

2023 Annual Report (June 2022 – May 2023)

Analog Signal Processing Technical Committee

IEEE Circuits and Systems Society

Chairman: Jorge Fernandes
 Chair Elect: Ayman Fayed
 Secretary: Paul Sotiriadis

1. Technical Committee/Special Interest Group Meeting(s):

Please provide information on the TC/SiG meetings held in the past year, including date, time, location, attendance rate, and if a quorum was present.

The Analog Signal Processing Technical Committee in the IEEE Circuits and Systems Society organizes one annual TC meeting in ISCAS. The detailed Information is given as follows.

The previous meeting was held hybrid due, still, to the COVID-19 pandemic. The meeting took place on May 30, 2022 at 12:30-14:00 (UTC-5:00). There was a total of 30 members present out of 52. Two new members were elected.

2. Voting Members:

First Name	Last Name	Affiliation	Email	IEEE Grade	IEEE Region
Andreas	Andreau	-	Andreou@JHU.EDU	-	R8
Alfredo	Arnaud	Universidad Catolica Del Uruguay	Aarnaud@Ucu.Edu.Uy	Senior Member	R9
Edoardo	Bonizzoni	Universita Di Pavia	Edoardo.Bonizzoni@Unipv.It	Senior Member	R8
Gert	Cauwenberghs	U.C. San Diego	Gert@UCSD.EDU	-	R6
Pak Kwong	Chan	NTU	Epkchan@NTU.EDU.SG	-	R10
Joseph	Chang	Nanyang Technological University	Eischang@Ntu.Edu.Sg	S. Member	10
Degang	Chen	Iowa State University	Djchen@IASTATE.EDU	-	R4
Vanessa	Chen	Carnegie Mellon	Vanessachen@Cmu.Edu	-	R2
Andreas	Demosthenous	University College London	A.Demosthenous@Ucl.Ac.Uk	Fellow	8
William	Eisenstadt	University Of Florida	Wre@TEC.UFL.EDU	-	R3
Ayman	Fayed	Ohio State U	Fayed.1@OSU.EDU	Senior Member	R2
Jorge	Fernandes	Instituto Superior Tecnico	Jrf@Tecnico.Ulisboa.Pt	Senior Member	R8
Igor	Filanovsky	U. Of Alberta	Ifilanov@Ualberta.Ca	Life Senior Member	R7
Randy	Geiger	Iowa Sate University	Rlgeiger@IASTATE.EDU	-	R4
Roman	Gemov	U. Of Tonoto	Roman@EECG.TORONTO.EDU	-	R7
Julius	Georgiou	University Of Cyprus	Julio@UCY.AC.CY	Senior Member	R8
Maysam	Ghovanloo	Georgia Tech.	Mgh@GATECH.EDU	-	R3
Georges	Gielen	KU Leuven	Georges.Gielen@ESAT.KULEUVE N.BE	-	R8
Joao	Goes	NOVA University Of Lisbon /UNINOVA	Goes@Fct.Unl.Pt	Senior Member	R8
Roberto	Gomez- Garcia	Universidad De Alcala	Roberto.Gomezg@UAH.ES	Senior Member	R8
Sohmyung	Ha	New York University	Sohmyung@Nyu.Edu	Senior Member	R8
Deukhyoun	Heo	Washington State Univrersity	Dheo@EECS.WSU.EDU	-	R6

Luis	Hernandez	Universidad Carlos III De Madrid	Luish@ING.UC3M.ES	Member	R8
Jeremy	Holleman	University Of Tennessee Knoxville	Jeremy.Holleman@Utk.Edu	-	R3
Shu-Chuan	Huang	TTU	Schuang@TTU.EDU.TW	-	R10
Mohammed	Ismail	-	M.Ismail@Ieee.Org	-	-
Matt	Johnston	Oregon State U.	MATTHEW.JOHNSTON@OREGONSTATE.EDU	Senior Member	R6
Jusung	Kim	Hanbat	Jusungkim@Hanbat.Ac.Kr	Member	R10
Valencia Joyner	Koomson	TUFTS	Vjoyner@ECE.TUFTS.EDU	-	R3
Raafat	Labadibi	EMSTA Bretagne	Raafat.Lababidi@Ensta-Bretagne.Fr	Member	R8
Tor Sverre	Lande	-	Bassen@IFI.UIO.NO	-	R8
Lieuwe	Leene	Imperial College	L.Leene@Imperial.Ac.Uk	-	R8
Qiang	Li	U. Of Electronic Science And Technology Of China	Qli@Uestc.Edu.Cn	Senior Member	R10
Jin	Liu	UT Dallas	Jinliu@UTDALLAS.EDU	-	R5
Jose M.	De La Rosa	Institute Of Microelectronics Of Seville, IMSE-CNM (CSIC, University Of Seville	Jrosa@Imse-Cnm.Csic.Es	Fellow	8
Shahriar	Mirabbasi	U British Columbia	Shahriar@ECE.UBC.CA	Member	R7
Un-Ku	Moon	Oregon State University	Moon@EECS.OREGONSTATE.EDU	-	R6
Laleh	Najafizadeh	Rutgers	Laleh.Najafizadeh@RUTGERS.EDU	-	R2
Nathan	Neihart	Iowa State U	Neihart@IASTATE.EDU	Senior Member	R4
Filippo	Neri	Bluewin	Filippo.Neri@BLUEWIN.CH	-	R10
Luis	Oliveira	FCT NOVA	L.Oliveira@Fct.Unl.Pt	Senior Member	R8
Marvin	Onabajo	Northeastern U	MONABAJO@ECE.NEU.EDU	Senior Member	R1
Gaetano	Palumbo	U Catania	Gaetano.Palumbo@Dieei.Unict.It	-	R8
Nuno	Paulino	Uninova	Nunop@Uninova.Pt	Senior Member	R8
Shanthi	Pavan	IIT	Shanthi@EE.IITM.AC.IN	-	R10
Salvatore	Pennisi	U Catania	Salvatore.Pennisi@UNICT.IT	Fellow	R8
Taimur	Rabuske	INESC-ID	Taimur.Rabuske@IEEE.ORG	Member	R8
Gabriel	Rincon-Mora	Georgia Tech	Rincon-Mora@Gatech.Edu	-	R3
Gordon	Roberts	McGill	Gordon.Roberts@MCGILL.CA	Fellow	R7
Mohamad	Sawan	Westlake University	Sawan@Westlake.Edu.Cn	Fellow	R10
Jose	Silva- Martinez	Texas A&M	Jsilva@ECE.TAMU.EDU	-	R5
Robert	Sobot	University Of Waterloo	Rsobot@UWO.CA	-	R7
Sameer	Sonkusale	TUFTS	Sameer@ECE.TUFTS.EDU	-	R3
Paul	Sotiriadis	National Technical University Of Athens	Pps@IEEE.ORG	Fellow	R8
Robert B.	Staszewski	Universtiy College Dublin	Robert.Staszewski@Ucd.Ie	Fellow	R8
Yichuang	Sun	U Of Hertfordshire	Y.Sun@HERTS.AC.UK	-	R8
Ioannis	Syllaios	-	Syllaios@IEEE.ORG	-	-
Thierry	Taris	University Of Bordeaux	Thierry.Taris@IMS-BORDEAUX.FR	Senior Member	R8
Ge	Tong	NTU	GETONG@NTU.EDU.SG	-	R10
Dag T.	Wisland	UIO	Dagwis@IFI.UIO.NO	-	R8
Apisak	Worapishet	Mahanakorn University	Apisak@MUT.AC.TH	-	R10
Jerald	Yoo	National University Of Singapore	Jyoo@Nus.Edu.Sg	Senior Member	R10
George	Yuan	UST	Eeyuan@UST.HK	-	R10
Lei	Zhang	Tsinghua	Zhang.Lei@TSINGHUA.EDU.CN	-	R10
Xi	Zhu	University Of Technology Sydney	Xi.Zhu@Uts.Edu.Au	S. Member	10

Nagarjuna	Nallam		nallam@iitg.ac.in	-	R10
Aatmesh	Shrivastava	Northeastern University	aatmesh@ece.neu.edu	Senior Member	R1
Mohamed	Abouziad	Qualcomm	amohamed@qti.qualcomm.com	Senior Member	R6
Tawfiq	Musah	Ohio State University	musah.3@osu.edu		R2
Arindam	Sanyal	Arizona State University	arindam.sanyal@asu.edu	Member	R6
Elkim	Roa	Universidad Industrial de Santander	efroa@uis.edu.co		R9
Zhipeng	Li	Marvell Semiconductor	zhipeng@alum.mit.edu	Senior Member	R6
Ankesh	Jain	Indian Institute of Technology	ankesh@ee.iitd.ac.in		R10

Geographical distribution of TC members (percentage of total)

	2022
Total number of TCs	%
Regions 1 – 6 (U.S.A.)	33
Region 7 (Canada)	7
Region 8 (Europe/Africa, Middle East)	35
Region 9 (Central/South America)	3
Region 10 (Asia/Pacific)	22

Gender distribution of TC members (percentage of total)

	2021
Total number of TCs	%
Male	96
Female	4

Distribution of TC members by affiliation (percentage of total)

	2021
Total number of TCs	%
Academia	97
Industry	3
Government	0

3. Accomplished Technical Activities

3.1. IEEE Conference/Event organizations

(First priority, please highlight conference/events technically and financially co-sponsored by the CAS Society)

Your Name	Conference Sponsors	Conference/Event Title	Your Role
Mohamad Sawan	IEEE CAS	AICAS 2022	General co-Chair
Mohamad Sawan	IEEE CAS	NEWCAS 2022	Honorary chair
Mohamad Sawan	IEEE CAS	APCAS 2022	Honorary chair
Sohmyung Ha	IEEE CAS	ISCAS 2022	TPC, Session chair
Marvin Onabajo	IEEE CAS	2023 IEEE Intl. Symposium on Circuits and Systems (ISCAS)	Technical Review Committee Member
Marvin Onabajo	IEEE CAS	2023 IEEE Intl. Midwest Symposium on Circuits and Systems (MWSCAS)	Technical Review Committee Member
Vanessa Chen	IEEE CAS	ISCAS	RCM
Andreas Demosthenous	IEEE CAS	ICECS 2022	Keynote Session Chair

Edoardo Bonizzoni	IEEE CAS	ISCAS2023	RCM
Edoardo Bonizzoni	IEEE CAS	ISCAS2023	Publication Co-Chair
Edoardo Bonizzoni	IEEE CAS	ICECS2023	Publication Co-Chair
Edoardo Bonizzoni	IEEE CAS	ISICAS2023	TPC Co-chair
Edoardo Bonizzoni	IEEE CAS	PRIME2022	TPC Co-chair
Edoardo Bonizzoni	IEEE CAS	PRIME2023	Industrial liaison chair
Arindam Sanyal	IEEE CAS	ISCAS 2022	RCM
Arindam Sanyal	IEEE CAS	VLSI-D 2022	Track Chair
Arindam Sanyal	IEEE CAS	MWSCAS 2023	Local arrangements co-chair
Jose M. de la Rosa	IEEE CAS	IEEE International Symposium on Circuits and Systems (ISCAS 2022, 2023)	Review Committee Member
Jose M. de la Rosa	IEEE CAS	IEEE Midwest Symposium on Circuits and Systems (MWSCAS 2022, 2023)	Steering Committee Member
Jose M. de la Rosa	IEEE CAS	IEEE Midwest Symposium on Circuits and Systems (MWSCAS 2022)	Track Chair
Jose M. de la Rosa	IEEE CAS	IEEE Midwest Symposium on Circuits and Systems (MWSCAS 2023)	Review Committee Member
Paul Sotiriadis	IEEE CAS	IEEE ISCAS 2022	RCM
Paul Sotiriadis	IEEE CAS	IEEE ICECS 2022	RCM
Paul Sotiriadis	IEEE CAS	SBCCI 2022	RCM
Ayman Fayed	IEEE CAS	IEEE Int. Symposium on Circuits & Systems (ISCAS)	Member, Analog Signal Processing Technical Program Committee
Ayman Fayed	IEEE CAS	IEEE Int. Midwest Symposium on Circuits & Systems (MWSCAS)	Member, Steering Committee
Jorge Fernandes	IEEE CAS	IEEE Int. Symposium on Circuits & Systems (ISCAS)	Member, Analog Signal Processing Technical Program Committee

(Second priority, please highlight conference/events technically by the CAS Society)

Your Name	Conference Sponsors	Conference/Event Title	Your Role
Mohamad Sawan	IEEE CAS	International Conf. on Microelectronics (ICM 2022)	General co-Chair
Marvin Onabajo	IEEE CAS	2022 International Symposium on Integrated Circuits and Systems (ISICAS)	Guest associate editor for the area of RF/analog electronics of the Special Issue in IEEE Transactions on Circuits and Systems I – Reg. Papers
Aatmesh Shrivastava	IEEE, CEDA, CASS, ACM	ISLPED	Track Chair

Please don't report conference/events that are NOT sponsored by the CAS Society. Thank you!

3.2. IEEE Journal Editorships:

(Please highlight the journals that are (co-)sponsored by the CAS Society, cf., <https://iee-cas.org/publications>)

Your Name	Journal Sponsors	Journal Title	Your Role
Mohamad Sawan	IEEE CAS	TAFE (launched in Jan 2023)	VP Pubs
Mohamad Sawan	IEEE CAS	TCASAI (under preparation)	VP Pubs
Sohmyung Ha	IEEE CAS	Transactions on Biomedical Circuits and Systems	Associate Editor
Marvin Onabajo	IEEE CAS	IEEE Transactions on Circuits and Systems I	Associate Editor
Marvin Onabajo	IEEE CAS	IEEE Circuits and Systems Magazine	Associate Editor
Luis Oliveira	IEEE CAS	IEEE Transactions on Circuits and Systems II: Express Briefs	Associate Editor
Vanessa Chen	IEEE CAS	IEEE Transactions on Circuits and Systems I: Regular Papers (TCAS-I)	Associate Editor
Vanessa Chen	IEEE CAS	IEEE Transactions on Biomedical Circuits and Systems	Associate Editor

Vanessa Chen	IEEE CAS	IEEE Open Journal of Circuits and Systems	Guest Editor
João Goes	IEEE CAS	Transactions on Circuits and Systems - II	Associate Editor
Joseph Chang	IEEE CAS	IEEE J. Flexible Electronics	Editor
Paul Sotiriadis	IEEE CAS	IEEE Sensors Journal	Associate Editor
Andreas Demosthenous	IEEE CAS	IEEE Transactions on Biomedical Circuits and Systems	Associate Editor
Ayman Fayed	IEEE CAS	IEEE Transactions on Circuits & Systems I	Member of the Editorial Board, Associate Editor
Edoardo Bonizzoni	IEEE CAS	Transactions on Circuits and Systems – Part II	Associate Editor in Chief
Xi Zhu	IEEE CAS	IEEE Trans. Circuits & Systems II: Express	Associate Editor
Paul Sotiriadis	IEEE CAS	Guest Editorial Unconventional Computing Techniques for Emerging Technology Applications, IEEE Journal on Emerging and Selected Topics in Circuits and Systems, Vol. 13, No. 1, March 2023	Guest Editor
Paul Sotiriadis	IEEE CAS	IEEE Sensors Journal	Associate Editor
Aatmesh Shrivastava	IEEE CAS	TCAS-I	Associate Editor
Aatmesh Shrivastava	IEEE CAS	OJCAS	Associate Editor

Please don't report journals that are NOT sponsored by the CAS Society. Thank you!

3.3. Awards, Honors, and Recognition

(Fellow, Distinguished Lecturer, Outstanding Service, Best Paper Awards, and so on by the CAS Society)

Your Name	Awards / Honors / Recognition	Period
Joseph S Chang	Darlington Award	2018
Paul Sotiriadis	FELLOW IEEE	2023
Paul Sotiriadis	2022 CASS Outstanding Technical Committee Recognition (ASPTC)	2021-2022
Paul Sotiriadis	IEEE 2023 CAS Fellows Evaluation Committee	2023
Ayman Fayed	2022 IEEE CASS Outstanding Technical Committee Award, Analog Signal Processing Technical Committee (Serving as Secretary and Chair Elect of the Committee's Board)	2022
Ayman Fayed	2022 IEEE TCAS-I Best Associate Editor Award	2022

3.4. Keynote Speeches/Invited Talks:

Your Name	Invited by	Event/Conference Title	Talk Title	Date
Mohamad Sawan	Organizing Committee Chair	BioCAS Workshop, Virtual, Tainan, Taiwan	Closed-loop Systems for Efficient Brain-machine Interfaces	Oct. 2022
Julius Georgiou	Karlo Nyarko	Plenary Speaker at SST 2022 – 5 th International Conference on Smart Systems and Technologies, Osijek, Croatia	"Smart Systems for Improved Quality of Life"	19 th October 2022
Julius Georgiou	Cyprus Chamber of Commerce and Industry	Invited Speech, European Centre of Vocational Excellence in Microelectronics Workshop, Nicosia, Cyprus	"Microelectronic Technology"	21 st September 2022
Julius Georgiou	Kea-Tiong (Samuel) Tang	Invited Tutorial, IEEE BioCAS 2022, Taipei, Taiwan	"Medical Devices – from Research to Market"	13 th October 2022
Jose M. de la Rosa	IEEE MWSCAS General Chair	IEEE Midwest Symposium on Circuits and Systems (MWSCAS)	Automated Design of Sigma-Delta Converters: From Know-How to AI-assisted Optimization	August 10, 2022
Jose M. de la Rosa	IEEE NEWCAS General Chair	IEEE Interregional NEWCAS Conference	Using Artificial Neural Networks for the Automated Design of Analog Circuits – Application to $\Sigma\Delta$ Converters	June 26, 2023
Jose M. de la Rosa	IEEE SMACD General Chair	IEEE International Conference on Synthesis, Modeling, Analysis and Simulation Methods, and	Design Automation of Analog And Mixed-Signal Circuits Using Artificial Neural Networks	July 3, 2023

		Applications to Circuit Design (SMACD)		
Andreas Demosthenous	Yuanjin ZHENG	First International Workshop on Future Intelligent Circuit and Systems (IW-FICAS)	Circuits and Systems for Bioimpedance Applications: Imaging and Beyond	05 August 2022
Ayman Fayed	Texas A&M University	Invited Speaker	Spur-Free Switching Power Converters for Noise-Sensitive Analog/RF Loads	04/2023
Ayman Fayed	Raytheon Company	Invited Speaker	Introduction to Data Converters	11/2022
Ayman Fayed	Wayne State University	Invited Speaker	Microelectronics in the US Midwest: Opportunities for University Collaboration	10/2022
Arindam Sanyal	Cirrus Logic	Tech Talk at Cirrus	Mostly Digital Delta-Sigma ADCs for High Energy Efficiency Data Conversion	July 2022
Arindam Sanyal	TinyML	TinyML Phoenix Chapter Seminar	Analog TinyML for health management using intelligent wearables	Nov 22, 2022
Jorge Fernandes	Industry Meeting	Invited Speaker	Nano-Electronics Circuits and Systems	Dec. 2022

3.5. Other distinguished IEEE services

(For example, CAS BoG, Region/chapter leadership, TC chair/secretary)

Your Name	Organization	Position/Activities	Period
Mohamad Sawan	CASS, Excom	VP Publications	2019-2022
Mohamad Sawan	CASS, BioCAS Conf.	Steering committee	2023-....
Mohamad Sawan	CASS, AICAS Conf.	Steering committee	2023-....
Andreas Demosthenous	IEEE CAS	Chair CAS IEEE Fellows Evaluation Committee	2022-2023
Luis Oliveira	IEEE Portugal CAS Chapter	Vice-Chair	2022-2023
Luis Oliveira	IEEE CAS SB Counselor	NOVA University Student Branch Counselor	2022-2023
Arindam Sanyal	IEEE RWW	TPC	2022-2023
Jose M. de la Rosa	IEEE-CAS	Member-at-Large BoG	2023-2025
Jose M. de la Rosa	IEEE	IEEE TechRxiv Editorial Advisory Committee	2022-2023
Jose M. de la Rosa	IEEE CAS	IEEE-CASS Plagiarism Committee Chair	2022-2023
Jose M. de la Rosa	IEEE CAS	IEEE-CASS Best-Paper Awards Selection Committee	2022
Ayman Fayed	IEEE CASS	President-Elect, Analog Signal Processing Technical Committee	2021-Present
Ayman Fayed	IEEE PELS, (APEC)	Track Co-Chair, Power Electronics Integration and Manufacturing	2018-Present
Paul Sotiriadis	IEEE	Chair – Circuits and Systems/Solid-State Circuits Joint Chapter, Greece	2022-
Jorge Fernandes	IEEE CAS	Chair Analog Signal Processing Technical Committee	2022-Present
Jorge Fernandes	IEEE CRFID	Program Chair of The CRFID Distinguished Lecture Program	2016-Present

4. TC Significant Technical Leadership and Innovations

Please list 5 (or less) most significant TC/SIG activities in the past year, for example, but not limited to

- (1) Established/organized new CASS journals/conferences/workshops
 - a. Please include title, scope, status (e.g., submissions, published papers)
- (2) Organized special issues in CASS journal, special sessions/tutorials in CASS conferences, CASS seasonal schools, CASS industrial forums, or CASS competitions
 - a. Please include title, the guest editors/organizers, the year, and the month, the number of submissions, the number of papers published, and the impacts (e.g., the total number of citations/full text views so far or the total number of attendees)
- (3) Organized new CASS initiatives

- (4) Established cross-TCs/SIGs collaborations
- (5) Awards received by the TC/SIG or the TC/SIG members

The IEEE ASPTC is a mature, well established committee with its committee members involved in many activities worldwide. Being many of the activities spread out over a larger time window, for the period of 2022-2023: was awarded

2022 CASS Outstanding Technical Committee Recognition (ASPTC)

As well as the participation in many CAS Conferences with relevant roles. From these we outstand last year ISCAS:

[2022] IEEE ISCAS 2022 Organizing Committee, Austin, USA [ASTPC members presence]

General Co-Chair: Randall Geiger; Technical Program Co-Chair: Jose Silva-Martinez; Special Session Co-Chair: Joseph Chang; Publicity Co-Chair: Jose de la Rosa; Publications Co-Chair: Marvin Onabajo; Late Breaking News Co-Chairs Nathan Neihart

5. New plans for the next year

Are there any new initiatives, workshops, journal special issues, conference special sessions, etc., that your TC or TC members are planning for the next year?

Again, most of the ASTPC committee member are involved in IEEE activities, at a global and local level, proposing for the organization of new conferences, and participating in the Organizing Committees or with the organization of special sessions at most IEEE CAS conferences, ISCAS, NEWCAS, AICAS, ISICAS, MWSCAS, etc., conferences.

From this committee, at this point, it was expressed by:

- Mohamad Sawan:
 - General Chair AICAS 2023;
 - General Co-chair ICM 2023;
 - Honorary Chair NEWCAS 2023.
- Xi Zhu: planning to organize a Special Issue on JETCAS for emerging 6G technology.

Apart from the IEEE J. Flexible Electronics journal there are other recent journals, as the IEEE Open Journal of Circuits and Systems (2020) that are still in their early years.