

IEEE Circuits and Systems Society Sensory Systems Technical Committee

Annual Report 2015

(Activities for May 2014 through May 2015)

Officers

Chair: Teresa Serrano-Gotarredona, National Microelectronics Center, Spain, terese@imse-cnm.csic.es
Secretary: Timothy Constandinou, Imperial College London, t.constandinou@imperial.ac.uk
Chair-Elect: Piotr Dudek, University of Manchester, UK, p.dudek@manchester.ac.uk
Secretary Elect: Amine Bermak, HKUST, Hong Kong, eebermak@ece.ust.hk
Past Chair: Tobi Delbruck, Institute of Neuroinformatics, Switzerland, tobi@ini.phys.ethz.ch

Annual Meeting

2014 Meeting: Was at ISCAS 2014, Melbourne, Australia, Melbourne Convention and Exhibition Centre, Room 215, Monday 2nd June 2014, from 12:00 to 13:30

2015 Meeting: Will be at ISCAS 2015, Lisbon, Portugal, Cultural Centre of Belém (CCB), Room 6 - A. Negreiros, Monday 25th May 2015, from 12:50 to 14:10

1. SUMMARY OF ACTIVITIES

The goal of the Sensory Systems Technical Committee (SSTC) is to foster research, development, education and industrial dissemination of knowledge relating to the emerging field of sensors and associated processing systems. The activity is multidisciplinary, drawing upon knowledge and expertise from fields such as biology, physics, mechanics and chemistry, in addition to areas more traditionally associated with the IEEE such as electrical and computer engineering, computer science and information technology.

2. TECHNICAL COMMITTEE MEMBERSHIP

Committee members are experts, who are active within the field and who contribute to the committee activities. We have recruited a group of TC members that cover all the thrusts of our TC. The committee has members from academia, national labs and industry. We have also attempted to diversify the membership to include senior and junior scientists, as well as women and minorities.

The bylaws that govern the status of active members state “A member is removed from the committee if he/she does not attend three consecutive annual committee meetings or does not participate in the reviewing activities for three consecutive years”.

The SSTC presently has **50 active members** (see section 8). 29 people attended the 2014 annual meeting including 25 current members and 4 new members. The 2014 minutes provide more details on the meeting.

3. PARTICIPATION IN ISCAS TRACK PAPER REVIEWS

51 papers were submitted for **ISCAS 2015/Lisbon**, a slight decrease compared to ISCAS 2014/Melbourne (53) but increase compared to ISCAS 2013/Beijing (45). Of the 51 papers submitted, 25 (49%) were accepted, forming 4 lecture (20 papers) and 1 poster (5 papers) sessions.

19 volunteer RCMs handled reviews and at least 3 reviews were arranged for each paper (average of 3.4 reviews per paper were returned). Many thanks to RCMs and reviewers. The RCM's were:

Shoushun Chen, Tobi Delbruck, Piotr Dudek, Walter Leon-Salas, Shih-Chii Liu, Christoph Posch, Wei Tang, Juan Antonio Lenero, Jennifer Blain Christen, Pantelis Georgiou, Jeremy Holleman, Alejandro Linares, Themis Prodromakis, Ralph Etienne-Cummings, Gert Cauwenberghs, Richardo Carmona Galan, Chiara Bartolozzi, Mulin Stanecevic, Christoph Maier.

Best Paper Award

The top 6 ranked papers in review (e.g. those with all or almost all “Accept” or “Marginal accept” reviews) were passed out to 8 volunteer rankers from SSTC so that each ranker ranked all papers. Self-ranking assignments were excluded. Each paper was ranked by all rankers. The best paper was chosen from these rankings and will be announced at the annual meeting in Lisbon.

The best paper will be listed in the 2015 minutes.

4. CONFERENCE/WORKSHOP ORGANISATION

Over the past year, several of our members have been active organizing technical conferences. Highlights include:

- IEEE Biomedical Circuits & Systems Conference (BioCAS) 2014, Lausanne, Switzerland (general chair, technical program chair)
- IEEE Biomedical Circuits & Systems Conference (BioCAS) 2015, Atlanta, USA (general chair, technical program chair)
- IEEE International Symposium on Integrated Circuits (ISIC) 2014 (special session chair)
- IEEE CNNA 2014 (demos and exhibitions chair)
- Cognitive Neuromorphic Engineering Workshop, Sardinia, Italy 2014 and 2015 (general chair)
- IEEE Swiss CAS/ED Workshop 2014 on Memristive Devices and Neuromorphic Applications (see below):

SC Liu and T Delbruck as officers of the Swiss Chapter of IEEE CAS/ED organized together with IBM Research the “IEEE Swiss CAS/ED Workshop 2014 on Memristive Devices and Neuromorphic Applications”, which took place on 28 Nov. 2014 with 75 participants, 8 invited speakers, and about 10 posters. The logo of the workshop is below and the web page is <http://www.ieee.ch/chapters/cas-ed/cas-ed-news/2014-11-27/>



5. COMMITTEE MEMBER ACTIVITIES

SHORT COURSES, PLENARY SESSIONS, KEYNOTE SPEAKERS, INVITED LECTURES

CHIARA BARTOLOZZI:

- ZNZ Symposium (Neuroscience Center Zurich) Workshop “Neuromorphic systems for neuroscience, robotics and computing: Current state-of-art and impact” – Invited talk “The Neuromorphic iCub”, ETHZ, Zurich, Switzerland, 2014
- Invited Seminar “Neuromorphic Engineering”, Università di Genova, Neuroingegneria e Neurotecnologie (1st year of Laurea Specialistica in Ingegneria Biomedica – summer term 2014)

SANDRO CARRARA:

- The IronIC project: new perspectives in Human Metabolism Telemetry (Plenary talk), CMOS Emerging Technology Research Conference, Grenoble, France, July 6-8, 2014
- A tiny laboratory under the skin, PhyCS, International Conference on Physiological Computing Systems, organized in conjunction with Sensornets 2014, Lisbon, Portugal, January 7-9, 2014
- Memristors for Biosensing, International Conference NanotechItaly 2014, Venice, Italy, November 27th, 2014
- New Frontiers in Human Telemetry, ETHZ, Zurich, Switzerland, October 17th, 2014
- Adaptive Materials/Devices for Biosensing Aim, ICNAAM, 12th International Conference of Numerical Analysis and Applied Mathematics, Symposium on Adaptive Materials and Devices, Rhodes, Greece, September 27th, 2014
- New Frontiers in Human Telemetry, Laval University, Quebec City, Canada, September 4th, 2014
- New Frontiers in Human Telemetry, Michigan State University, Lansing, US, September 2nd, 2014
- Electrochemical Biochip for Applications to Wireless and Batteryless Monitoring of Free-Moving Mice, EMBC 2014, 36th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, August 26-30, 2014, Chicago (US)

JIE CHEN:

- “Pulsed-Wave Technology for Tissue Engineering, Cell Therapy and Renewable Biofuel”, invited talk at the Department of Computer Science and Engineering, Washington University in St. Louis, Sept. 2014
- “Personalized Companion Diagnostic Handheld Device Design”, invited talk at the 8th multi-disciplinary symposium of Canadian Chinese Professors, Niagara-on-the-Lake, Ontario, August 2014

EUGENIO CULURCIELLO:

- JHU APL, November 5th 2014, Host: Roos Matthew, Title: Enabling gadgets to perceive the world
- Purdue University, Dawn or Doom Summit, Thursday September 18, 2014, Title: Visual Intelligence and the Terminator
- University of Udine, July 10th 2014, Host: Andrea Fusiello <andrea.fusiello@uniud.it>
- Invited Talk EVW at CVPR <http://cvisioncentral.com/promotion/eww2014/> June 28th 2014, Host: Sek Chai, SRI

TOBI DELBRUCK:

- SC Liu and T Delbruck as officers of the Swiss Chapter of IEEE CAS/ED organized together with IBM Research the “IEEE Swiss CAS/ED Workshop 2014 on Memristive Devices and Neuromorphic Applications”, which took place on 28 Nov. 2014 with 75 participants, 8 invited speakers, and about 10 posters

PIOTR DUDEK:

- Keynote lecture: "Vision sensors with pixel-parallel processor arrays", Workshop on Heterogeneous Architectures and Design Methods for Embedded Image Systems, DATE 2015, Grenoble, France, 13 March 2015
- "Brain-Inspired Circuits and Systems", invited lecture course at the Technical University of Gdansk, Poland, 9-13 February 2015.

PANTELIS GEORGIU:

- "Bio-inspired Semiconductors for Healthcare", Symposium on Emerging Trends in Electronics, Montreux, Switzerland, 2-Dec-2014
- "Bio-inspired Semiconductors for Healthcare", IEEE UK and Ireland Section public keynote talk, London, 30-Oct-2014.
- "The Bio-inspired Artificial Pancreas for Treatment of Diabetes", UK Electronic Skills Foundation, Southampton, 10-Jul-2014.

MAYSAM GHOVANLOO:

- Invited talk on "Implantable and Wearable Microelectronic Devices to Improve Quality of Life for People with Disabilities" Department of Electrical and Computer Engineering, University of Utah, Salt Lake City, UT, Jan. 2015.
- Invited talk on "Implantable and Wearable Microelectronic Devices to Improve Quality of Life for People with Disabilities" Department of Electrical and Computer Engineering, Auburn University, Auburn, AL, Sep. 2014.
- Invited talk on "Implantable and Wearable Microelectronic Devices to Improve Quality of Life for People with Disabilities" Kilby Labs, Texas Instruments Corp., Dallas, TX, June 2014.

VIKTOR GRUEV:

- V. Gruev, "Bio-Inspired Sensors: From Optics and Circuits to Medical Applications," Philips Research, May 6, 2014.
- V. Gruev, "Polarization Imaging Sensors For Imaging Through Fog and Rain," Autoliv Inc, Stockholm, Sweden, June 22, 2014.
- V. Gruev, "Bio-inspired polarization imagers," Airforce Office of Scientific Research Meeting, Ft. Walton Beach, FL, October 8, 2014.
- V. Gruev, "Sensor level filtering", RTI International, Durham NC, October 15, 2014.
- V. Gruev, "Nanomaterials for bio-inspired imagers," Institute for Material Science, Washington University, St. Louis, MO, October 31, 2014.
- V. Gruev, "Bio-Inspired Spectral-Polarization Imagers: From Optics and Circuits to Medical Applications," Johns Hopkins University Applied Physics Lab, Columbia, MD, December 10, 2014.
- V. Gruev, "Bio-Inspired Spectral-Polarization Imaging Sensors for Medical Applications," in Frontiers in Optics 2014, Tucson, AZ, 2014.
- V. Gruev, "Bio-Inspired Sensory Systems for Image Guided Surgery," Ferreyra Research Institute, Cordoba, Argentina, 2015.

GIACOMO INDIVERI:

- UZH Robotics and perception Group Seminar series, Zurich, Switzerland
- DATE'15 Conference, 2nd International Workshop on Neuromorphic and Brain-Based Computing Systems, Grenoble, France
- University of Bielefeld - CITEC Virtual Faculty Guest talk, Bielefeld, Germany

- IEEE Swiss CAS/ED Workshop 2014 on Memristive Devices and Neuromorphic Applications, Zurich, Switzerland
- Bernstein Conference 2014, Satellite Workshop “Brain-like Computation in Hardware: Advances in Neuromorphic Engineering”, Goettingen, Germany
- KTH Dean’s Forum Workshop on Brain-Like Computing, Stockholm, Sweden
- Italian Institute of Technology Seminar Series, Genova, Italy
- IBM Research, Zurich, Switzerland
- University of Cyprus, Invited tutorial, Nicosia, Cyprus
- 1st International Symposium on Neuromorphic and Nonlinear Engineering, Tokio, Japan
- CASFEST - Circuits & Systems Society Forum on Emerging & Selected Topics, Melbourne, Australia

BERNABÉ LINARES-BARRANCO:

- Speaker at the Tutorials ISCAS 2015

SHIH-CHII LIU:

- ESF-EMBO Flies, worms and robots: combining perspectives on minibrains and behavior (8.11.2014)
- ZNZ Retreat on Scientific Career Planning (21.10.14)

JONNE K. POIKONEN:

- Welding automation seminar, Machine Technology Center Turku, Finland, April 2014, “Real-time image analysis in weld monitoring” (in Finnish)

THEMIS PRODROMAKIS:

- “Reliably Unreliable Nanoelectronics”, Department of Electronic & Electrical Engineering”, University College London, May 2014, UK.

MILUTIN STANAČEVIĆ:

- “Real-time Low-power VLSI Microsystem for Smart Acoustic Interfaces”, invited lecture by The IEEE Long Island Chapter of Circuits and Systems Society, May 2015.

ORLY YADID-PECHT:

- “Low Light CMOS Contact Imager with Integrated Dual Band Emission Filters for Fluorescence Detection”, 225th Electrochemical Society Meeting, Orlando, Florida, USA, 11-15 May 2014.

CONFERENCES

CHIARA BARTOLOZZI:

- Co-Chair of IEEE BioCAS Special Session on Bio-Inspired Circuits and Architectures for Robotics, EPFL, Lausanne, Switzerland, 2014
- Co-Chair of IEEE ISCAS Special Session on Analog Circuits for Synaptic Dynamics, Melbourne, Australia, 2014

AMINE BERMAK:

- Tutorial Co-Chair, 2013 IEEE Symposium on Circuits and Systems ISCAS 2013, Beijing, China.”

- “Time-Domain and Address-Event Smart Vision Sensors” Keynote opening talk at the XXII International Conference on Electronics, ET 2014, Sept 11-13th, Suzopol, Bulgaria, 2014.
- “Next Generation Smart Vision Sensors for Wireless Camera Network (WCN) Applications” Keynote opening talk at the 26th International Conference on Microelectronics, ICM 2014, Doha, Qatar, 2014.

SANDRO CARRARA:

- General Chairman of IEEE BioCAS 2014

JIE CHEN:

- Special session chair of “Circuit and System Design Challenges in Implementing Recent Findings of Genomics, Proteomics and Metabolomics”, in IEEE Symposium on Circuits and Systems, Melbourne, Australia, June 1-5, 2014
- Technical program committee member of IEEE Biomedical and Health Informatics 2014, Valencia, Spain, June 1st-4th 2014

SHOUSHUN CHEN:

- Web & Logistic co-Chair, Track Chair and Technical Program Committee member for International Symposium on Integrated Circuits (ISIC) 2014; Technical Program Committee member for Electron Devices and Solid-State Circuits (EDSSC) 2015.
- Session co-chair: ISCAS 2014; International Symposium on Integrated Circuits (ISIC) 2014.

PIOTR DUDEK:

- Demos and Exhibitions Chair and Member of the Scientific Committee, CNNA 2014
- Member of the Review Committee, ISCAS 2014

PANTELIS GEORGIU:

- Demo Session Chair, IEEE ISCAS conference, 2015(Lisbon, Portugal)
- Technical Program Chair, IEEE BioCAS conference, 2014 (Lausanne)

MAYSAM GHOVANLOO:

- Technical Program Committee Co-Chair, IEEE BioCAS 2014, Lausanne, Switzerland
- General Chair, IEEE BioCAS 2015, Atlanta, Georgia, USA

GIACOMO INDIVERI:

- 2014, 2015 Cognitive Neuromorphic Engineering Workshp, Sardinia, Italy.
- 2015 MemoCIS Training School on “Memristors - Devices, Models, Circuits, Systems and Applications”, Sardinia, Italy.

MAN-KAY LAW:

- University LSI Design Contest (UDC) Committee Member, 20th Asia and South Pacific Design Automation Conference (ASP-DAC 2015)
- Technical Program Committee Member, 6th Asia Symposium on Quality Electronic Design (ASQED 2015)

SHIH-CHII LIU:

- Review member of IEEE ISCAS 2014.
- Co-Organizer of Workshop on “Memristive Devices and Neuromorphic Applications”, sponsored by CAS Outreach and IEEE Swiss CAS/ED, University of Zurich, Switzerland, 28 Nov 2014 with 75 participants, 8 invited speakers, and about 10 posters.

ANDREW MASON:

- Publications Chair, IEEE Int. Conf. Biomedical Circuits and Systems (BioCAS) 2016

THEMIS PRODROMAKIS:

- CAS-FEST on “Memristive devices, circuits, systems & applications”, Melbourne, June 2014, Australia

TERESA SERRANO-GOTARREDONA:

- Tutorials organizer for the Conference on Design of Circuits and Integrated Systems 2014 (DCIS 2014)
- Review Committee Member of the Conference on Design of Circuits and Integrated Systems 2014 (DCIS2014)

WEI TANG:

- 2014 International Symposium on Integrated Circuits (technical committee member)

EDITORIAL BOARDS

AMINE BERMAK:

- Associate Editor IEEE Transactions on Biomedical Circuits and Systems.
- Associate Editor IEEE Transactions on Circuits and Systems II
- Associate Editor, Scientific Reports, Nature Publisher

SANDRO CARRARA:

- AE of the IEEE Transactions on Biomedical Circuits and Systems
- TE of the IEEE Sensors Journal
- EIC of BioNanoScience (by Springer)

SHANTANU CHAKRABARTY:

- Associate Editor, IEEE Transactions of Biomedical Circuits and Systems.
- Review Editor, Frontiers in Neuromorphic Engineering

JIE CHEN:

- Guest Editor of Special Issue on Selected Papers from ISCAS 2014, May 2014

SHOUSHUN CHEN:

- 2011- Associate Editor for Sensors Journal

TIMOTHY CONSTANDINOU:

- Associate Editor, IEEE Transactions on Biomedical Circuits and Systems

TOBI DELBRUCK:

- TBioCAS, Frontiers in Neuroscience: Neuromorphic Engineering

PIOTR DUDEK:

- Review Editor, Frontiers in Neuromorphic Engineering (2010 – present)

PANTELIS GEORGIU:

- IEEE Sensors Journal, Associate Editor
- IEEE Transactions on Biomedical Circuits and Systems (TBioCAS), Special Issue on IEEE BioCAS 2014 (Lausanne, Switzerland).

MAYSAM GHOVANLOO:

- Associate Editor, IEEE Transactions on Biomedical Circuits and Systems (TBioCAS)
- Associate Editor, IEEE Transactions on Biomedical Engineering (TBME)

VIKTOR GRUEV:

- Associate Editor, IEEE Sensors Journal
- Guest Editor, IEEE T. on Biomedical Circuits and Systems

GIACOMO INDIVERI:

- Chief Editor Frontiers in Neuromorphic Engineering.
- Associate editor of “Cognitive Computation” (Springer).

BERNABÉ LINARES-BARRANCO:

- Associate Editor of Frontiers in Neuromorphic Engineering

SHIH-CHII LIU:

- IEEE Trans. on Biomedical Circuits and Systems Associate Editor
- Frontiers in Neuromorphic Engineering Associate Editor
- Neural Networks Journal Associate Editor

ANDREW MASON:

- Associate Editor, IEEE Trans. on Biomedical Circ. Systems
- Editorial Board, BioNanoScience, Springer

CHRISTOPH POSCH:

- Review Editor, Frontiers in Neuromorphic Engineering

THEMIS PRODROMAKIS:

- Associate editor of Frontiers in Neuromorphic Engineering, June 2013

TERESA SERRANO-GOTARREDONA:

- Associate Editor of the IEEE Transactions on Circuits and Systems, part I
- Associate Editor of the IEEE Transaction on Circuits and Systems, part II

MILUTIN STANAČEVIĆ:

- Associate Editor of IEEE Transactions on Biomedical Circuits and Systems (2010 – present)

ORLY YADID-PECHT:

- Member of the Editorship Board, International Journal Information Models and Analysis, 2013- 2014
- Associate Editor, Journal for Low Power Engineering Applications January 2011 – Present

OTHER IEEE SERVICE AND PROFESSIONAL ACTIVITIES

CHIARA BARTOLOZZI:

- Associate editor of “Frontier in Neuroscience, section Neuromorphic Engineering”.
- Co-Editor of Research Topic: Synaptic plasticity in Neuromorphic Systems in “Frontier in Neuroscience, section Neuromorphic Engineering”.
- Secretary Elect of the IEEE Neural Systems and Applications Technical Committee
- Technical Committee (TC) member of the IEEE Sensory Systems TC, IEEE Neural Systems and Applications
- Review Committee Member IEEE International Symposium on Circuits and Systems
- Reviewer for IEEE Sensors Journal, IEEE Transactions on Neural Networks, IET Circuits, Devices & Systems Journal, Int. Journal of Humanoid Robotics, IET Circuits, Devices and Systems, Microelectronic Engineering, Frontiers in Neuroscience, Frontiers in Robotics and AI, specialty Humanoid Robotics.
- Reviewer for IEEE Biomedical Circuit and Systems Conference (BioCAS), International Joint Conference on Neural Networks (IJCNN), Italian Workshop on Neural Networks (WIRN), International Conference on Computer Vision Systems (ICVS), IEEE International Symposium on Circuit and Systems (ISCAS), International Conference on Cognitive Systems (CogSys).
- External advisor of UK EPSRC Babel “Bioinspired Architecture for Brain Embodied Language” project

AMINE BERMAK:

- Member of the IEEE Circuits and Systems Society’s IEEE Fellows selection committee
- Member of the IEEE Technical Committee on Sensory Systems (IEEE Circuits and Systems Society)
- Member of the IEEE Technical Committee on Biomedical Circuits and Systems (IEEE Circuits and Systems Society)
- Regular reviewer for a number of international conferences and journals such as “IEEE Sensors”, “IEEE Electron Device Letters”, “IEEE Trans. on Neural Networks”, “IEEE Trans. on Instrumentation and Measurements”, “Microelectronics Journal”, “Analog IC and Signal Processing”, “IEEE Trans. on Circuits and Systems I & II, ISCAS, CICC, DATE, DELTA, ICECS, IWSOC, etc...

SANDRO CARRARA:

- BoG member of CAS Society (elected in November 2014)
- Member at large in the IEEE Sensors Council (elected in November 2014)

- CAS representative in the IEEE Sensors Council (until December 2014)

SHANTANU CHAKRABARTTY:

- Chair, IEEE Circuits and Systems Society, Neural Systems and Applications Technical Committee

SHOUSHUN CHEN:

- Journals: IEEE Sensors, IEEE TCAS-II, IEEE TCAS-I, IEEE TVLSI, IEEE TBioCAS,

TIMOTHY CONSTANDINOU:

- Secretary, Sensory Systems Technical Committee, IEEE CAS Society
- Member, BioCAS Technical Committee, IEEE CAS Society
- Chair, IET Awards & Prizes Committee
- Member, IET Knowledge Services Board (KSB)
- US Brain Initiative, Review Panel Member
- EPSRC College Member

PIOTR DUDEK:

- Chair-Elect, IEEE CAS Sensory Systems TC (2013-2015)
- Co-organiser of UK Design Forum, Manchester, 19-20 March 2015

PANTELIS GEORGIU:

- IEEE Sensors Council, Circuits and Systems Representative. (2014-present)

VIKTOR GRUEV:

- Technical Committee for Biomedical Circuits and Systems, IEEE ISCAS
- Technical Committee for Sensory Systems, IEEE ISCAS

GIACOMO INDIVERI:

- Reviews for IEEE TNNLS, TBCAS

MAN-KAY LAW:

- TC Member, CAS Sensory Systems
- TC Member, CAS Biomedical and Life Science Circuits and Systems

BERNABÉ LINARES-BARRANCO:

- Member of Management Committee as Spain Representative of EU COST Action IC1401 MEMOCIS (Memristors - Devices, Models, Circuits, Systems, and Applications).
- Invited Speaker at the 2014 Capocaccia Cognitive Engineering Neuromorphic Workshop.
- Invited Lecturer at Guanajuato University, Mexico, September 2014.

SHIH-CHII LIU:

- Member of the IEEE CAS Sensory Systems and Neural Systems and Applications Technical Committees
- Chair of IEEE Swiss CAS/ED Chapter

- Co-Organizer of ZNZ Symposium (Neuroscience Center Zurich) Workshop “Neuromorphic systems for neuroscience,
- robotics and computing: Current state-of-art and impact, 2014”
- Reviewer for IEEE TCAS, IEEE TNN, IEEE TBioCAS journals
- Reviewer for IEEE BioCAS, ISCAS conferences

JONNE K. POIKONEN:

- Member of IEEE CAS Sensory Systems Technical Committee, Reviewer for IEEE Transactions on Circuits and Systems Part II (TCAS-II)

CHRISTOPH POSCH:

- Review Committee member, 2014 IEEE International Symposium on Circuits and Systems, ISCAS 2014
- Review Committee member, 2014 IEEE International Conference on Biomedical Circuits and Systems, BioCAS 2014

THEMIS PRODROMAKIS:

- IEEE Nanotechnology Council (CAS representative), March 2015
- Member of the Emerging Research Devices working group for shaping the ITRS, July 2014
- Member of the Neural Systems and Applications Technical Program Committee, June 2014
- Member of the Nano-Giga Technical Program Committee, June 2013
- Member of the Sensory Systems Technical Program Committee, June 2013
- Member of the BioCAS Technical Program Committee, June 2010
- Member of the American Nano Society (ANS), 2010
- Member, Institute of Neuromorphic Engineering (INE), 2009
- Senior Member (SMIEEE), Institute of Electrical & Electronic Engineers, 2008
- Member (MIET), The Institution of Engineering & Technology, 2008

TERESA SERRANO-GOTARREDONA:

- Chair of the IEEE Circuits and Systems Society Sensory Systems Technical Committee
- Chair of the Spain Chapter of the IEEE Circuits and Systems Society

MILUTIN STANAČEVIĆ:

- ETF BAFA Vice President, Scholarship Awards Program

ORLY YADID-PECHT:

- Chair of the IEEE Sensor Journal Best Paper Award, Selection Committee (2014)
- CMOS ET Workshop, Chairing session on Sensors 2010-present

AWARDS, HONORS, PATENTS

CHIARA BARTOLOZZI:

- Principal Investigator of the EU H2020-ICT-2014-1 Project Event-Driven

AMINE BERMAK:

- Fellow of IEEE, for contributions to sensing and processing of vision and olfactory circuits and system
- IEEE Distinguished Lecturer for CAS society
- "A SAR ADC with Forward Error Correction and mixed-signal Correlated-Double-Sampling", US Patent, provisional filing September 2013

SANDRO CARRARA:

- Irene Taurino, Magrez Arnaud, Forro Laszlo, Giovanni De Micheli, Sandro Carrara, Close and Selective Integration of Carbon Nanomaterials by CVD onto working microelectrodes of multi sensing electrochemical biosensors, PCT application n° PCT/IB2014/064528 filed September 15, 2014

SHANTANU CHAKRABARTTY:

- S. Chakrabartty, "Self-powered Timer Apparatus", US patent: 8,963,647 , Issued Feb. 24, 2015.

JIE CHEN:

- Elected as a Fellow of the Engineering Institute of Canada, January 2014. The Engineering Institute includes all engineering disciplines (electrical, civil, mechanical, chemical, aerospace, biomedical engineers)

TIMOTHY CONSTANDINOU:

- EPSRC Early-Career Research Fellowship

EUGENIO CULURCIELLO:

- Eugenio Culurciello new startup TeraDeep won a Structure Data award as one of most-promising startups to launch in 2014.
- TeraDeep was invited to the Re.Work Deep Learning Summit.
- TeraDeep is one of 60 Hot Startups to Watch! TeraDeep is on the list of "EE Times Silicon 60: Hot Startups to Watch"

TOBI DELBRUCK:

- Delbruck was awarded IEEE Fellow status in 2014.

PIOTR DUDEK:

- ISCAS 2014 Best Demo Award: S.Carey, D.Barr, B.Wang, A.Lopich and P.Dudek, "Live Demonstration: A Sensor-Processor Array Integrated Circuit for High-Speed Real-Time Machine Vision"

MAYSAM GHOVANLOO:

- M. Ghovanloo, "Systems and Methods for Multichannel Wireless Implantable Neural Recording," US patent 8,958,868, Applied: May 18, 2009, Granted: Feb. 17, 2015.
- Selected as an IEEE Circuits and Systems Society Distinguished Lecturer for 2015-2016. On topics: "Implantable and Wearable Microelectronic Devices to Improve Quality of Life for People with Disabilities" and "Efficient Power and Wideband Data Transmission in Near Field."

VIKTOR GRUEV:

- S. Achilefu, Y. Liu, V. Gruev, J. P. Culver, W. Akers and A. Bauer, "Goggle imaging systems and methods," patent pending 2014.
- V. Gruev and S Powell, "Calibration of Polarization Imaging Sensors" patent pending 2014.

MAN-KAY LAW:

- M. K. Law, A. Bermak and H. C. Luong, "Low voltage low power sub-threshold CMOS temperature sensor circuit", US Patent 8,931,953, Jan. 13, 2015.

SHIH-CHII LIU:

- D. Neil and S-C. Liu, Minitaur, an Event-Driven FPGA-Based Spiking Network Accelerator, IEEE Transactions on Very Large Scale Integration (VLSI) Systems , PP:(99) 1, 2014
- .A. Steiner, R. Moeckel, R Thurer, D. Floreano, T. Delbruck, and S-C. Liu, 1kHz 2D silicon retina motion sensor platform, 2014 IEEE International Symposium on Circuits and Systems 41-44, 2014
- C. Braendli, R. Berner, M-H. Yang, S-C. Liu,. and T. Delbruck, A 240x180 130dB 3us latency global shutter spatiotemporal vision sensor, *IEEE Journal of Solid-State Circuits (JSSC)*, 49:(10) 2333-2341, 2014.

ANDREW MASON:

- Best Student Paper Finalist, IEEE Int. Symp. Circuits and Systems (ISCAS), May 2014

CHRISTOPH POSCH:

- C. Posch et al, „Method for the generation of an image in electronic form, picture element (pixel) for an image sensor for the generation of an image as well as image sensor“, US 8780240 B2

THEMIS PRODROMAKIS:

- Visiting Professor, Centre for Quantum Information and Interdisciplinary Science and Technology, National University of Defense Technology, Changsha, October 2014, China.
- T. Prodromakis and D. Moschou, "A sensor for use in analyzing biomolecules", GB 1415405.8.
- T. Prodromakis and D. Moschou, "A PCB integrated reference electrode", GB 1415406.6.
- T. Prodromakis and D. Moschou, "A microfluidic chip connector assembly", GB 1415404.1.

TERESA SERRANO-GOTARREDONA:

- Award to the chaired IEEE Circuits and Systems Society Spain Chapter as the IEEE Spain Section best chapter of the year 2014

MILUTIN STANAČEVIĆ:

- P. Gouma and M. Stanačević, "Gas Sensor with Compensations for Baseline Variations", United States Patent 8,955,367 B2, February 17, 2015.

WEI TANG:

- US Provisional Patent: Hardware Efficient Digital Signal Processing Methods for Implementation of On-the-Fly Delta Sigma Adder, Coefficient Multiplier, and Compressor Circuits

ORLY YADID-PECHT:

- 2015 Fellow of the International Society of Optical Engineering (SPIE)
- 2014 iCORE/AITF Strategic Chair in “Integrated Sensors Intelligent Systems”
- Mintchev, M.P., Yadid-Pecht, O., Fattouche, M., “Device for Delivery of a Substance”, US Patent # 8,795,721, 5th August 2014.
- Mintchev, M.P., Yadid-Pecht, O., “Self-Stabilized Encapsulated Imaging System”, US Patent Application # 14/479,465. September 2014.

PUBLICATIONS

CHIARA BARTOLOZZI

- N.K. Mandloi, G. Indiveri, and C. Bartolozzi. Compact analog temporal edge detector circuit with programmable adaptive threshold for neuromorphic vision sensors. *Circuits and Systems I: Regular Papers, IEEE Transactions on*, 61(11):3094–3104, Nov 2014.
- G. Rovere, Qiao Ning, C. Bartolozzi, and G. Indiveri. Ultra low leakage synaptic scaling circuits for implementing homeostatic plasticity in neuromorphic architectures. In *Circuits and Systems (ISCAS), 2014 IEEE International Symposium on*, pages 2073–2076, June 2014.
- S. Caviglia, M. Valle, and C. Bartolozzi. Asynchronous, event-driven readout of posfet devices for tactile sensing. In *Circuits and Systems (ISCAS), 2014 IEEE International Symposium on*, pages 2648–2651, June 2014.

AMINE BERMAK:

- D. G. Chen*, F. Tang*, M-K Law, and A. Bermak, "A 12 pJ/pixel Analog-to-Information Converter based 816 x 640 CMOS Image Sensor," *IEEE Journal of Solid-State Circuits*, Vol 49, Issue 5, pp.1210-1222, May 2014.
- Xiaojin Zhao*, Xiaofang Pan*, Xiaolei Fan, Ping Xu, Amine Bermak and Vladimir G. Chigrinov, "Patterned dual-layer achromatic micro-quarter-wave-retarder array for active polarization imaging", *Optics Express*, vol. 22, pp. 8024-8034, 2014.
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6. SSTC WEB SITE

The SSTC web pages are presently hosted by the IEEE at a new site address:

<http://ieee-cas.org/community/technical-committees/sstc>,

which as of August 2012 can be directly edited by the officers of SSTC. New officers should contact Robyn Pearson (vampandora@gmail.com) for edit access.

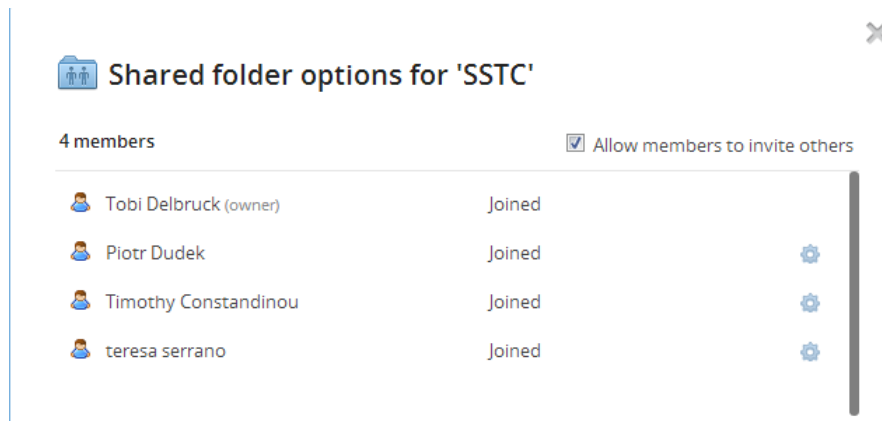
The officer and member lists are on the site, as well as reports and minutes. After last year the site was updated to include new members and also to revise affiliations and website links to respective home pages. Suggestions for more dynamic content are welcome!



7. MEMBERSHIP

Member records

As of August 2013, the SSTC files are stored in a shared dropbox folder accessible to officers of the SSTC. The spreadsheet contains details of attendance and service as RCM, best paper ranker, etc. Contact the secretary for access to this folder if you are officer of the SSTC.



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