

## **Minutes of Neural Systems and Applications Technical Committee**

### **2011 Annual Meeting**

Date: Monday, May 16th, 2011

Time: 12.10 pm to 1.15pm

Location: DUCALE IV, Windsor Barra Hotel, Rio

#### **1) Opening of meeting.**

The chair, Pamela Abshire, opened the meeting and welcomed all members.

#### **2) Introduction and welcome**

The chair introduced the officers. Attendees at the meeting introduced themselves. There were 15 participants present including 2 prospective new members and 2 interested PhD students.

The participants at the TC meeting were:

Pamela Abshire

Andreas Andreou

Chiara Bartlozzi

Shantanu Chakrabartty

Tobi Delbruck

Piotr Dudek

Ralph Etienne-Cummings

Phillip Hafliger

John Harris

Giacomo Indiveri

H. K. Kwan

Christoph Maier

Tarek Massoud

Christoph Posch

Yoko Uwate

#### **3) Election of new NSA TCmembers**

Two new members were voted into the TC. They are:

1. Chiara Bartlozzi, [chiara.bartolozzi@ict.it](mailto:chiara.bartolozzi@ict.it), Italian Institute of Technology, <http://www.iit.it/en/people/robotics-brain-and-cognitive-sciences-cognitive-humanoids-lab/post-doc/chiara-bartolozzi.html>

2. Yoko Uwate [uwate@ee.tokushima-u.ac.jp](mailto:uwate@ee.tokushima-u.ac.jp), Dept. of Electrical and Electronic Eng., Tokushima University, <http://nlab.ee.tokushima-u.ac.jp/uwate.htm>

#### **4) Approval of minutes and reports**

The minutes of 2010 NSA TC meeting in Paris were approved unanimously. The chair presented the report of the ISCAS 2010-11 activities. Pam Abshire was Track Chair and Shih-Chii Liu was co-chair. Again this year, the NSA papers were merged with the CNN TC papers for a common Neural Systems and Networks at ISCAS. There were 68 paper submissions, with 44% acceptance rate equivalent to 30 papers organized as 4 oral sessions and 2 poster sessions. She also asked all members to submit their information within one week for the 2010-2011 annual report if they have not done so yet.

### **5) NSATC Vision (100 words)**

Artificial neural systems are mostly inspired by neurobiological computation using spike-based or rate-code models, or even higher levels of abstraction. The NSATC develops neural circuits and systems, paying particular attention to the tradeoff between computational power and efficient implementation. Application areas include brain-machine interfaces and functions performed particularly well by the brain, including sensory/motor processing, learning, and cognitive systems. Implementations of novel architectures are studied using:

- Analog or hybrid analog/digital approaches for low power and low cost realizations
- Flexible digital architectures using custom ASICs or programmable FPGAs
- Novel nano-devices for realizing neural architectures with reduced power consumption and richer computation

### **6) Best paper award for the NSA track ISCAS 2011 presented by Tobi Delbruck**

Best paper award went to: "Integrate and Fire Circuit as an ADC replacement",  
Manu Rastogi, Alexander Singh Alvarado, John G. Harris and Jose C. Principe, University of Florida

Honorable mention went to: "Online Correction of Orientation Estimates Using Spatial Memory in a Neuromorphic Head Direction System" Tarek M. Massoud and Timothy Horiuchi, University of Maryland.

### **7) Possible TC Mergers**

The updated the committee on the efforts to condense the number of independent Technical Committees. The TC discussed the possibility of merging with the TC on cellular nanoscale networks and array computing and, as usual, no objections were raised to the possibility of such a merger. Some discussion continued on the name of the combined section.

### **8) Planning of upcoming events and near future activities**

The chair noted a March deadline for conference proposals. Phillip mentioned the deadline for the BIOCAS conference. Several other upcoming meetings were mentioned, including MWSCAS. The chair solicited ideas for tutorial sessions, special sessions and demo sessions at ISCAS 2012.

### **9) Election of officers for the term 2011 - 2012**

John Harris succeeded Pamela Abshire as Chairman of NSA TC.

Jinhu Lu was elected as Chair-Elect of NSA TC.

Alejandro Linares was elected as Secretary of NSA TC.

Shantanu Chakrabartty was nominated as candidate for the Secretary-Elect position and was elected.

Pamela Abshire became Past-Chair of NSA-TC.

### **10) The meeting was adjourned at 1:15pm.**