent annual department faculty versus graduate students game) and occasionally find time to pick up a tennis racket. I also enjoy reading very much, and always try to pack something in my computer bag no matter where I travel. Most importantly, I love spending time with my family, such as playing Chinese checkers with my two little boys, or simply watching a movie together with my wife.

In closing, I would like to once again thank Derong Liu, the entire team of Associate Editors, the IEEE CIS leadership, the IEEE Publication and Editorial Staff, and all the reviewers, authors, and readers for bringing TNNLS to this point of success through all your dedicated service and hard work. I look forward to working closely with you all in the years to come to bring the success of our TNNLS to the next high level!

Haibo He, Editor-in-Chief
Robert Haas Endowed Chair Professor
Department of Electrical, Computer, and Biomedical Engineering
University of Rhode Island
Kingston, RI 02881

Haibo He (S’04–M’06–SM’11) received the B.S. and M.S. degrees from the Huazhong University of Science and Technology, Wuhan, China, in 1999 and 2002, respectively, and the Ph.D. degree from Ohio University, Athens, OH, USA, in 2006, all in electrical engineering.

He was an Assistant Professor with the Department of Electrical and Computer Engineering, Stevens Institute of Technology, Hoboken, NJ, USA, from 2006 to 2009. He is currently the Robert Haas Endowed Chair Professor and the Director of the Computational Intelligence and Self-Adaptive Systems Laboratory with the University of Rhode Island, Kingston, RI, USA. He has authored one sole-author book (Wiley), edited one book (Wiley-IEEE) and six conference proceedings (Springer), and authored/co-authored over 180 peer-reviewed journal and conference papers, including several highly cited papers in the IEEE TRANSACTIONS ON NEURAL NETWORKS and the IEEE TRANSACTIONS ON KNOWLEDGE AND DATA ENGINEERING, Cover Page Highlighted paper in the IEEE TRANSACTIONS ON INFORMATION FORENSICS AND SECURITY, and Best Readings of the IEEE Communications Society. He has delivered over 40 invited talks around the globe. His research has been covered by numerous national and international medias, such as the IEEE SMART GRID NEWSLETTER, The Wall Street Journal, China Central Television, Providence Journal, Providence Business News (PBN), and among others.

Dr. He was a recipient of the IEEE International Conference on Communications Best Paper Award in 2014, the IEEE Computational Intelligence Society (CIS) Outstanding Early Career Award in 2014, the National Science Foundation Faculty Early Career Development (CAREER) Award in 2011, the PBN Rising Star Innovator Award in 2011, and the Best Master Thesis Award of Hubei Province, China, in 2002. He has served the IEEE CIS in various capacities, including as Chair of the IEEE CIS Emergent Technologies Technical Committee in 2015 and the IEEE CIS Neural Networks Technical Committee in 2013 and 2014, an Editor of the IEEE CIS ELECTRONIC LETTER in 2009 and 2010, the Manager of the IEEE CIS Website in 2011 and 2012, and among others. He was the General Chair of the IEEE Symposium Series on Computational Intelligence in 2014, the Technical Program Co-Chair of the International Joint Conference on Neural Networks (IJCNN) in 2015, the Program Co-Chair of IJCNN in 2014, and among others. He served as an Associate Editor of the IEEE TRANSACTIONS ON NEURAL NETWORKS AND LEARNING SYSTEMS from 2010 to 2015. He serves as an Associate Editor of the IEEE COMPUTATIONAL INTELLIGENCE MAGAZINE in 2015 and the IEEE TRANSACTIONS ON SMART GRID since 2010.
INTRODUCTION OF NEW TNNLS ASSOCIATE EDITORS

Nitesh Chawla received the B.E. degree from the University of Pune, Pune, India, in 1997, and the M.S. degree in computer science and the Ph.D. degree in computer science and engineering from the University of South Florida, Tampa, FL, USA, in 1999 and 2002, respectively. He is currently a Professor of Computer Science and Engineering with the University of Notre Dame, Notre Dame, IN, USA, and the Director of the Notre Dame Interdisciplinary Center for Network Science, which is at the frontier of network and data science with a strong multidisciplinary focus.

Dr. Chawla was a recipient of the IEEE Computational Intelligence Society Outstanding Early Career Award in 2015, the IBM Watson Faculty Award in 2012, and the IBM Big Data and Analytics Faculty Award in 2013. He received the National Academy of Engineering New Faculty Fellowship. In recognition of the societal and community driven impact of his research, he received the Rodney Ganey Award in 2014 and the Michiana 40 Under 40 Award in 2013. He was also a two-time recipient of the Outstanding Teaching Award in Computer Science and Engineering in Notre Dame. He has received and been nominated for a number of best paper awards. He serves on the Editorial Boards of a number of journals and organization/program committees of top-tier conferences.

Huanhuan Chen received the B.Sc. degree from the University of Science and Technology of China (USTC), Hefei, China, in 2004, and the Ph.D. degree, sponsored by the Dorothy Hodgkin Post-Graduate Award, from the University of Birmingham, Birmingham, U.K., in 2008. He is currently a Professor with the School of Computer Science, USTC. His current research interests include statistical machine learning, neural networks, Bayesian inference, data fusion, and evolutionary computation.

Dr. Chen received the 2015 International Neural Network Society Young Investigator Award (the only winner in 2015), and the 2009 IEEE TRANSACTIONS ON NEURAL NETWORKS Outstanding Paper Award (bestowed in 2012). His Ph.D. thesis received the 2011 IEEE Computational Intelligence Society Outstanding Ph.D. Dissertation Award (the only winner).

Yoonsuck Choe received the B.S. degree from Yonsei University, Seoul, Korea, in 1993, and the M.A. and Ph.D. degrees from the University of Texas at Austin, Austin, TX, USA, in 1995 and 2001, respectively, all in computer science.

He has been especially interested in the temporal and sensorimotor aspects of neural networks. He is currently a Professor of Computer Science and Engineering with Texas A&M University, College Station, TX, USA. He has authored over 100 peer-reviewed publications. His current research interests include computational neuroscience, computational neuroanatomy, neuroinformatics, and brain imaging instrumentation.

Dr. Choe is a Senior Member of the International Neural Networks Society. He served as the Program Chair of the International Joint Conference on Neural Networks (IJCNN) in 2015, and will be the General Chair of IJCNN 2017.

Andries Engelbrecht received the master’s and Ph.D. degrees in computer science from the University of Stellenbosch, Stellenbosch, South Africa, in 1994 and 1999, respectively.

He is currently a Professor of Computer Science with the University of Pretoria, Pretoria, South Africa, and serves as the Head of the Department. He is the South African Research Chair in Artificial Intelligence, and leads the Computational Intelligence Research Group. His current research interests include swarm intelligence, evolutionary computation, neural networks, artificial immune systems, and the application of these paradigms to data mining, games, bioinformatics, finance, image analysis, and difficult optimization problems.

Dr. Engelbrecht is also an Associate Editor of the IEEE TRANSACTIONS ON EVOLUTIONARY COMPUTATION and the Swarm Intelligence Journal.
Jayadeva received the B.Tech. and Ph.D. degrees from IIT Delhi, Delhi, India, in 1988 and 1994, respectively.

He visited the Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology, Cambridge, MA, USA, as a BOYSCAST fellow, and was a Visiting Researcher with IBM Research, Delhi. He is a Professor with the Department of Electrical Engineering, IIT Delhi, and currently holds the Microsoft Chair. He has co-authored the book entitled *Numerical Optimization with Applications*, and is a Co-Inventor of the Twin SVM. He has also co-authored one journal and two conference best paper award winning publications. His current research interests include machine learning, optimization, swarm intelligence, and very large-scale integration design.

Dr. Jayadeva was the Founding Chair of the Delhi Chapter of the IEEE Computational Intelligence Society. He is an Editor of the *IETE Journal of Research*.

Lyle Long received the B.M.E. degree from the University of Minnesota, Minneapolis, MN, USA, the M.S. degree from Stanford University, Stanford, CA, USA, and the D.Sc. degree from George Washington University, Washington, DC, USA.

He was a Moore Distinguished Scholar with the California Institute of Technology, Pasadena, CA, USA, from 2007 to 2008, and has been a Visiting Scientist with the Army Research Laboratory, Thinking Machines Corporation, Cambridge, MA, USA, and the NASA Langley Research Center, Hampton, VA, USA. He was a Senior Research Scientist with Lockheed California Company, Palmdale, CA, USA. He is currently a Distinguished Professor of Aerospace Engineering, Computational Science, Neuroscience, and Mathematics with Pennsylvania State University, State College, PA, USA. He has written over 260 journal and conference papers.

Dr. Long is a fellow of the American Physical Society and the American Institute of Aeronautics and Astronautics. He received the Penn State Engineering Society Outstanding Research Award, the 1993 IEEE Computer Society Gordon Bell Prize for achieving highest performance on a parallel computer, and the Lockheed Award for excellence in research and development.

Ali Minai received the Ph.D. degree in electrical engineering from the University of Virginia, Charlottesville, VA, USA, in 1991.

He is currently with the University of Cincinnati, Cincinnati, OH, USA, as a Professor of Electrical Engineering and Computing Systems and a Faculty Member in the Neuroscience Graduate Program. He has edited eight books in complex systems. His current research interests include neural networks, complex systems and networks, computational models of cognition, social networks, distributed multiagent systems, and computational linguistics.

Dr. Minai is a Senior Member of the International Neural Networks Society (INNS), and a member of the American Association for the Advancement of Science and the Society for Neuroscience. He is the President of INNS. He has served as the INNS Vice President for conferences, Secretary, and a member of the Board of Governors. He has been a member of the IEEE Computational Intelligence Society Neural Networks Technical Committee for several years. He was the General Chair of the 2011 International Joint Conference on Neural Networks (IJCNN) in San Jose, CA, USA, and has served on the organizing committees of several IJCNNs and on the program committees of numerous conferences. He was a Lead Organizer for seven meetings of the International Conference on Complex Systems. He is an Action Editor of *Neural Networks* and a Series Editor of the Springer/NECSI book series on Complex Systems.

Feiping Nie received the B.S. degree from the North China University of Water Resource and Electric Power, Zhengzhou, China, in 2000, the M.S. degree from Lanzhou University, Lanzhou, China, in 2003, and the Ph.D. degree from Tsinghua University, Beijing, China, in 2009, all in computer science.

He is currently a Professor with the Center for OPTical IMagery Analysis and Learning, Northwestern Polytechnical University, Xi’an, China. He has authored over 100 papers in top-tier conferences and journals. His current research interests include machine learning and its application fields, such as pattern recognition, data mining, computer vision, image processing, and information retrieval.

Dr. Nie serves as an Associate Editor of *Information Sciences, Information Fusion*, and *Neurocomputing*.
Umut Ozertem received the B.Sc. degree from Middle East Technical University, Ankara, Turkey, and the M.Sc. and Ph.D. degrees from the Oregon Graduate Institute, Beaverton, OR, USA, all in electrical engineering.

He was a Graduate Research Assistant with the Oregon Graduate Institute from 2004 to 2008, a Graduate Intern with Intel, Santa Clara, CA, USA, in 2007, a Scientist with Yahoo! Labs, Sunnyvale, CA, USA, from 2008 to 2011, and an Applied Researcher in the Bing Whole Page Relevance Team from 2011 to 2012. In 2012, he joined the Speech Team at Microsoft, Sunnyvale, CA, USA. He is currently a Principal Applied Scientist with Microsoft, where he works on machine learning and data mining techniques and applies them to Automatic Speech Recognition and Spoken Language Understanding. He is involved in massively parallel data processing, language model training, large-scale text mining for statistical semantics, and personalization/contextualization of speech recognition and language understanding models.

Barak Pearlmutter received the Ph.D. degree in computer science from Carnegie Mellon University, Pittsburgh, PA, USA.

He was a Faculty Member with the University of New Mexico, Albuquerque, NM, USA, and a member of the Technical Staff with Siemens Corporate Research, Princeton, NJ, USA. He held a post-doctoral position with the Psychology Department, Yale University, New Haven, CT, USA. He is currently a Professor with the Department of Computer Science, Maynooth University, Maynooth, Ireland. His current research interests include understanding information processing in the brain, and figuring out how to build artificial systems that exhibit brain-like performance. The focus of the former is currently on exploring the optimality hypothesis and challenges thereof, while the latter is upon not just building new machine learning algorithms, but building mathematical formalizations and programming languages that support the construction of complex adaptive systems.

Ling Shao received the B.Eng. degree from the University of Science and Technology of China, Hefei, China, and the M.Sc. and Ph.D. degrees from the University of Oxford, Oxford, U.K.

He was a Senior Scientist with Philips Research, Eindhoven, The Netherlands, from 2005 to 2009, and a Senior Lecturer with the Department of Electronic and Electrical Engineering, University of Sheffield, Sheffield, U.K., from 2009 to 2014. He is currently a Full Professor and the Head of the Computer Vision and Artificial Intelligence Group with the Department of Computer Science and Digital Technologies, Northumbria University, Newcastle upon Tyne, U.K. His current research interests include computer vision, image/video processing, pattern recognition, and machine learning.

Dr. Shao is a fellow of the British Computer Society and the Institution of Engineering and Technology. He has served as an Associate Editor of the IEEE TRANSACTIONS ON IMAGE PROCESSING, the IEEE TRANSACTIONS ON CYBERNETICS, and several other journals.

Jennie Si received the B.S. and M.S. degrees from Tsinghua University, Beijing, China, and the Ph.D. degree from the University of Notre Dame, Notre Dame, IN, USA, all in electrical engineering.

She joined Arizona State University, Tempe, AZ, USA, as a Faculty Member in 1991, where she is currently a Professor. In recent years, she has focused on building an electrophysiology capability in order to study fundamental neuroscience questions about the frontal cortex. Her laboratory is well-versed in important techniques, such as large scale, multichannel, single-unit, and extracellular recording using a behaving rat model in chronic, integrated behavioral, and electrophysiological experiments. She is pursuing answers to questions such as how trial-and-error learning takes place at single neuron level. Her current research interests include adaptive/approximate dynamic programming, specifically dynamic optimization using learning and neural network approximation approaches.
Jochen Steil received the Diploma degree in mathematics and the Ph.D. degree in computer science from Bielefeld University, Bielefeld, Germany, in 1993 and 1999, respectively. He temporarily joined the Honda Research Institute Europe GmbH, Offenbach, Germany, as a Senior Scientist in 2006, where he was involved in the development of neural motion control with application to the humanoid robot ASIMO. Since 2007, he has been the Co-Founder and Managing Director of the Institute for Cognition and Robotics with Bielefeld University, and Project Leader with the Excellence Center in Cognitive Interaction Technology, funded by the German Science Foundation DFG. He currently heads a research group in Cognitive Robotics and Learning, connecting fundamental research on learning methods with applications for human–machine interaction, in particular for assistive robots and systems for production. He is also a Visiting Professor with Oxford Brookes University, Oxford, U.K., where he contributes to establish a robotics program. His current research interests include recurrent networks, associative networks, exploratory and developmental learning, motor learning, and applications in intelligent technical systems and robots.

Brijesh Verma received the Ph.D. degree in information technology from the Warsaw University of Technology, Warsaw, Poland, in 1995. He is currently a Professor and the Director of the Centre for Intelligent Systems with Central Queensland University, Brisbane, QLD, Australia. He has authored 13 books and over 150 papers in journals and conference proceedings. His current research interests include neural networks, multiobjective evolutionary algorithms, ensemble classifiers, image analysis, pattern recognition, and computer vision applications.

Dr. Verma won the Best Overall Paper Award at the IEEE Congress on Evolutionary Computation in 2015. He has served on the organizing and program committees of over 30 international conferences, including the International Joint Conference on Neural Networks Special Sessions Chair at the IEEE World Congress on Computational Intelligence in 2012. He is on the Editorial Boards of six international journals and the Editor-in-Chief of the International Journal of Computational Intelligence and Applications. He was the Chair of the IEEE Computational Intelligence Society’s Queensland Chapter. Under his leadership, the Chapter won the 2009 Outstanding Chapter Award.

Ding Wang received the B.S. degree in mathematics from the Zhengzhou University of Light Industry, Zhengzhou, China, in 2007, the M.S. degree in operations research and cybernetics from Northeastern University, Shenyang, China, in 2009, and the Ph.D. degree in control theory and control engineering from the Institute of Automation, Chinese Academy of Sciences, Beijing, China, in 2012.

He is currently an Associate Professor with the State Key Laboratory of Management and Control for Complex Systems, Institute of Automation, Chinese Academy of Sciences. His current research interests include adaptive and learning control systems, complex systems and intelligent control, and neural networks and neural computing.

Dr. Wang was a recipient of the Excellent Doctoral Dissertation Award of the Chinese Academy of Sciences in 2013, and was nominated for the Excellent Doctoral Dissertation Award of the Chinese Association of Automation in 2014. He is the Finance Chair of the 12th World Congress on Intelligent Control and Automation. He serves as an Associate Editor of Neurocomputing.