

Minutes of the Neural Systems and Applications Technical Committee (NSA TC)

2015 Annual Meeting

Location: Room G. Quartin, Cultural Center of Belém, Lisbon, Portugal

Date: Wednesday, 27 May 2015

Time: 12:50 pm to 14:00 pm

1 Attendees

1.	Shantanu Chakrabartty (Chair)	shantanu@wustl.edu
2.	Elisabetta Chicca (Chair Elect)	chicca@cit-ec.uni-bielefeld.de
3.	John Harris	harris@ece.uci.edu
4.	Arindam Basu [◇]	arindam.basu@ntu.edu.sg
5.	Piotr Dudek	p.dudek@manchester.ac.uk
6.	Christoph Posch	christoph.posch@inserm.fr
7.	Tobi Delbruck	tobi@ini.uzh.ch
8.	Mounir Boukadoum	broukadoum.mounir@uqam.ca
9.	Bernabé Linares-Barranco	bernabe@imse-cnm.csic.es
10.	Teresa Serrano-Gotarredona [◇]	teresa@imse-cnm.csic.es
11.	Francesco Galluppi [◇]	francesco.galluppi@inserm.fr
12.	Alejandro Linares Barranco	alinares@us.es
13.	Pamela Abshire	pabshire@umd.edu
14.	H. K. Kwan	kwan1@uwindsor.ca
15.	David Skellern [•]	daves@ieee.org
15.	Wei Xing Zheng	w.zheng@uws.edu.au
16.	Mingu Kang [◇]	mkang17@illinois.edu

[◇] Candidate new members

[◊] Best paper award recipient

[•] CAS officers (observer)

2 Opening, approval of the meeting agenda and the 2014 Neural Systems and Applications (NSA) meeting minutes

The Chair, Shantanu Chakrabartty, welcomed the Neural Systems and Applications Technical Committee (NSA TC) members and opened the meeting. He also introduced the agenda and the NSA TC unanimously approved the proposed agenda.

The 2014 NSA meeting minutes were shared with the attendees by means of the committee's web page and email before the meeting. No objections were received. Furthermore, during meeting, the Chair asked the Technical Committee (TC) member to vote the approval of the 2014 meeting minutes, which were approved unanimously.

3 NSA highlights

The paper statistics were presented by the Chair. The NSA tracks received a total of 54 submissions (40% increase from last year, 39 submissions), accounting for 3.5% of total ISCAS papers (10th out of 16 tracks). The total number of accepted papers for the NSA track was 24, giving an acceptance

rate of 44% and accounting for 3.1% of the total accepted papers in ISCAS. 20 out of the 24 accepted papers (37%) were presented in an oral session while 4 out of 24 papers (7%) were presented in a poster session. The papers were on average reviewed by 3.8 reviewers (the ISCAS average was 3.6).

Our track was represented this year with 4 oral sessions, 1 oral special session and 1 poster session.

NSA TC nominee Andreas Andreou was chosen as Distinguished Lecturer (DL).

4 New members

1. Teresa Serrano-Gotarredona (nominated by Elisabetta Chicca)
2. Francesco Galluppi (nominated by Bernabé Linares-Barranco)
3. Arindam Basu (nominated by Shantanu Chakrabartty)

After the candidates introduced themselves, they were asked to leave the room and the chair called for any comments on the candidates. After a short discussion a vote was held for the NSA membership candidates listed above. All applicants were unanimously accepted as members of the NSA.

5 Discussion of changes to TC bylaws based on new CAS requirements

5.1 Officers term and election

The Chair presented the new CAS requirements¹ and presented the proposal the TC officers agreed on before the meeting:

- NSA TC will continue to have four officers (Chair, Chair-elect, Secretary and Secretary-elect).
- The term for each officer will be for a duration of 2 years.
- The new term period will start from 2015.
- During the election of the chair-elect, the current secretary will have a choice to continue being an officer.

5.2 TC mission and vision

The Circuits and Systems (CAS) society requires that every TC reviews the vision and mission statements at least every 5 years. A draft for a new vision and mission statements was circulated by the Chair and edited to include comments received by the TC members prior to the meeting. The current draft was presented and discussed during the meeting. Some further edits were proposed and incorporated in the mission. Because of lack of time the final editing of the vision was postponed after taking notes of the comments provided by the TC and the CAS officer David Skellern who attended the meeting as observer. The Chair, Shantanu Chakrabartty incorporated the suggested edits and the TC members present at the meeting were later asked to vote it by email. The approved mission and vision statements are reported below and will be included in the bylaws and webpage after approval of the TC.

Vision

The vision of this TC is to exploit the principles used by biological neural systems in developing new technologies and computing paradigms that can solve long-standing and challenging engineering problems.

¹“The TC Chair term will be two years. The role of TC Chair is assumed by the Chair Elect at the end of their term, which is also two years. The TC members elect the Chair Elect. The Chair-Elect and Chair are the only two mandatory Officers.

(Optional) TCs may choose to have other Officers (who are elected) and/or a range of appointed roles, working groups, or committees (appointed by the Chair) to help undertake their activities.”

Mission

Our mission is to encourage and support the development of novel and pioneering strategies for solving fundamental and applied problems, by means of circuits and systems that are inspired from biological neural networks. The agenda of the TC mission is defined around the following target areas.

- Emerging learning paradigms.
- Neural systems for big-data problems.
- Implementation of neural circuits systems using emerging device and circuit technologies.
- Physical electronic models of biological neural systems.
- Neural systems for robust, energy efficient sensing and computing.
- Hybrid systems combining biology and neuromorphic technologies.

5.3 TC name

Chair Shantanu Chakrabartty introduced the new NSA name proposals partially voted by members previously to this meeting:

- Neural Systems and Technologies Technical Committee (NST TC)
- Neurally Inspired Circuits and Systems Technical Committee (NICAS TC)

The majority of members who expressed their preference by email, voted for the first name. Changes to these names were suggested during the meeting and the TC members agreed to vote on the following names:

- Neural Systems and Technologies Technical Committee (NST TC)
- Neurally Inspired Circuits and Systems Technical Committee (NICAS TC)
- Neural Systems Applications and Technologies Technical Committee (NSAT TC)

Neural Systems Applications and Technologies Technical Committee (NSAT TC) was selected with 9 votes against 2 (NST TC) and 2 (NICAS TC).

5.4 TC tracks

Currently 10 tracks (ISCAS 2015 - only 3 tracks with more than 2 papers).

1. Neural Networks and Systems
2. Spiking Neural Networks and Systems
3. Neuromorphic Systems
4. Recurrent Neural Networks
5. Neural Network Architectures and Algorithms
6. Neural Network Circuits and Systems
7. Neural Network Systems for Signal Processing and Communications
8. Bioinspired/Neuromorphic Arrays
9. Other Areas in Neural Networks and Systems

The Chair proposed the following list of tracks.

1. Neural Network Circuits and Systems
2. Neural Network Architecture and Algorithms
3. Neuromorphic Circuits and Systems
4. Event-based and data-driven computing systems
5. Other areas in Neural Systems and Applications

After some discussion and integration of suggested edits the following list of track was voted and approved without objections with one abstension:

1. Neural Network Circuits and Systems
2. Neural Network Architecture and Algorithms
3. Neuromorphic Circuits and Systems
4. Event-based and data-driven computing systems
5. Other areas in Neural Systems Applications and Technologies

6 Officers for 2015-2017

Given the approved new rules for officer elections we proceeded as follows.

Nominations for Chair-Elect were:

- Wenwu Yu (Secretary, nominated by default)
- Chiara Bartolozzi (nominated by Shantanu Chakrabartty)

The TC members were asked for further nomination but there was none. Chiara Bartolozzi was elected Chair-Elect with 11 votes against 1. Given that the current Secretary-Elect was elected we had two vacancies and therefore proceeded with two more elections.

Nominations for Secretary were:

- Wenwu Yu (nominated by Wei Xing Zheng)
- Yoko Uwate (nominated by Elisabetta Chicca)

Yoko Uwate was elected Secretary with 13 votes against 1.

Nominations for Secretary-Elect were:

- Christian Mayr (nominated Elisabetta Chicca)
- Arindam Basu (nominated by Tobi Delbruck)

The TC members were asked for further nomination but there was none. Arindam Basu left the room for the vote and he was elected Secretary-Elect with 8 votes against 2.

Elisabetta Chicca succeeded Shantanu Chakrabartty as Chair of the NSAT TC. Shantanu Chakrabartty became Past-Chair of NSAT TC and was acknowledged by the TC members for his work in the past year.

Unfortunately most nominees were not present at the TC meeting, several members pointed out their preferences for nominees that can introduce themselves at the meeting and are known to be committed to the duties of a TC officer.

After the elections, the list of officers for the next 2 years is as follows:

Past-Chair Shantanu Chakrabartty

Chair Elisabetta Chicca

Chair-Elect Chiara Bartolozzi

Secretary Yoko Uwate

Secretary-Elect Arindam Basu

7 Best paper award

Elisabetta Chicca presented the procedure for selecting the best paper and honorary mention awards. The 5 paper with the best score in the review process were selected and volunteer members of the TC evaluated them for the awards. 7 reviewers provided 3 scores per paper and the following papers were selected:

Best paper: Paper number 1291, “Energy-efficient and High Throughput Sparse Distributed Memory Architecture” M. Kang, E. P. Kim, M.-S. Keel, N. R. Shanbhag

Honorable mention: Paper number 1825: “A Continuous-time Varactor-based Temperature Compensation Circuit for Floating-gate Multipliers and Inner-product Circuits” L. Zhou and S. Chakrabarty

The award certificates were handed to M. Kang and S. Chakrabarty respectively.

8 New Web page

Last year a successful funding request has been submitted to the IEEE-CAS (Outreach Initiative) for the new web-page design. A new web page design was conceived by the NSA officers and a professional web designer has been hired to design the new web page. Elisabetta Chicca shortly presented the new web page and informed the TC members that a link will be sent by email to ask feedback from all members. The webpage will be edited accordingly to this feedback and launched a few weeks later.

9 Other announcement

The following items were mentioned by Shantanu Chakrabatty:

1. Invite members to join and attend TC meetings (post-docs, new faculty).
2. Propose topic for CAS-FEST.
3. Call for nominations of EIC’s (Due 30th June) - TCAS-I, TCAS-II, TBioCAS, JETCAS, CAS-Mag.
4. Nominations for CASS Awards (deadline in June). Nominations for DLP.
5. Check out the new IEEE Collaboratec - a tool to facilitate collaboration between members within and across IEEE.

Elisabetta Chicca commented on the importance of the first item for recruiting new officers. It was very difficult this year to find suitable candidates willing to take the commitment. Including qualified members in the early stage of the career might facilitate the search for potential officers that are not overloaded by other services and can strongly benefit from the nomination.