



# Mathematical Problems in Engineering

## Special Issue on **Dynamics of Neural Networks and Applications in Optimization 2016**

# CALL FOR PAPERS

In recent years, neural networks have been a subject of intense research activities due to their wide applications in different areas such as image processing, pattern recognition, associative memory, and combinational optimization. In practical engineering applications, it is crucial to be able to completely characterize the dynamical properties of neural networks via mathematical methods. Hence, the mathematics processing for the nonlinear dynamics of neural networks still possesses new challenges for researchers in the area.

The neural network approach has become an important mean to provide real-time solutions to some optimization problems, especially for large-scale problems. Compared with the classical optimization approaches, the prominent advantage of neural computing is that it can converge to the optimal solution rapidly, and this advantage motivates researchers to propose an efficient algorithm, which is based on the neural network approach for nonlinear programming problems.

The purpose of this special issue is to provide an opportunity for scientists, engineers, and practitioners to propose their latest theoretical and technological achievements in the analysis of nonlinear dynamics of neural networks and applications in solving optimization. All the submissions are expected to have original ideas and new approaches. Papers presenting newly emerging fields are especially welcomed.

Potential topics include, but are not limited to:

- ▶ Equilibrium analysis and state estimation of neural networks
- ▶ Periodic solution, antiperiodic solution, almost periodic solution, and pseudo-almost periodic solution of neutral-type neural networks
- ▶ Impulsive control of stochastic neural networks and fuzzy neural networks
- ▶ Dynamical analysis of high-order neural networks
- ▶ Synchronization, quasi-synchronization, and antisynchronization of nonlinear coupled neural networks
- ▶ Solving optimization problems arising in economy, society, and engineering via nonlinear neural networks

Authors can submit their manuscripts via the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/mpe/dnn16/>.

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### **Manuscript Due**

Friday, 15 April 2016

### **First Round of Reviews**

Friday, 8 July 2016

### **Publication Date**

Friday, 2 September 2016