IEEE Circuits and Systems Society
Sensory Systems Technical Committee

Annual Report 2016

(Activities for May 2015 through May 2016)

Officers

Chair: Piotr Dudek, University of Manchester, UK, p.dudek@manchester.ac.uk
Chair-Elect: Timothy Constandinou, Imperial College London, t.constandinou@imperial.ac.uk
Secretary: Amine Bermak, HKUST, Hong Kong, eebermak@ece.ust.hk
Secretary Elect: Shoushun Chen, Nanyang Technological University, Singapore, eechenss@ntu.edu.sg
Past Chair: Teresa Serrano-Gotarredona, National Microelectronics Center, Spain, terese@imse-cnm.csic.es

Website

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

Annual Meeting

2015 Meeting: Was at ISCAS 2015, Lisbon, Portugal, Cultural Centre of Belém (CCB),
Room 6 - A. Negreiros, Monday 25th May 2015, from 12:50 to 14:10
2016 Meeting: Will be at ISCAS 2016, Montreal, Canada, Sheraton Center,
Salon 6, Tuesday 24th May, 12:00 to 13:30

1. INTRODUCTION

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 aspects of our TC. The committee has members from academia, national labs and industry.

The SSTC presently has **56 active members** (see Appendix A). Five new members joined the committee in 2015. 38 people attended the 2015 annual meeting including 33 current members and 5 new members.

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 apparently inactive members were contacted by email, and 10 members left the committee in 2015.

3. PARTICIPATION IN ISCAS TRACK PAPER REVIEWS

47 papers were submitted to Sensory Systems track for ISCAS 2016, a slight decrease compared to ISCAS 2015 (51 papers). Of the 47 papers submitted, 22 (47%) were accepted, forming 3 complete lecture sessions (15 papers) and 1 poster (5 papers) session, with two further papers allocated to jointly held lecture sessions.

21 volunteer RCMs handled reviews and at least 3 reviews were arranged for each paper. Many thanks to RCMs and reviewers. The RCM's were:

Arindam Basu, Viktor Brea, Ricardo Carmona Galan, Shoushun Chen, Jie Chen, Tobi Delbruck, Ibrahim Elfadel, Pantelis Georgiou, Jeremy Hollemann, Man Kay Law, Juan Leñero-Bardallo, Walter Leon-Salas, Alejandro Linares-Barranco, Shih-Chii Liu, Andrew Mason, Nicola Massari, Christos Papavassiliou, Christoph Posch, Milutin Stanacevic, Orly Yadid-Pecht, Jie Yuan.

Best Paper Award

The top 6 papers in review (i.e. those with all "Accept" or two "Accept" one "Marginal accept" reviews) were distributed to 8 volunteer judges from SSTC, who ranked the papers. The best paper was chosen from these rankings and will be announced at the annual meeting in Montreal and listed in the 2016 minutes.

The volunteer best paper judges were:

Victor Brea, Shoushun Chen, Tobi Delbruck, Ibrahim Elfadel, Julio Georgiou, Eero Lehtonen, Jonne Poikonen, Teresa Serrano-Gotarredona.

4. DISTINGUISHED LECTURER PROGRAMME

Shih-Chii Liu was nominated by the committee and selected as IEEE CASS Distinguished Lecturer 2016-17. Arindam Basu, Jie Chen and Julius Georgiou have been also selected as Distinguished Lecturers (2016-17), and Andreas Andreou continues as Distinguished Lecturer (2015-2016)

5. NEW IEEE FELLOWS

Two committee members were elevated to IEEE Fellow status in 2016: Sandro Cararra, Jie Chen

7. 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. Many are also active in knowledge transfer and commercialisation activities, including publication of patens. Their work has been recognised by various awards. Below is a summary of individual member activities (31 members responded to requests for this information).

SHORT COURSES, PLENARY SESSIONS, KEYNOTE SPEAKERS, INVITED LECTURES

Timothy Constandinou
- "IEEE CAS Society Brain Research & Activities", IEEE BRAIN Initiative Workshop, Columbia University (New York, USA), 14 December 2015.

Teresa Serrano-Gotarredona
- 'Frame-Free Vision', Keynote Invited Lecture, PATMOS 2015, Salvador de Bahia, Brasil, Aug. 2015

Piotr Dudek
- Invited talk: "Practical gradient descent in memristive crossbar arrays", MEMRISYS 2015, Paphos, Cyprus (9/11/2015)

Jie Chen
- "Turning Your Smart Phone into a Tricorder", invited talk at the University of Lava on Nov. 6, 2015
- "Applications of Low-intensity Pulsed Ultrasound to Increase Monoclonal Antibody Production in CHO Cells Using Shake Flasks or Wavebags", invited talk at the Cambridge Healthtech Institute's Annual Recombinant Protein Expression and Production meeting (http://www.chi-peptalk.com/protein-expression-production/), San Diego, USA, 2015

Viktor Gruev
- "Bio-Inspired Sensors for Image Guided Surgery," University of Illinois Urbana Champaign, November 2015.
- "Bio-Inspired Sensors for Image Guided Surgery," Washington University in St. Louis, Department of BME, October 2015.
- "Bio-Inspired Sensors for Image Guided Surgery," Polytechnique University of Montreal, Montreal, Canda, October 2015.
- "Wearable Goggle Platform for Image Guided Surgery," University of St. Paul Apostole, Ohrid, Macedonia, July 2015.
- "Wearable Goggle Platform for Image Guided Surgery," Optical Society of America Sympoisum, April 2015.
- "Bio-Inspired Sensors for Image Guided Surgery and Functional Neural Imaging," Institute Feryera, Cordoba, Argentina, 2015.

Tobi Delbruck
- 3/16/2016   Image Sensors 2016, London, UK State of the Art in Event-Based Vision Sensor Invited Speaker

- 1/13/2016   NTU-MediaTek IC Design Workshop, Singapore Silicon retina technology Invited Speaker
- 11/12/2015 Swiss Cardiology Annual Meeting,Basel, Switzerland How do Robots and Computers See? Plenary

Arindam Basu

- July, 2015: Delivered invited talk on "How can Dendritic Computation be useful in Neuromorphic Systems?" at the Asia-Pacific Summer School on Bio-Inspired Systems and Prosthetic Devices, 2015 in Taiwan. We also ran a hands-on project.
- Aug, 2015: Delivered tutorial on "Spiking Neural Networks in Silicon: From Building Blocks to Architectures of Neuromorphic Systems" at IJCNN 2015 in Ireland. IJCNN is the flagship conference of IEEE Neural Network Society.
- June-July, 2015: Co-organized workgroup on "Spike-Based Cognitive Computing: Seeing, Hearing, and Thinking with Spikes" at the NSF funded annual neuromorphic workshop in Telluride, USA.

Chiara Bartolozzi

- ICRA - IEEE International Conference on Robotics and Automation 2015, Invited lecture at Workshop "INNOVATIVE SENSING IN ROBOTICS, with Focus on Neuromorphic Sensors"
- IROS - IEEE/RSJ International Conference on Intelligent Robots and Systems 2015, invited talk at Workshop "Real-time Cognitive Computing for Service Robots"
- testimonial - EUFactor, European Union awareness campaign for carriers in research addressed to high school students. Participation as speaker at International Journalism festival, Perugia, Italy. http://www.journalismfestival.com/programme/2016/eufactor-face-to-face-with-science

Christoph Posch

- "Pixel-individually auto-sampling image sensors", invited talk at "Image Sensors 2016" conference, London, March 2016

Pantelis Georgiou

- Antenna Live event Science Museum, "The bio-inspired artificial pancreas", April 4-6th 2016
- "A Bio-inspired Artificial Pancreas for treatment of diabetes", Imperial Medtech on wearables, behaviour and data, 23rd March 2016.
- "Microchip diagnostics for AMR" York University, 4th December 2015.
- "Semiconductor Diagnostics for Malaria", Research Showcase on Malaria, Imperial College, 12th November 2015.
- "Engineering, Physical, Natural Sciences and Medicine Bridging Research in Antimicrobial resistance: Collaboration and Exchange" Southampton, 25th August 2015.

Shih-Chii Liu

- "Event-Based Frame-Free Sensors and Processing: Sensors, Simulators and Hardware Processors", Tutorial Session, IEEE International Symposium on Circuits and Systems Conference, Lisbon, Portugal, May 24–May 27, 2015.
- Plenary Speaker, "Event-based sensors, processing algorithms, and networks", Asia-Pacific Summer, School on Bio-Inspired System and Prosthetic Device, National Dong Hwa University, Hualien, Taiwan.
- "Sensory fusion using spiking deep belief networks and robustness to bit precision of neuro-inspired platforms", Nanyang Technical University, Singapore, Aug 21, 2015.

Alejandro Linares-Barranco

- Tutorial "Event-Based Frame-Free Sensors & Processing: Sensors, Simulators and Hardware Processors". ISCAS 2015.

Ricardo Carmona Galan

- "Efficient Feature Extraction in CMOS Vision Sensors", 1st Workshop on Advancements on Circuits and Imaging (ACI 2015), European Doctorate in Image Sensors and Optical Nanotechnology (EDISON) Dept. of Engineering Science, University of Oxford, UK, September 28-29, 2015.
- "Assessment of circuit non-idealities' effect on algorithm performance via OpenCV modeling", Workshop on Architecture of Smart Camera (WASC 2015), CiTIUS (Research Center on Information Technologies) Universidade de Santiago de Compostela, Spain, June 29-30, 2015.
- "Smart CMOS Imagers for 2D and 3D Vision ", Seminar at the PhD. School of the GE Annual Meeting, University of Siena, Italy, June 22-24, 2015.

Jonne Poikonen
- Invited lecture at WEEE 2015: 3rd Workshop on Energy Efficient Electronics and Applications, 10-12 September 2015, Helsinki, Finland, "Focal Plane Processing"

Philipp Hafliger
- "NFC implants", invited seminar Cutting Edge Business Insight Series by Oslotech, Oslo, Norway January 2015.

Sandro Carrara
- System-In-Package with embedded System-On-Chip for Remote Monitoring of Human Metabolism, Colloque National du GDR SoC/SiP, Nantes, France, 8-10 June 2016.
- Fully implantable devices for Remote Monitoring of Human and Animal Metabolism (Plenary Talk), IEEE MeMeA, International IEEE Symposium on Medical Measurements and Applications, Benevento, Italy, May 15-16, 2016.
- System-In-Package with embedded System-On-Chip for Remote Monitoring of Human Metabolism, CNRS-INSIS meeting on Electronics at the interface with biology and medicine, June 20th, 2016 Paris, Paris (France).
- Remote Telemetry of Metabolites for Small Animals and Humans, Technical Universirty of Dresden, January 12th, 2016.

Ibrahim (Abe) Elfadel
- "Statistical Inference in CAD for Deeply Scaled CMOS Technologies," Technical University of Lisbon, ECE Department, and INESC-ID, Lisbon, Portugal, May 28, 2015. Invited Seminar.
- "IoT@UAE," ATIC Semiconductor Research Center Open House, EECS, Khalifa University of Science and Technology, Nov 18, 2015. Keynote Address.
- "Academic MEMS Goes Fabless: The Masdar Institute Perspective," Conference on Design Automation and Test in Europe (DATE 2016), Dresden, Germany, March 17, 2016. Invited Talk. Presented at the launch of the Worldwide MEMS Design Contest (Cadence, Coventor, and X-Fab).
- "The Abu Dhabi Nerds: Seeding and Growing the UAE Hub in Semiconductor R & D," New York University – Abu Dhabi, UAE, March 30, 2016. Invited Lecture
- "Applying IoT in higher education - connecting future influencers, not just devices," Future Technology Week, IoTX 2016, Dubai, UAE, March 30, 2016. Panelist representing the Masdar Institute.
- The IoT Rush: Who is Going to Get the Gold?" Microwaves and Wireless Technologies Symposium, American University of Sharjah, UAE, April 11, 2016. Invited Lecture.

Diego Barrettino
- Prof. Barrettino gave a lecture entitled "CMOS-Based Microsystems for Biomedical Applications" in the ST Microelectronics Distinguished Lecturer Series on April 20, 2016.

Eugenio Culurciello
- ICCAD HALO workshop in Austin, November 5th 2015 Host: Yu.Cao@asu.edu Title: Deep Learning in practice
- Purdue University CS Machine Learning and Applications Seminar, September 30th 2015 Host: Timothy La Fond and Jiasen Yang Title: Deep Learning in practice
- Boston University NeuroHAM - http://neuroham.bu.edu, June 10th 2015 Host: Massimiliano Versace <maxversace@gmail.com>Title: Modeling the human visual system in hardware

Hyunsurk (Eric) Ryu
- Multiple Internal and external seminars on Dynamic Vision Sensor and its signal processing and recognition tasks

Milutin Stanaćević
- "Real-time Low-power VLSI Microsystem for Smart Acoustic Interfaces", invited lecture by The IEEE Long Island Chapter of Circuits and Systems Society, January 27th, 2016.

CONFERENCES

Timothy Constandinou
- General Co-Chair of BrainCAS 2016 (post-BioCAS workshop 20-21 October 2016), Hangzhou, China.

Teresa Serrano-Gotarredona

- Organization of Tutorials "Workshop on Micro/Nanoelectronic Circuits and Systems" in the IEEE EUROCON 2015
- Program Committee Member EUROCON 2015
- Program Committee Member DCIS 2015
- Program Committee Member ECCTD2015
- Program Committee Member IEEE International Circuits and Systems Symposium ICSyS 2015

Piotr Dudek
- Track Chair, Sensory Systems, ISCAS 2016
- Demos and Exhibitions Co-Chair and Scientific Committee member of CNNA 2016 (Dresden, Germany)
- Co-organiser, UKDF 201**6**

Viktor Gruev
- Member of the Technical Committee for the IEEE ISCAS conference (2005-present)

Tobi Delbruck
- Telluride Neuromorphic Workshop, July 2015

Arindam Basu
- Member of the Technical Committee for the IEEE ISCAS conference (2012-present)
- Member of the Technical Committee for the IEEE BioCAS conference (2013-present)

Christoph Posch
- Review Committee member, IEEE International Symposium on Circuits and Systems, ISCAS (2010-present)
- Review Committee member, IEEE International Conference on Biomedical Circuits and Systems, BioCAS (2012-present)

Pantelis Georgiou
- Organizer, EPSRC Sensors to Systems workshop, September 2015, Leeds.
- International Program Committee, IEEE BioCAS conference, 2016 (Georgia, US)
- Demo Session Chair, IEEE ISCAS conference, 2015(Lisbon, Portugal)

Shih-Chii Liu
- Review member of IEEE ISCAS 2015.
- Co-organizer of Telluride Neuromorphic Cognition Engineering Workshop 2015, Telluride, Colorado.
- Co-Organizer of Asia-Pacific Summer School on Bio-Inspired System and Prosthetic Devices, National Dong Hwa University, Hualien, Taiwan, Aug 25–Sep 1, 2015.

Ricardo Carmona Galan
- Publication co-chair of the International Conference on Distributed Smart Cameras (ICDSC 2016) in-cooperation with ACM SIGBED, Paris, France, September 12-15, 2016.
- Co-chairman of the "Special Session on Cellular and Alternative Processing Architectures for Embedded Vision Systems", co-organized with François Berry at the International Workshop on Cellular Nanoscale Networks and Applications (CNNA) 2016, Dresden (Germany), August 2016.
- Co-chairman of the "Demo Session" at the International Workshop on Cellular Nanoscale Networks and Applications (CNNA) 2016, Dresden (Germany), August 2016.
- General Chair of the International Conference on Distributed Smart Cameras (ICDSC 2015) in-cooperation with ACM SIGBED, Hotel NH-Collection, Sevilla (Spain), September 8-11, 2015.

Victor Brea
- Technical Program Committee Member & PhD Forum Chair- 9th International Conference on Distributed Smart Cameras 2015 (ICDSC 2015), Sept. 8-11, 2015, Seville, Spain
- RCM- SSTC- ISCAS 2016

Philipp Hafliger
- Live Demonstrations Track Co-Chair IEEE International Symposium on Circuits and Systems (ISCAS) May 2016
- Technical Program Co-Chair of the IEEE International Symposium on Circuits and Systems (ISCAS) May 2015

Shoushun Chen
- Review Committee member, IEEE International Symposium on Circuits and Systems, ISCAS (2009-present)
- Technical Program Committee member for Electron Devices and Solid-State Circuits (EDSSC) 2015,

- Technical Program Committee member for International Conference on Event-Based Control, Communication and Signal Processing EBCCSP 2016.

Sandro Carrara
- Special Session Chair of the IEEE International Symposium on Circuits and Systems (ISCAS) 2016, in Montreal
- TPC Chair of the 23rd IEEE International Conference on Electronics Circuits and Systems, (IECEC2016, Monaco)
- TPC Chair of the 11th IEEE International Conference on Biomedical Circuits and Systems (BioCAS 2015, Atlanta)

Ibrahim (Abe) Elfadel
- Technical Program Committee of the International Conference on Computer-Aided Design, Austin, TX, Nov 2 – 6, 2015.
- Technical Program Committee of the 2016 Design Automation Conference, Austin, TX, Jun 7 - 10, 2016: Chair of the subcommittee on Analog Design and Simulation.
- Tutorial and Special Session Co-chair: 59th Midwest Symposium on Circuits and Systems, Abu Dhabi, Oct 16 – 19, 2016.
- Technical Program Committee of the International Symposium on Circuits and Systems, Montreal, May 22 – 25, 2016.

Juan Antonio Leñero-Bardallo
- Local Chair: international conference on distributed smart cameras 2015.
- Demo Chair: international conference on distributed smart cameras 2015.

Man Kay Law
- University LSI Design Contest (UDC) Co-Chair, 21th Asia and South Pacific Design Automation Conference (ASP-DAC).
- RCM, IEEE Symposium on Circuits and Systems, 2015.
- RCM, IEEE Biomedical Circuits and Systems Conference, 2015.

George Yuan
- Track-chair, IEEE International Symposium on Circuits and Systems 2015
- Session Chairs, IEEE International Symposium on Circuits and Systems 2015

EDITORIAL BOARDS

Timothy Constandinou
- Associate Editor of IEEE Transactions on Biomedical Circuits and Systems (2013 – present)

Amine Bermak
- Associate Editor Nature Scientific Reports.
- Associate Editor IEEE Transactions on Electron Devices.
- Associate Editor IEEE Transactions on Biomedical Circuits and Systems.

Teresa Serrano-Gotarredona
- Associate Editor IEEE Transactions on TCAS-I since January 2012-until now
- Associate Editor IEEE Transactions on TCAS-II since January 2015-December 2015

Piotr Dudek
- Associate Editor, IEEE Transactions on Circuits and Systems II - Brief Papers
- Review Editor – Frontiers in Neuromorphic Engineering

Jie Chen
- Steering committee and Associate Editor of IEEE Journal of Translation Engineering in Health and Medicine, Oct. 1015
- Associate Editor of Springer Journal of Medical & Biological Engineering & Computing, January 2015

Viktor Gruev
- Associate Editor of IEEE Transactions on Biomedical Circuits and Systems (2016 – present)
- Associate Editor of IEEE Transactions on Circuits and Systems II (2016 – present)

Tobi Delbruck
- Frontiers in Neuroscience: Neuromorphic Engineering
- IEEE TBioCAS

Arindam Basu
- Associate Editor: IEEE Transactions on Biomedical Circuits and Systems, 2016-18
- Associate Editor: IEEE Sensors Journal, 2015-17.
- Guest Associate Editor: Special Issue in IEEE Transactions on Biomedical Circuits and Systems on selected papers from ISCAS 2015
- Guest Associate Editor: Special Issue in IEEE Transactions on Biomedical Circuits and Systems on selected papers from BioCAS 2015

Chiara Bartolozzi
- Frontiers in Neuroscience, specialty Neuromorphic engineering, Associate Editor
- Frontiers in Robotics and AI, specialty Humanoid robotics, Reviewer

Christoph Posch
- Review Editor, Frontiers in Neuromorphic Engineering

Pantelis Georgiou
- Associate Editor of IEEE Transactions on Biomedical Circuits and Systems (2015 – present)
- Associate Editor of IEEE Sensors Journal (2014 – present)
- Guest Editor of IEEE Journal on Biomedical Health Informatics, Special issue on Diabetes 2015

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

Alejandro Linares-Barranco
- Frontiers in Neuroscience. Neuromorphic Engineering. Review Editor
- Frontiers in Neurorobotics. Review Editor
- Sensors. MDPI. Review Editor.
- Academy Publisher Journal of Networks (JNW). Review Editor.
- IEEE Transactions on Neural Networks and Learning Systems (TNNLS). Reviewer
- International Journal of Computing and Digital Systems. Associate Editor.
- IEEE Transactions on Circuits and Systems I (TCAS-I). Reviewer
- Conferences Reviewer: ISCAS, BIOROB, NEWCAS, IJCNN, WoTBD, SETIT, CITS, EBCCSP

Ricardo Carmona Galan
- Associate Editor for the Journal of Real-Time Image Processing. Springer. Period 2016-2017.
- "Special Issue on Architectures of Smart Cameras for Real-Time Applications", Guest Editors: Ricardo Carmona-Galán, François Berry, Richard Kleihorst, Dominique Ginhac. Journal of Real-Time Image Processing. Springer
- Reviewer for ISCAS, IET electronics Letters, TCAS-I, TCAS-II, IJCTA, AICSP, IEEE Sensors.

Philipp Hafliger
- Associate Editor of IEEE Transactions on Biomedical Circuits and Systems (2009 – present)
- Guest Associate Editor TCAS-1 for a special Issue on selected papers from ISCAS 2015

Shoushun Chen
- Associated Editor, IEEE Sensor Journal

Sandro Carrara
- Founder and Editor-in-Chief of BioNanoScience, journal from Springer
- Editor-in-Chief (Associate) of the IEEE Sensors Journal
- Associate Editor of IEEE Transactions on Biomedical Circuits and Systems

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

Diego Barrettino
- Associate Editor of IEEE Transactions on Instrumentation and Measurement during 2015.

Milutin Stanaćević
- Associate Editor of IEEE Transactions on Biomedical Circuits and Systems (2010 – present)
- Associate Editor for 38th Annual Int. Conf. of IEEE Engineering in Medicine and Biology Society

George Yuan
- Associate Editor, IEEE Transactions on Biomedical Circuits and Systems

OTHER IEEE SERVICE AND PROFESSIONAL ACTIVITIES

Timothy Constandinou
- IEEE CAS Society representative to IEEE Brain Initiative (2015-present)
- TC Member, CAS Biomedical and Life Science Circuits and Systems

Amine Bermak
- Secretary IEEE SSTC

Teresa Serrano-Gotarredona
- Chapter Chair of the CASS Spanish Chapter since November 2013-November 2015

Piotr Dudek
- Chair IEEE SSTC

Tobi Delbruck
- Secretary: Swiss Chapter of IEEE CAS/ED

Chiara Bartolozzi
- Track Chair of Memrisys conference
- Chair elect NSATC

Christoph Posch
- Evaluator EC H2020 project proposals - ICT and FETOpen

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

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

Alejandro Linares-Barranco
- Co-founder of the Spin-off COBER SL (Control of Biomedical Embedded Robotics) (http://www.t-cober.es/index.php/main-2/)

Ricardo Carmona Galan
- Reviewer of the Spanish National Agency for Evaluation and Prospective (ANEP). Program 'Juan de la CIerva', Ministry of Economy and Competitiveness (Spain). April 2015.
- Reviewer of the Spanish National Agency for Evaluation and Prospective (ANEP). Program 'Impulso Tecnológico', Ministry of Industry, Energy and Tourism (Spain). July 2015.
- External reviewer of the Mid Sweden University scientific project proposal quality. Synergy Program of the Knowledge Foundation (Sweden). October, 2015.

Victor Brea
- Member of Cellular Nanoscale Networks and Array Computing Technical Committee (2005- present)

Shoushun Chen
- Secretary-Elect IEEE SSTC

Sandro Carrara
- Member of the Board of Governors of the IEEE Circuits and Systems Society (2015-2017)
- Member at Large of the IEEE Sensors Council (2015-2017), member of the council since 2013

Ibrahim (Abe) Elfadel

- Reviewer: IEEE Transactions on Computer-Aided Design
- IEEE CEDA Chapter: Working on establishing a UAE chapter for the IEEE Council on Design Automation
- Reviewer: Best ISCAS paper award in the Sensor System track.

Milutin Stanaćević
- ETF BAFA Vice President, Scholarship Awards Program

Man Kay Law
- TC Member, CAS Biomedical and Life Science Circuits and Systems

George Yuan
- Chair-elect, Analog signal processing technical committee, IEEE Circuits and Systems Society
- Past Chair, Lifescience and Biomedical Circuits and Systems technical committee, IEEE Circuits and Systems Society

AWARDS, HONORS

Amine Bermak
- Co-author of the paper receiving the "Best Design Contest Award" at the major conference: IEEE ASP-Design Automation Conference DAC, Macau, 2016.

Teresa Serrano-Gotarredona
- Elevated to IEEE Senior Member September 2015

Piotr Dudek
- Royal Academy of Engineering Senior Research Fellow (2015-16)

Jie Chen
- IEEE Fellow
- Killam Annual Professorship (one of the highest honors given to a Professor in Canadian Universities)
- IEEE Distinguished Lecturer

Viktor Gruev
- 2016 IEEE Donald G. Fink Award – This award is for an outstanding paper in any of the IEEE Transactions, Journals, Magazines, or Proceedings.
- Best Live Demo award at IEEE International Symposium on Circuits and Systems (2015).
- Best Paper in the Sensors Tracks at IEEE International Symposium on Circuits and Systems (2015).

Arindam Basu
- Elected as IEEE CASS Distinguished Lecturer for 2016-17.

Shih-Chii Liu
- IEEE CAS DL Speaker 2016

Sandro Carrara
- IEEE Fellow for his outstanding record of accomplishments in the field of design of nanoscale biological CMOS sensors

Ibrahim (Abe) Elfadel
- Best MS Thesis Award by the Masdar Institute to my student Shahzad Muzaffar for his thesis entitled: "An Integrated Low-Power Platform for Continuous Congestive heart Failure Monitoring using Body Channel Communication," August 2015.

Man Kay Law
- Best Design Award, Asia and South Pacific Design Automation Conference, 2016.
- A-SSCC Distinguished Design Award, IEEE Asian Solid-State Circuits Conference, 2015.

PATENTS

Arindam Basu
- A. Basu, Y. Enyi and Chen Yi, "Compact, Low-Power, Machine Learning System Utilizing Physical Device Mismatch For Classifying Binary Encoded Or Pulse Frequency Encoded Digital Input With Application To Neural Decoding" US patent 14/885,462 filed 2015.

- A. Basu, Chen Yi, Y. Enyi and S. Roy, "Techniques to Improve Performance in VLSI Random Projection Networks" SG provisional patent 10201507753U, filed 2015.

Jie Chen
- Jie Chen, James Xing, Woon T. Ang and Hilal Gul, "Enhanced animal cell growth using ultrasound", European Patent No. 09809149.9 issued in May 2015
- Jie Chen, James Xing, Woon T. Ang and Hilal Gul, "Enhanced Animal Cell Growth Using Ultrasound", US patent, 8962290 B2, issued on April 14, 2015
- Jie Chen, James Xing and Woon T. Ang, "Ultrasound Enhanced Growth of Microorganisms", US 9012192 B2, issued on April 21, 2015

Ricardo Carmona Galan
- Licensed to Fobos Solutions SL: J. Fernández Berni, Á. Rodríguez Vázquez, R. Carmona Galán, "Dispositivo para la detección de bordes y mejora de la calidad en una imagen". Universidad de Sevilla-CSIC. Núm. P201200474-03/05/2012. OEPM (España).
- Licensed to Fobos Solutions SL: J. Fernández Berni, Á. Rodríguez Vázquez, R. Carmona Galán, "Hardware para la detección de extermos locales en una calidad en una imagen". Universidad de Sevilla-CSIC. Núm. P201201011-08/10/2012. OEPM (España).

Nicola Massari
- WO/2016/016741 True Random Number Generator

Chiara Bartolozzi
- PCT/IB2015/053952 filing date: May 27, 2015 WO 2015/181732, publication date: December 3, 2015 "Reading Circuit For POSFET Tactile Sensor Devices" Authors: Chiara BARTOLOZZI / Stefano CAVIGLIA, Maurizio VALLE

Hyunsurk (Eric) Ryu
- US9037524
- US9087302
- US9104974
- US9143680
- US9237333
- US9243904
- US9317127

8. PUBLICATIONS

In order to provide a "curated" list of publications, the members were asked to highlight their three most important publications of the past year (31 members responded to requests for this information).

Timothy Constandinou
- O. Guven, A. Eftekhar, W. Kindt, and T. Constandinou, "Computationally-efficient realtime interpolation algorithm for non uniform sampled biosignals," IET Healthcare Technology Letters, 2016.
- S. Woods and T. Constandinou, "Engineering micromechanical systems for the next generation wireless capsule endoscopy," BioMed Research International, 2015.
- I. Williams, S. Luan, A. Jackson, and T. G. Constandinou, "A scalable 32 channel neural recording and real-time fpga based spike sorting system," in IEEE Biomedical Circuits and Systems (BioCAS) Conference, pp. 187–191, 2015.

Amine Bermak
- Tang, F.; Wang, B.; Bermak, A.; Zhou, X.; Hu, S.; He, X. "A Column-Parallel Inverter-Based Cyclic ADC for CMOS Image Sensor With Capacitance and Clock Scaling" IEEE Transactions on Electron Devices, Vol. 63, No. 1, Jan. 2016.
- Bo Wang; Man Kay Law; Bermak, A.; "A Precision CMOS Voltage Reference Exploiting Silicon Bandgap Narrowing Effect", IEEE Transactions on Electron Devices, Volume: 62, Issue: 7, pp. 2128 – 2135, 2015

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Teresa Serrano-Gotarredona

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