

# Call for Papers

## ACM JETC Special Issue on Neuromorphic Computing: Architectures, Models, and Applications



### Guest Editors:

Thomas E. Potok, Oak Ridge National Laboratory  
Yiran Chen, Duke University  
Todd Hylton, University of California, San Diego  
Catherine D. Schuman, Oak Ridge National Laboratory

With the looming end of the “Moore’s Law” era, there is an emerging challenge to “proactively interpret and learn from data, solve unfamiliar problems using what it has learned, and operate with the energy efficiency of the human brain.”\* Neuromorphic computing will play a major role in this challenge, and has the potential to transform the way we use computers through new materials, new brain-inspired chips, and breakthroughs in machine understanding/intelligence. These new systems have the potential to help scientists pioneer new scientific discoveries, or to help intelligently analyze sensor data for improved cyber security or energy management, among a wide variety of other potential applications. The *ACM Journal of Emerging Technologies in Computing Systems (JETC)* seeks original manuscripts for a special issue on “Neuromorphic Computing: Architectures, Models and Applications,” scheduled for publication in August 2018. The purpose of this special issue is to solicit papers discussing novel architectures, models, algorithms, and software in neuromorphic computing, as well as novel applications, with an emphasis on the future potential of these systems.

The topics of interest include, but are not limited to:

- Emerging hardware implementations and materials
- Novel network, neuron, and/or synapse models
- Novel algorithms and approaches to program or train neuromorphic systems
- Supporting software, including design tools, visualization, and large-scale simulations
- Applications for and use-cases of neuromorphic systems, including those where neuromorphic systems have the potential to outperform state-of-the-art techniques

Interested authors should submit their papers to <https://mc.manuscriptcentral.com/jetc>. The author guideline can be found at <http://jetc.acm.org/authors.cfm>. For further information, please contact Yiran Chen ([yiran.chen@duke.edu](mailto:yiran.chen@duke.edu)) and Catherine Schuman ([schumancd@ornl.gov](mailto:schumancd@ornl.gov)).

### Schedule

Submission deadline: ~~15 December 2017~~ 15 January 2018

Reviews completed: 28 February 2018

Article revisions due: 1 April 2018

Notice of final acceptance: 31 April 2018

All materials due to edit: 15 May 2018

Tentative Publication Date: August 2018

---

\* <https://www.nano.gov/grandchallenge>