IEEE Circuits and Systems Society
Sensory Systems Technical Committee

Annual Report 2018

(Activities for May 2017 through May 2018)

Officers

Chair: Timothy Constandinou, Imperial College London, t.constandinou@imperial.ac.uk
Chair-Elect: Amine Bermak, HKUST, Hong Kong, eebermak@ece.ust.hk
Secretary: Shoushun Chen, Nanyang Technological University, Singapore, eechenss@ntu.edu.sg
Secretary Elect: Ricardo Carmona-Galán, Sevilla Microelectronics Institute, rcarmona@imse-cnm.csic.es
Past Chair: Piotr Dudek, University of Manchester, UK, p.dudek@manchester.ac.uk

Website

http://ieee-cas.org/community/technical-committees/sensory-systems-technical-committee-sstc

Annual Meeting

2017 Meeting: Was at ISCAS 2017, Baltimore, MD, USA
Bristol Room, Baltimore Marriott Waterfront, Wednesday 31 May 2017, 12:30 – 13:30

2018 Meeting: Will be at ISCAS 2018, Florence, Italy
VV1.8, Firenze Fiera Congress and Exhibition Center, Tuesday 29th May, 13:15 – 14:15

1. Introduction

The goal of the IEEE Circuits and Systems Society (CASS) 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 aspects of our TC. The committee has members from academia, national labs and industry.

The SSTC presently has 70 active members (see Appendix A). Five new members joined the committee in 2017. 34 people attended the 2015 annual meeting including 29 current members and 5 new members.

3. Participation in ISCAS

ISCAS 2017, SS Track – Best Paper Award

1. The top 5 ranked papers in review (minus conflict-of-interest) were ranked by 15 volunteer best paper judges: Jonne Poikonen, Ibrahim Elfadel, Victor Brea, Nicola Massari, Jim Harkin, Alexantru Serb, Tara Hamilton, Shoshun Chen, Jennifer Hasler, Shih-Chii Liu, Paula López Martínez, Milutin Stanacevic, Wei Tang, Jorge Fernández Berni, Christoph Posch, Nicola Massari
2. Each volunteer ranked the papers and the paper with the highest average score was selected.
3. The paper with the best "average rank" was selected as the best paper of 2017:

   "A 1600 by 1200, 300 mW, 40 fps Multi-Spectral Imager for Near-Infrared Fluorescence Image-Guided Surgery", Missael Garcia, Mohamed Zayed, Kyoung-mi Park, and Viktor Gruev.

ISCAS 2018, SS Track – Review Committee and Participation

- SS Track received 65 submissions for ISCAS 2018 (compared to 55 in 2017), 33 papers accepted (51%).
- 2 track chairs and 22 RCMs participated in the review process. Thanks to all RCM members for their great effort and help with review assignment, namely: Jennifer Blain Christen, Victor Brea, Ricardo Carmona Galán, Gert Cauwenberghs, Shoushun Chen, Jie Chen, Tobi Delbruck, Piotr Dudek, Jorge Fernández-Berni, Pantelis Georgiou, Tara Hamilton, Juan-Antonio Leñero-Bardallo, Daniel Leon-Salas, Alejandro Linares-Barranco, Shih-Chii Liu, Paula López, Andrew Mason, Nicole Mcfarlane, Christos Papavassiliou, Christoph Posch, Milutin Stanacevic, Wei Tang and *Track co-chairs:* Timothy Constandinou, Amine Bermak
- SSTC organized a total of 6 sessions at ISCAS 2018 (4 oral, 2 poster).
  - *Oral sessions:* Image Sensors (A1L-I), Imagers & Vision Sensors (A3L-I), Sensory Circuits & Systems (A4L-I), Auditory & Bio-Sensors (A6L-I)
  - *Poster sessions:* Circuits & Systems for Sensors (B5P-V), Sensors for Imagers & Vision (B5P-W)
- SSTC organizing a best paper award for SSTC track at ISCAS 2018. Result TBA

4. Distinguished Lecturer Programme

SSTC currently has one Distinguished Lecturer 2017-18: Pantelis Georgiou

5. New IEEE Fellows

One committee member was elevated to IEEE Fellow status in 2018: Pamela Abshire

6. Committee Member Activities

In addition to their research and scientific activities, the Committee members are contributing to the development of the field of Sensory Systems through of the organisation of many conferences & workshops, and other dissemination activities, including delivering numerous invited lectures and seminars. They are serving on Editorial Boards of many journals, and are active in a number of committees within IEEE and beyond, such as:

- New Editor-in-Chief of IEEE Sensors Journal (Sandro Carrara)
- CASS representative on IEEE Sensors Council (Pantelis Georgiou)
- CASS representative on IEEE BRAIN Initiative (Timothy Constandinou)

Many are also active in knowledge transfer and commercialisation activities, including publication of patents. Their work has been recognised by various awards. Below is a summary of individual member activities (34 members responded to requests for this information).

Short Courses, Plenary Sessions, Keynote Speakers, Invited Lectures

Alejandro Linares-Barranco

- Workshop on Neuromorphic Pattern Recognition, Invited talk (Neuromorphic spike-based computation with building-blocks), Bratislava, Slovakia. June-2017.

Alexander Serb

- ISCAS, Talk and demo, 2017.
- ARM summit, Talk, 2017.
- UKDF (UK design forum), Talk, 2017.
- STFC analogue design flow course, trainee, 2018.
- MRS, chair and invited talk, 2018

Arindam Basu

- "Designing Low-Power "Intelligent" Chips in the face of Statistical Variations of Nanoscale Devices", IEEE CASS Distinguished Lecture at Aristotle University of Thessaloniki, Greece, Oct 2017.
- “Neuromorphic Sensing and Computing: Prospects and Retrospects,” Mediatek workshop, Singapore, Aug 2017.
- “Low-power Electronics: From Bio-inspiration to Biomedical Applications,” iFLEX symposium, Singapore, May 2017.
- “From Brain Implants to Pig Farms: An Innovator’s Journey,” BMW-ERIAN meet, Singapore, May 2017.
- “When Physical Unclonable Function (PUF) meets Machine Learning,” 9th International workshop on Constructive Side-Channel Analysis and Secure Design (COSADE 2018), Singapore, April 2018.

Christoph Posch

- “ Event-based vs conventional cameras for ADAS and autonomous driving applications”, invited talk at Autosens conference, Brussels, September 2017.

Diego Barrettino

- ST Microelectronics Distinguished Lecturer.

Gert Cauwenberghs

- "Complexity and Efficiency in Large-Scale Neurormorphic Computing," 2017 Workshop on Hardware and Algorithms for Learning On-a-chip (HALO), IEEE Int. Conf. Computer Aided Design (ICCAD'2017), Irvine CA, Nov. 16, 2017.
- "Scalable Silicon Neuromorphic learning Machines with Hierarchical Reconfigurable Synaptic Connectivity and Plasticity," 2017 Workshop on Non-conventional Approaches to Hard Optimization (NAHO), IEEE Int. Conf. Computer Aided Design (ICCAD' 2017), Irvine CA, Nov. 16, 2017.
- "Neuromorphic Event-Driven Multi-Scale Synaptic Connectivity and Plasticity," Special Session on Asynchronous and Neural Computation, 2017 Asilomar Conference on Signals, Systems, and Computers, Pacific Grove CA, Oct. 29 - Nov. 1, 2017.
- "Energy Efficient Neuromorphic Learning and Inference at Nanoscale," ARL/UCSD Workshop on Neuro-Inspired Computing using Nanoelectronic Devices, UCSD Qualcomm Institute, La Jolla CA, Oct. 25, 2017.
- "Energy Efficiency in Adaptive Neural Circuits," 5th Berkeley Symposium on E3S and Steep Transistors, Berkeley CA, Oct. 20, 2017.
- "Neuromorphic Silicon Learning Machines," VLSI Summer School, IIT Kharagpur, June 22, 2017.
- "Unobtrusive Brain-Machine Interfaces," Brain Health Panel, Bio. Int. Conv. (BIO'2017), San Diego CA, June 20, 2017.
- "Advances in Multiscale Integrated Neural Interfaces," Keynote, Annual Retreat, IGERT Neuroengineering Training Program, University of Minnesota, Bakken Museum, Minneapolis MN, May 16, 2017.

Giacomo Indiveri

- The 2017 Capo Caccia Cognitive Neuromorphic Engineering Workshop, Alghero, Italy (24.4.-6.5.2017), Organizer, 2017
- MemoCIS COST international workshop, invited talk: A mixed-signal neuromorphic computing architecture in 28 nm FD-SOI technology, Invited Speaker, 12.03.2018
- Huawei European Research Institute Symposium on Cloud and AI, invited talk: Neuromorphic processors for implementing low power spiking neural networks, Invited Speaker, 2018
- IEEE SOI-3D-Subthreshold Microelectronics Technology Unified Conference invited talk: Neuromorphic Computing II: Circuits and Systems, Invited Speaker, 2018.

Iraklis Anagnostopoulos

- TPC IEEE International Conference on Very Large Scale Integration (VLSI-SoC), Oct. 8-10, 2018, Verona, Italy
- TPC EEE International Conference on Electronics Circuits and Systems (ICECS), Dec. 9-12, 2018, Bordeaux, France.
- TPC ACM Great Lakes Symposium on VLSI (GLSVLSI), May 23-25, 2018, Chicago, USA.

Ibrahim (Abe) M. Elfadel

- "IoT Platforms for Mobile Health," Workshop at the UAE Society of Engineers, Dubai, UAE, April 17, 2018. Sponsored by the UAE IEEE Chapter and the UAE Society of Engineers.

Jorge Fernández Berni

- "Micro/Nano-Electronics: a Story of Extraordinary Success... How Longer?", Institute of Materials Physics, Westfälische Wilhems-Universität Münster, Münster (Germany), November 2017. http://www2.imse-cnm.csic.es/~berni/lectures/munster_2017.pdf
- "Visual Intelligence: the Next Big Tech Wave", Institute of Materials Physics, Westfälische Wilhems-Universität Münster, Münster (Germany), November 2017, http://www2.imse-cnm.csic.es/~berni/lectures/munster_2017.pdf

Orly Yadid-Pecht

- "Sensing for Better Authentication". The 4th ISPIA/CMSS Fall Workshop, University of Calgary, 15th November 2017

- "From idea to market: materializing innovation in information and communication technologies in academia", ITHEA 2017 Conference, Varna, Bulgaria, 27th June 2017

Pantelis Georgiou

- "CMOS Microelectronics for DNA detection using Ion-Sensitive Field Effect Transistors" Tutorial for 2017 IEEE Sensors Conference, Glasgow, Scotland 29th October 2017
- "Bio-inspired Microchips for Improving Human Health", IEEE NEWCAS conference Keynote, 28th June 2017

Ricardo Carmona Galan

- "Time-of-Flight Image Sensors in CMOS Technology" Gast-Vortrag at the Dept. of Physics, Westfälische Wilhems-Universität Münster, Germany, Nov. 30, 2017.
- "ACHIEVE: A European Training Network for Advanced Integrated/Embedded Vision Systems" Gast-Vortrag at the Dept. of Physics, Westfälische Wilhems-Universität Münster, Germany, Nov. 29, 2017.
- "Smart image sensors for efficient low-level feature extraction", Image Sensors Europe 20018, The Park Plaza Victoria Hotel --organized by Smithers Apex--, London, UK, March 14-15, 2018.
- "Introduction to ACHIEVE: a European Training Network based on the experience of EUNEVIS", Workshop on Architecture of Smart Camera (WASC 2017), Instituto de Estudios Sociales Avanzados (CSIC), Córdoba, Spain, June 5-6, 2017.

Sandro Carrara

- Bio/Nano/CMOS interfaces for Remote Monitoring of Human Metabolism, IEEE NGCAS international Conference, Genoa, Italy, 7-9 September 2017.
- Integration of Bio/Nano/CMOS interfaces with Fluidics for Remote Monitoring of Human Metabolism, workshop "Fundamentals and Applications of Microfluidic Compartmentalization", funded by OIST, June 12-17, 2017, Okinawa, Japan.
- Bio/CMOS interfaces for Ultrasensitive Memristive Biosensors, IEEE International Conference on Modern Circuits and Systems Technologies (MOCAST), Thessaloniki, Greece, 4-6 May, 2017
- Bio/Nano/CMOS interfaces for Ultrasensitive Memristive Biosensors, Summer School at the Technical University of Dresden, Germany, 11-15 September 2017. Lecture of the IEEE Distinguished Lecturers Program.
- Bio/Nano/CMOS interfaces for Remote Monitoring of Human Metabolism, IEEE International Conference on Circuits and Systems, ISCAS 2017, Baltimore, 28-31 May, 2017
- Bio/Nano/CMOS interfaces for Remote Monitoring of Human Metabolism, University of Brescia (Italy), November 23rd, 2017
- Bio/Nano/CMOS interfaces for Ultrasensitive Memristive Biosensors, University of Manchester, Manchester, UK, 28 June 2017. Lecture of the IEEE Distinguished Lecturers Program
- Bio/Nano/CMOS interfaces for Ultrasensitive Memristive Biosensors, Politecnico di Torino, Turin, Italy, 5 July 2017. Lecture of the IEEE Distinguished Lecturers Program
- New technologies and approaches for personalized diagnostics, University of Geneva, Switzerland, Wednesday, June 21, 2017

Shih-Chii Liu

- 2017 IEEE Swiss CAS Real-time Deep Learning Workshop, Invited Talk, 2017
- Department of Electrical and Computer Engineering, National University of Singapore, Invited Talk, 2017
- CapoCaccia Neuromorphic Cognition Workshop, Sardinia, 2017.

Themis Prodromakis

- Feb 2018 "Memristive Technologies: a viable pathway for beyond Moore electronics", 9th IEEE Latin American Symposium on Circuits and Systems (LASCAS), Puerto Vallarta, MX.
- Feb 2018 "Processing Data with Nanoscale Memristors", School of Engineering, University of Glasgow, Glasgow, UK.

- Dec 2017 "Processing Data with Nanoscale Memristors", Future Chips Forum 2017: "Smart Chips - Smart World", Beijing, CN.
- Dec 2017 "Enabling AI with Memristive Technologies", DSTL, Portsmouth, UK.
- Nov 2017 "Bio-inspired nanoelectronic links for next generation neural interfaces", Royal Society Industry Fellows Meeting, London, UK.
- Nov 2017 "Brain-inspired electronics with metal-oxide chemistries", Chemistry in Action, The Training Partnership, London, UK.
- Sep 2017 "Introducing the Nanoworld", INTERACT - An Engagement Symposium for the Physical Sciences, Institute of Physics, Birmingham, UK.
- Sep 2017 "Processing Data with Nanoscale Memristors", ARM Research Summit 2017, Cambridge, UK.
- Sep 2017 "Processing big-data with Memristive Devices", MemoCIS 6th Workshop, Krakow, PL.
- Sep 2017 "Processing big-data with Memristive Devices", Manufacturing, Design, and Applications for Next Generation Memory Technologies workshop, Lausanne, CH.
- May 2017 "Tutorial: Memristive Materials and Neuromorphic Devices", ISCAS 2017, Baltimore, US.
- May 2017 "Processing big-data with Nanoscale Memristors", UK Design Forum (UDKF), Manchester, UK

Timir Datta-Chaudhuri

- Bioelectronic Medicine (graduate course) – Elmezzi Graduate School

Timothy Constandinou

- "Millimetre-scale implantable brain machine interfaces", Universidad de la Republica (Montevideo, Uruguay), 22 March 2018.

Viktor Gruev

- "Bio-Inspired Sensors for Image Guided Surgery" Institute Fereyra, Cordoba, Argentina, December 2017.
- "Bio-inspired Sensors: From the Ocean to the Operating Room," University of Zurich, Zurich, Switzerland, June 2017.
- "Bio-inspired Polarization Vision: Great Barrier Primer," Optical Society of America, Paris, France, June 2017.
- "Bio-Inspired Sensors for Image Guided Surgery," University of Alberta, Edmonton, Canada, May 2017.
- "Bio-Inspired Sensors: From the Ocean to the Operating Room," Dartmouth College, Hanover, NH, April 2017.

CONFERENCES

Alejandro Linares-Barranco

- Program co-chair of IJCCI 2018 (INSTICC conference).

Arindam Basu

- Publicity co-chair, IEEE International Conference on Digital Signal Processing (DSP) 2018, China.
- International Coordinator, IEEE Life Sciences Conference 2018, Canada.
- Publicity co-chair, IEEE International Symposium on Circuits and Systems (ISCAS) 2017, USA.

Christoph Posch

- Member Advisory Committee IS Auto Europe 2018, Munich, April 2018.

Ibrahim (Abe) M. Elfadel

- General Co-chair, 25th IEEE/IFIP International Conference on Very Large Scale Integration (VLSI-SoC 2017), Abu Dhabi, UAE, Oct 23-25, 2017
- Technical Program Committee, CAD Track Co-chair, 35th IEEE International Conference on Computer Design (ICCD 2017), Boston, MA, Nov 5-8, 2017
- Co-organizer, 10th IEEE/ACM Workshop on Variability Modeling and Characterization, co-located with 36th International Conference on Computer Aided Design (ICCAD 2017), Irvine, CA, Nov 12-16, 2017

- Review Committee Member, 51th International Symposium on Circuits and Systems (ISCAS 2018), Florence, Italy, May 27-30, 2018

Jorge Fernández Berni
- General Chair, Workshop on Architecture of Smart Cameras, Córdoba (Spain), June 2017. http://www.eunevis.org/wasc2017/

Maurizio Valle
- Special Session Co-organizer: IEEE NGCAS 2017 Conference, SS Title: Energy Efficient Autonomous Smart Sensory Systems
- Special Session Co-organizer: IEEE NGCAS 2017 Conference, SS Title: Gas Sensing Circuit Interfaces
- Special Session Co-organizer: IEEE NGCAS 2017 Conference, SS Title: Sensors and Systems for the Restoration of the Sense of Touch in Prosthetics
- Track Chair (Physical Sensors) of the IEEE Sensors Conference 2017
- Review Committee member of the IEEE Sensors Conference 2017

Orly Yadid-Pecht
- Member of the Technical Committee for the IEEE Workshop on CCDs and Advanced Image Sensors (2016-present)
- Member of IEEE ISCAS 2017 Program Committee (2015-2017)
- Member of the IEEE CAS Analog Signal Processing, Neural Networks and Sensors Technical Committees (1996-Present)
- Member of the Steering Committee for the IEEE ICECS (2003-present)

Pantelis Georgiou
- Demonstration Chair, IEEE Sensors conference, 2017 (Glasgow, UK)
- Special Session Chair, IEEE BioCAS conference, 2017 (Turin, Italy)

Piotr Dudek
- Track Chair, Sensory Systems, ISCAS 2017
- Co-organiser, UK Design Forum, 10-11 May 2017, Manchester

Ricardo Carmona Galan
- Co-organizer and Member of the Advisory board of the Workshop on Architecture of Smart Cameras (WASC 2017), Córdoba, Spain, June 5-6, 2017.

Sandro Carrara
- General Co-Chairman of the International IEEE MeMeA Symposium on Medical Measurements and Applications, Rome, Italy, June 11-13, 2018

Shih-Chii Liu
- Review committee member of IEEE ISCAS 2017.
- Co-organizer of Telluride Neuromorphic Cognition Engineering Workshop 2017, Telluride, Colorado.

Shoushun Chen
- Review committee member of IEEE ISCAS 2017/2018.

Teresa Serrano-Gotarredona
- Program Committee Member ICECS 2017.

Themis Prodromakis

- International Conference on Memristive Materials, Devices & Systems (MEMRISYS), April 2017, Athens, Greece – General Chair
- "Tutorial: Memristive Materials and Neuromorphic Devices", ISCAS 2017, Baltimore, US

Timothy Constandinou
- BioCAS 2018, Technical Program co-Chair
- NeuroCAS 2018, General Chair

Víctor Manuel Brea
- Program Chair International Conference on Distributed Smart Cameras (ICDSC) at ICDSC 2017 and ICDSC 2018 (https://icdsc.org/)

Viktor Gruev
- IEEE ISCAS
- SPIE DSS

Editorial Boards

Alejandro Linares-Barranco
- Associate Editor, IEEE Transactions on Circuits and Systems-II, Express Briefs.
- Review Editor, Frontiers in Neuroscience
- Review Editor, Frontiers in Nerorobotics

Arindam Basu
- Associate Editor for IEEE Sensors Journal (2015 - present)
- Associate Editor for IEEE Transaction on Biomedical Circuits and Systems (2016-18)
- Associate Editor for Frontiers in Neuroscience: Neuromorphic Engineering (2017 - present)
- Corresponding Guest Editor for Special Issue on "Low-Power, Adaptive Neuromorphic Systems: Devices, Circuit, Architectures and Algorithms" in IEEE Journal on Emerging and Selected Topics in Circuits and Systems (JETCAS) (2017)

Christoph Posch
- Review Editor, Frontiers in Neuromorphic Engineering

Diego Barrettino
- Associate Editor of IEEE Transactions on Instrumentation and Measurement.

Fernando Perez-Peña
- Review Editor, Frontiers in Neurorobotics.
- Reviewer, Sensors (MDPI)
- Associate Editor for Neuromorphic Engineering - Machine learning, BioRob 2018.

Gert Cauwenberghs
- Editorial Board Member, IEEE Transactions on Biomedical Engineering, 2013-present.
- Associate Editor, Neuromorphic Engineering, Frontiers in Neuroscience, 2010-present.

Giacomo Indiveri
- N. Surname, Role (e.g. Associate Editor), Name of publication (e.g. IEEE Transactions on Circuits and Systems-I, Regular Papers)

Ibrahim (Abe) M. Elfadel

- Associate Editor: IEEE Transactions on VLSI
- Editor: Microelectronics Journal (Elsevier)

Jorge Fernández Berni
- Associate Editor, International Journal of Circuit Theory and Applications

Juan Antonio Leñero-Bardallo
- Member of the University of Cádiz Editorial Chapter from June 2017 to February 2018.

Nicola Massari
- Guest editor of a special issue on “Image Sensor” on MDPI journal

Orly Yadid-Pecht
- Member of the Editorship Board, International Journal Information Models and Analysis (2013 – present)
- Associate Editor, Journal for Low Power Engineering Applications (2011 – Present)

Pantelis Georgiou
- IEEE Transactions on Biomedical Circuits and Systems (TBioCAS), Associate Editor
- IEEE Sensors Journal, Associate Editor

Piotr Dudek
- Associate Editor, IEEE Transactions on Circuits and Systems II – Express Briefs

Ricardo Carmona Galan
- Associate Editor for the Journal of Real-Time Image Processing. Springer. Period 2017-2018.
- "Special Issue on Computational Image Sensors and Smart Camera Hardware", Guest Editors: Jorge Fernández-Berni, Ricardo Carmona-Galán, Gilles Sicard, Antoine Dupret. Int. Journal of Circuit Theory and Applications. Wiley.
- Reviewer for ISCAS, IET electronics Letters, TCAS-I, TCAS-II, IJCTA, IEEE Sensors.

Sandro Carrara
- Vice Editor-in-Chief of the IEEE Sensors Journal
- Named Editor-in-Chief of the IEEE Sensors Journal (term started Janaury 1st, 2018)
- Associate Editor of the IEEE Transactions on Biomedical Circuits and Systems

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

Shoushun Chen
- Jun 2012 - Present , Associate Editor of IEEE Sensors Journal

Tara Julia Hamilton
- Frontiers in Neuroscience.
- Engineering Mathematics and Applications Conference.

Teresa Serrano-Gotarredona
- Associate Editor IEEE Transactions on Circuits and Systems, part 1 until December 1997.

Themis Prodromakis

- Associate editor of Frontiers in Neuromorphic Engineering
- Associate editor of IEEE Sensors
- Associate editor of Nature Scientific Reports

Timir Datta-Chaudhuri
- Associate Editor – Bioelectronic Medicine (Springer Nature)

Timothy Constandinou
- IEEE Transactions on Biomedical Circuits & Systems, Associate Editor

Víctor Manuel Brea
- Advisory Board Workshop of Architecture of Smart Cameras (WASC), (http://eunevis.org/wasc2018/about-wasc/)
- Special Issue on Advances on Smart Camera Architectures for Real-Time Image Processing the Architecture of Smart Cameras. Journal of Real-Time Image Processing. SPRINGER HEIDELBER, Vol. 14, No. 3, pp. 635-636, 2018. Guest Editors: V.M. Brea, D. Ginhac, F. Berry, R. Kleihorst

Viktor Gruev
- IEEE BioCAS

OTHER IEEE SERVICE AND PROFESSIONAL ACTIVITIES

Alejandro Linares-Barranco
- Reviewer at IEEE-TNNLS journal, Frontiers on Neuroscience journal, Frontiers on NeuroRobotics journal, IET – Electronic Letters journal, Inter. Journal of Computing and Digital Systems, IEEE-TCAS2 journal, IEEE TBIOCAS journal, Sensors-MDPI journal,
- Associate Editor of International Journal in Computing and Digital Systems
- ISCAS'17 and ISCAS'18 RCM and reviewer at IJCNN'18, ICECS'17
- TPC at 2017 and 2018 International Symposium on Performance Evaluation of Computer and Telecommunication Systems. SCS-IEEE, 2018 IEEE-NANO conference, ICNC-FSKD 2016 and ICNC-FSKD 2017, EBCCSP'17 and EBCCSP'18, DCNET'18 and SIGMAP'18, DPNoC'18, NGCAS'17, BIOROB 2018.

Alexander Serb
- TC member, {NSATC, SSTC}

Christoph Posch
- Review Committee Member (RCM) - ISCAS 2018

Gert Cauwenberghs
- G. Cauwenberghs and Y. Xie, Organizers: Industrial-strength Accelerators for Machine Learning and Artificial Intelligence, Invited Session, DAC Designer Track, IEEE/ACM DAC'2018, San Francisco CA, June 25, 2018.
- G. Cauwenberghs, IEEE International Solid-State Circuits Conference (ISSCC) Imagers, MEMS, Medical, and Displays (IMMD) Technical Subcommittee, 2017-present.
- G. Cauwenberghs, featured in: ``Retinal prosthesis could enable blind to see shapes, even text,'' San Diego Union Tribune, September 5, 2017.

Giacomo Indiveri
- G. Indiveri, Participant, IEEE NSATC, IEEE BCAS, IEEE SSTC.
- G. Indiveri, Director of the Institute of Neuroinformatics (Dept. Head)

Ibrahim (Abe) M. Elfadel

- Co-director, Abu Dhabi – SRC Center on Energy Efficient Electronic Systems (ACE4S), April 2013 – April 2018.
- Program Manager, Singapore TwinLab on MEMS, May 2014 – present.

Iraklis Anagnostopoulos
- Reviewer IEEE Transactions on Computers, IEEE Transactions on Very Large Scale Integration Systems, IEEE Embedded System Letters

Jie Chen
- 2018- Technical Committee Chair, Therapeutic & Diagnostic Systems, Devices, and Technologies, Clinical Engineering of IEEE Engineering in Medicine and Biology Society.

Jim Harkin
- Research Council UK (EPSRC) Panel Member for Research Proposal Assessments
- Research Proposal Assessments for Swiss National Science Foundation
- Commercialisation: Established start-up company www.airbrio.com

Juan Antonio Leñero-Bardallo
- Reviewer, IEEE Transactions on Biomedical Circuits and Systems, TBIOCAS.
- Reviewer, IEEE Transactions on Circuits and Systems, TCAS-I.

Milutin Stanaćević
- Organizer of a special session on ”Circuits and Systems for Autonomous IoT Devices”, ACM Great Lakes Symposium on VLSI (GLSVLSI), Chicago, IL, 2018.
- Organizer of a special session on ”Energy-Efficient and Secure IoT”, IEEE Int. Symp. Circuits and Systems Conference (ISCAS), Baltimore, MD, 2017.
- ETF BAFA Vice President, Scholarship Awards Program

Nicola Massari
- Review Committee member of PRIME conference
- Review Committee member of ISCAS conference
- TPC of NGCAS conference

Nicole McFarlane
- CASS BoG (From Jan 2018)
- Reviewer/RCM ISCAS 2018, Technical Program Committee member MWSCAS 2017

Orly Yadid-Pecht
- Member of IEEE Mac Van Valkenburg Award selection committee, 2018

Pantelis Georgiou
- IEEE Sensors Council, Circuits and Systems Representative.
- Biomedical Circuits & Systems (BIOCAS) Technical Committee Member

Paula López Martínez
- Reviewer of the IEEE Trans. On Biomedical Circuits and Systems
- Reviewer of the BioCAS 2017, ISCAS 2017, ISCAS 2018

Ricardo Carmona Galan
- Reviewer of the Spanish National Agency for Evaluation and Prospective (ANEP).
- Secretary-Elect for the IEEE CASS Sensory Systems Technical Committee.

Sandro Carrara
- Member elected of the IEEE CAS Board of Governors
- Member at large of the IEEE Sensors Council

Shih-Chii Liu
- Member of the IEEE CAS Sensory Systems and Neural Systems and Applications Technical Committees
- Chair of IEEE Swiss CAS/ED Chapter
- Reviewer for IEEE TCAS, IEEE TNN, IEEE TBioCAS journals
- Reviewer for IEEE BioCAS, ISCAS conferences

Shoushun Chen
- Secretary (Jun 2017 - Present), Technical Committee on Sensory Systems of IEEE circuit and Systems Society

Tara Julia Hamilton
- Reviewing for IEEE journals and conferences.

Themis Prodromakis
- Member of the Neural Systems and Applications Technical Program Committee
- Member of the Nano-Giga Technical Program Committee
- Member of the Sensory Systems Technical Program Committee
- Member of the BioCAS Technical Program Committee

Timir Datta-Chaudhuri
- Assistant Professor - Center for Bioelectronic Medicine - Feinstein Institute for Medical Research
- Assistant Professor - Zucker School of Medicine - Hofstra/Northwell
- Assistant Professor - Elmezzi Graduate School of Molecular Medicine – Hofstra/Northwell

Timothy Constandinou
- IEEE CAS Society, Board of Governors (BoG)
- IEEE CAS Society, Sensory Systems TC Chair
- IEEE BRAIN Initiative, Steering Committee

Awards, Honors

Alejandro Linares-Barranco
- Hongjie Liu, Antonio Rios-Navarro, Diederik Paul Moeys, Tobi Delbruck, A. Linares-Barranco, best paper award, Springer – ICANN, 2017.

Giacomo Indiveri
- ERC Consolidator Grant on Neuromophic Agents, EU ERC, 2017.

Christoph Posch
- ISSCC 2018 Technology Innovation Award

Ibrahim (Abe) M. Elfadel
- Best Paper Award with my student Rupesh Karn at the 2018 UAE Graduate Student Research Conference, April 2018.

Nicole McFarlane
- Elevated to Senior Member

Orly Yadid-Pecht
- American Institute for Medical and Biological Engineering, AIMBE Fellow

Pantelis Georgiou
- IEEE Sensors Council Technical Achievement Award 2017
- IEEE Circuits and Systems Distinguished Lecturer 2017-2018.

Sandro Carrara
- Gold Leaf Prize at the 1st IEEE/NGCAS Conference, Genoa, IT, in September 2017
- Best Poster Award at the EMBEC'17 Conference, Tampere, Finland, in June 2017

Tara Julia Hamilton
- Editor's Choice for the paper: Andrew J. Cook, Ben Ng, Gaetano D. Gargiulo, Diane Hindmarsh, Mark Pitney, Torsten Lehmann, Tara Julia Hamilton, "Instantaneous VO2 from a wearable device," Medical Engineering & Physics, Volume 52, Pages 41-48, 2018.

Themis Prodromakis
- Royal Society Industry Fellowship, The Royal Society, 2017
- Lloyd's Register Foundation 100A1 ambassador, 2017
- Fellow Member (FInstP), The Institute of Physics
- Fellow Member (FIET), The Institution of Engineering & Technology
- Member of the IEEE Nanotechnology Council – representing CAS
- Member of the Emerging Research Devices working group for shaping the ITRS
- ArC Instruments Ltd (www.arc-instruments.co.uk), Founder and Director

Timothy Constandinou
- IEEE Biomedical Circuits and Systems (BioCAS) Conference Best Paper Award (3rd Place) for "Millimeter-Scale Integrated and Wirewound Coils for Powering Implantable Neural Microsystems" (Authors: P Feng, P Yeon, M Ghovanoo, TG Constandinou)

Wei Tang
- National Science Foundation Faculty Early Career Award 2017

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8. PUBLICATIONS

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