

2023 Annual Report (June 2022 – May 2023)
Nonlinear Circuits and Systems Technical Committee
IEEE Circuits and Systems Society

Chair: Marco Storace
Chair-Elect: Federico Bizzarri
Secretary: Erivelton Geraldo Nepomuceno

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

8th June 2022 (virtual)

Attendance rate: 34% (23 out of 67)

Quorum: reached (“whenever voting occurs during a meeting, a quorum applies requiring at least the ceiling of one third of the regular TC members to be present at the meeting”).

2. Voting Members (68):

Forename	Surname	Affiliation	Email	Membership	IEEE Region
Isaac Palliath	ABRAHAM	Intel Corporation	isaac.abraham@intel.com	IEEE Senior Member	R6
Tommaso	ADDABBO	University of Siena	addabbo@dii.unisi.it	IEEE Member	R8
Federico	BIZZARRI	Politecnico di Milano	federico.bizzarri@polimi.it	IEEE Senior Member	R8
Elena	BLOKHINA	University College Dublin	elena.blokhina@ucd.ie	IEEE Senior Member	R8
Sergio	CALLEGARI	University of Bologna	sergio.callegari@unibo.it	IEEE Senior Member	R8
Guanrong (Ron)	CHEN	City University of Hong Kong	gchen@ee.cityu.edu.hk	IEEE Life Fellow	R10
Chi Tsun (Ben)	CHENG	RMIT University	ben.cheng@rmit.edu.au	IEEE Senior Member	R10
Alessandro	COLOMBO	Politecnico di Milano	alessandro.colombo@polimi.it	IEEE Senior Member	R8
Danilo	COMMINEILLO	Sapienza University of Rome	danilo.comminiello@uniroma1.it	IEEE Senior Member	R8
Fernando	CORINTO	Politecnico di Torino	fernando.corinto@polito.it	IEEE Senior Member	R8
He	DI	Shanghai Jiao Tong University	dihe@sjtu.edu.cn	IEEE Senior Member	R10

Mario	DI BERNARDO	Università degli Studi di Napoli Federico II	mario.dibernardo@unina.it	IEEE Fellow	R8
Manuel	DOMINGUEZ-PUMAR	Technical University of Catalonia	manuel.dominguez@upc.edu	IEEE Senior Member	R8
Abdelali	EL AROUDI	Universitat Rovira i Virgili	abdelali.elaroudi@urv.cat	IEEE Senior Member	R8
Ahmed	ELWAKIL	University of Sharjah	elwakil@ieee.org	IEEE Senior Member	R8
Orla	FEELY	University College Dublin	orla.feely@ucd.ie	IEEE Fellow	R8
Davide	FIORE	Università degli Studi di Napoli Federico II	davide.fiore@unina.it	IEEE Member	R8
Dimitri	GALAYKO	Université Pierre et Marie Curie	dimitri.galayko@lip6.fr	IEEE Member	R8
Zbigniew	GALIAS	AGH-University of Science and Technology	zbigniew.galias@agh.edu.pl	IEEE Senior Member	R8
Damian	GIAOURIS	Newcastle University	damian.giaouris@newcastle.ac.uk	IEEE Member	R8
Marco	GILLI	Politecnico di Torino	marco.gilli@polito.it	IEEE Fellow	R8
İzzet Cem	GÖKNAR	Işık University	cem.goknar@isikun.edu.tr	IEEE Life Fellow	R8
Michael	GREEN	University of California Irvine	mgreen@uci.edu	IEEE Senior Member	R6
Brendan	HAYES	Dublin City University	brendan.hayes@dcu.ie	IEEE Member	R8
Ho-Ching (Herbert)	IU	The University of Western Australia	herbert@ee.uwa.edu.au	IEEE Senior Member	R10
Alex Pappachen	JAMES	Indian Institute of Information Technology and Management	a.james@iiitmk.ac.in	IEEE Senior Member	R10
Amit	JHA	Integrated Device Technology	ajha@ieee.org	IEEE Senior Member	R6
Guo-Ping	JIANG	Nanjing University of Posts & Telecommunications	jianggp@njupt.edu.cn	IEEE Senior Member	R10
Michael Peter	KENNEDY	University College Dublin	peter.kennedy@ucd.ie	IEEE Fellow	R8
Géza	KOLUMBAN	Pázmány Péter Catholic University	kolumban@itk.ppke.hu	IEEE Fellow	R8
Francis	LAU	Hong Kong Polytechnic University	francis-cm.lau@polyu.edu.hk	IEEE Fellow	R10

Adrian	LEUCIUC	Cadence Design Systems	aleuciuc@cadence.com	IEEE Senior Member	R2
Henry	LEUNG	University of Calgary	leungh@ucalgary.ca	IEEE Fellow	R7
Xiang	LI	Fudan University	lix@fudan.edu.cn	IEEE Senior Member	R10
Daniele	LINARO	Politecnico di Milano	daniele.linaro@polimi.it	IEEE Member	R8
Wing-Kuen	LING	Guangdong University of Technology	yongquanling@gdut.edu.cn	IEEE Senior Member	R10
Matteo	LODI	University of Genoa	matteo.lodi@unige.it	IEEE Member	R8
Ahmed	MADIAN	Nile University	amadian@nu.edu.eg	IEEE Senior Member	R8
Wolfgang	MATHIS	Leibniz University Hannover	mathis@tet.uni-hannover.de	IEEE Fellow	R10
Dinesh	MEHTA	Colorado School of Mines	dmehta@mines.edu	IEEE Senior Member	R5
Riccardo	MEUCCI	National Institute of Optics - National Research Council of Italy (CNR)	riccardo.meucci@ino.cnr.it	Senior Member	R8
Erivelton Geraldo	NEPOMUCENO	Federal University of São João del-Rei	nepomuceno@ufsj.edu.br	IEEE Senior Member	R9
Yoshifumi	NISHIO	Tokushima University	nishio@ee.tokushima-u.ac.jp	IEEE Senior Member	R10
Alejandro Rojas	NORMAN	Universidad de Concepción	arojasn@udec.cl	IEEE Senior Member	R9
Maciej J.	OGORZALEK	Jagiellonian University	Maciej.Ogorzalek@uj.edu.pl	IEEE Fellow	R8
Alberto	OLIVERI	University of Genoa	alberto.oliveri@unige.it	IEEE Member	R8
Fabio	PARESCHI	Politecnico di Torino	fabio.pareschi@polito.it	IEEE Senior Member	R8
Marcus	PROCHASKA	Ostfalia University of Applied Sciences	m.prochaska@ostfalia.de	IEEE Member	R8
Costas	PSYCHALINOS	University of Patras	cpsychal@upatras.gr	IEEE Senior Member	R8
Ahmed	RADWAN	Nile University	agradwan@nu.edu.eg	IEEE Senior Member	R8
Zhihai	RONG	University of Electronic Science	rongzhh@gmail.com	IEEE Member	R10

		and Technology of China			
Hiroo	SEKIYA	Chiba University	sekiya@faculty.chiba-u.jp	IEEE Senior Member	R10
Neslihan Serap	SENGOR	Istanbul Technical University	sengorn@itu.edu.tr	IEEE Member	R8
Gianluca	SETTI	Politecnico di Torino	gianluca.setti@polito.it	IEEE Fellow	R8
Francesco	SORRENTINO	University of New Mexico	fsorrent@unm.edu	IEEE Senior Member	R6
Marco	STORACE	University of Genoa	marco.storace@unige.it	IEEE Senior Member	R8
Jitao	SUN	Tongji University	sunjt@sh163.net	IEEE Member	R10
Kangkang	SUN	Harbin Institute of Technology	angkangsun2010@gmail.com	IEEE Member	R10
Johan	SUYKENS	Katholieke Universiteit Leuven	johan.suykens@esat.kuleuven .be	IEEE Fellow	R8
Krishnaiya n	THULASIRAM AN	University of Oklahoma	thulasi@ou.edu	IEEE Member	R6
Ljiljana	TRAJKOVIC	Simon Fraser University	ljilja@cs.sfu.ca	IEEE Life Fellow	R7
Chi Kong (Michael)	TSE	Hong Kong Polytechnic University	cktse@ieee.org	IEEE Fellow	R10
Tetsushi	UETA	Tokushima University	ueta@tokushima-u.ac.jp	IEEE Senior Member	R10
Yoko	UWATE	Tokushima University	uwate@ee.tokushima-u.ac.jp	IEEE Senior Member	R10
Jiajing	WU	Sun Yat-sen University	wujiajing@mail.sysu.edu.cn	IEEE Senior Member	R10
Yongxiang	XIA	Zhejiang University	xiayx@ieee.org	IEEE Senior Member	R10
Mustak Erhan	YALCIN	Istanbul Technical University	mustak.yalcin@itu.edu.tr	IEEE Senior Member	R8
Wei Xing	ZHENG	University of Western Sydney	w.zheng@uws.edu.au	IEEE Fellow	R10

Geographical distribution of TC members (percentage of total)

	2023
Total number of TCs	%
Regions 1 – 6 (U.S.A.)	10.3
Region 7 (Canada)	2.9
Region 8 (Europe/Africa, Middle East)	52.9
Region 9 (Central/South America)	2.9
Region 10 (Asia/Pacific)	30.9

Gender distribution of TC/SIG members (percentage of total)

	2023
Total number of TCs	%
Male	91.2
Female	8.8

Distribution of TC/SIG members by affiliation (percentage of total)

	2023
Total number of TCs	%
Academia	95.5
Industry	4.5
Government	0.0

3. Accomplished Technical Activities

3.1. IEEE Conference/Event organizations

Your Name	Conference Sponsors	Conference/Event Title	Your Role
İzzet Cem Göknar	IEEE, IEEE CAS	International Conference on Circuits Electronics and Systems, ICECS 2023	General Co-Chair
Guanrong Chen	IEEE CAS NLCAS	International Workshop on Complex-systems for Future Technologies and Applications, Guangzhou, China (25th-28th November, 2022) http://www.chaos-fractal.cn/2022/2022/index-2022.html	General Co-Chair
Fabio Pareschi	IEEE CAS	2023 Midwest Symposium on Circuits and Systems	TC for "Power and Energy Circuits and Systems" track
Ahmed Madian	IEEE CASS NCASS TC and IEEE CASS Region 8	International conference on Microelectronics (ICM2022)	Technical Program chair
Ahmed Madian	IEEE Egypt Section	Novel Intelligent science and Technology (NILES 2022)	Technical Program chair
Hiroo Sekiya	IEEE CAS	ISOCC2022, Jeju, Korea, 19-22 Oct. 2022	Special Session Chair
Costas Psychalinos	IEEE CAS	NILES 2022	Plenary Talk Co-Chair
Costas Psychalinos	IEEE CAS	VLSISoc 2022	Track Chair
Danilo Communiello	IEEE CAS	ISCAS 2023	Track Co-chair for track 9 - Methods and Models for the Analysis/Design of Nonlinear Circuits and Systems
Ahmed Madian	IEEE CAS	ISCAS 2023	Track Co-chair for track 9 - Methods and Models for the Analysis/Design of Nonlinear Circuits and Systems

3.2. IEEE Journal Editorships

Your Name	Journal Sponsors	Journal Title	Your Role
Yoko Uwate	IEEE CAS	IEEE CAS SOCIETY NEWSLETTER	Associate Editor
Federico Bizzarri	IEEE CAS	IEEE Open Journal of Circuits and Systems (OJCAS)	Associate Editor
Alex James	IEEE CAS	IEEE Open Journal of Circuits and Systems (OJCAS)	Associate Editor
Daniele Linaro	IEEE CAS	IEEE Open Journal of Circuits and Systems (OJCAS)	Associate Editor
Chi-Tsun (Ben) Cheng	IEEE CAS	IEEE Open Journal of Circuits and Systems (OJCAS)	Associate Editor
Matteo Lodi	IEEE CAS	IEEE Transactions on Circuits and Systems I	Associate Editor
Alberto Oliveri	IEEE CAS	IEEE Transactions on Circuits and Systems I	Associate Editor
Alex James	IEEE CAS	IEEE Transactions on Circuits and Systems I	Associate Editor
Wei Xing Zheng	IEEE CAS	IEEE Transactions on Circuits and Systems I	Associate Editor
Chi-Tsun (Ben) Cheng	IEEE CAS	IEEE Transactions on Circuits and Systems II	Associate Editor
Herbert Ho-Ching lu	IEEE CAS	IEEE Transactions on Circuits and Systems II	Associate Editor
Erivelton Nepomuceno	IEEE CAS	IEEE Transactions on Circuits and Systems II	Associate Editor
Chi-Tsun (Ben) Cheng	IEEE CAS	IEEE Circuits and Systems Society Newsletter	Associate Editor
Chi-Tsun (Ben) Cheng	IEEE CAS	IEEE Journal on Emerging and Selected Topics in Circuits and Systems (JETCAS)	Special Issues – Corresponding Guest Editor
Francesco Sorrentino	IEEE CAS	IEEE Control Systems Letters (L-CSS)	Associate Editor
Alejandro Rojas	IEEE	IEEE Latin America Transactions	Associate Editor
Gianluca Setti	IEEE	Proceedings of the IEEE	Editor-In-Chief

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
Ljiljana Trajkovic	CASS Distinguished Lecturer	2021-22
Michael Peter Kennedy	CASS Distinguished Lecturer	2022-23
Herbert lu	CASS Distinguished Lecturer	2023-24
Danilo Comminiello	Best NCAS Track Manuscript Award at ISCAS 2022	2022
Ahmed Madian (chair of the IEEE CASS Egypt Chapter)	2023 IEEE Circuits and Systems Regional Chapter-of-the-Year Award: Region 8	2023

3.4. Keynote Speeches/Invited Talks:

Your Name	Invited by	Event/Conference Title	Talk Title	Date
Michael Peter Kennedy	CAS Delhi Chapter	Distinguished Lecture	Recent Advances in Frequency Synthesis	13 April 2022
Michael Peter Kennedy	CAS Rio Grande do Sul Chapter	Distinguished Lecture	Recent Advances in Frequency Synthesis	27 May 2022
Michael Peter Kennedy	Pedro Julian	EAMTA 2023	Recent Advances in Frequency Synthesis	9 March 2023
Isaac Abraham	Prof. Menaka Abraham, University of Washington, Tacoma (Computer Science)	Guest Lecture	Introduction to the World of Integrated Circuits	2023/04/10
Ljiljana Trajkovic	Organizers	Technical Summit on Artificial Intelligence & Robotics	"Machine learning for detecting Internet traffic anomalies"	March 24, 2023
Ljiljana Trajkovic	IEEE Student Branch BITM	SMC Society Distinguished Lecturer Program	"Machine learning for detecting Internet traffic anomalies"	March 20, 2023
Ljiljana Trajkovic	Organizers	Artificial Intelligence and Signal Processing (AISP 2023)	"Machine learning for detecting Internet traffic anomalies"	March 19, 2023
Ljiljana Trajkovic	Organizers	2nd International Conference on Digital Management, Information Systems and Technologies (DMIST 2023)	"Machine learning for detecting Internet traffic anomalies"	March 16, 2023
Ljiljana Trajkovic	Prof. Pedro Julian	Argentine School of Micro-Nanoelectronics, Technology and Applications (EAMTA 2023,) Córdoba, Argentina	"Machine learning for detecting Internet traffic anomalies"	March 8, 2023
Ljiljana Trajkovic	Organizers	2023 International Workshop on Intelligent Systems and Computational Intelligence (IWISCI 2023)	"Machine learning for detecting Internet traffic anomalies"	February 28, 2023
Ljiljana Trajkovic	Prof. Francesco Sorrentino	"Machine learning for detecting Internet traffic anomalies," Graduate Seminar, Mechanical Engineering, University of New Mexico	"Machine learning for detecting Internet traffic anomalies"	February 26, 2023
Ljiljana Trajkovic	Organizers	2023 2nd International Conference on Image, Signal Processing and Pattern Recognition	"Machine learning for detecting Internet traffic anomalies"	February 25, 2023
Ljiljana Trajkovic	Organizers	2023 3rd International Conference on Consumer Electronics and Computer Engineering (ICCECE 2023)	"Machine learning for detecting Internet traffic anomalies"	January 4, 2023
Ljiljana Trajkovic	Organizers	Intelligent Computing and Next Generation Networks (ICNGN2022)	"Machine learning for detecting ransomware attacks"	December 17, 2022
Ljiljana Trajkovic	Organizers	IEEE Women in Circuits & Systems Workshop	"Machine learning for detecting Internet traffic anomalies"	December 15, 2022
Ljiljana Trajkovic	Organizers	2nd International Conference on Cybersecurity and Evolutionary Data Engineering (ICCEDE	"Machine learning for detecting Internet traffic anomalies"	December 9, 2022

		2022), Greater Noida, India		
Ljiljana Trajkovic	Organizers	Vallore Institute of Technology, Andhra Pradesh, India	"Machine learning for detecting Internet traffic anomalies"	November 10, 2022
Ljiljana Trajkovic	Organizers	Fourth Communication Engineering and Cloud Computing Conference (CECCC 2022), Nanjing, China	"Machine learning for detecting Internet traffic anomalies"	October 29, 2022
Ljiljana Trajkovic	Organizers	7th International Conference on Integrated Circuits and Microsystems (ICICM 2022), London, United Kingdom	"Machine learning for detecting Internet traffic anomalies"	October 29, 2022
Ljiljana Trajkovic	Organizers	The 6th International Conference on Advances in Artificial Intelligence (ICAAI 2022), Brimingham, United Kingdom	"Machine learning for detecting Internet traffic anomalies"	October 22, 2022
Ljiljana Trajkovic	Organizers	The 2022 International Conference on Informatics, Networking and Computing (ICINC 2022), Barcelona, Spain	"Machine learning for detecting Internet traffic anomalies"	October 15, 2022
Ljiljana Trajkovic	Organizers	2022 6th International Conference on E-Business and Internet (ICEBI 2022), Singapore	"Machine learning for detecting Internet traffic anomalies"	October 15, 2022
Ljiljana Trajkovic	Organizers	EEE Day in Poland 2022, October 2022 (invited talk).	Machine learning for detecting Internet traffic anomalies,"	October 12, 2022
Ljiljana Trajkovic	Organizers	20th IEEE International Symposium on Intelligent Systems and Informatics, Subotica (SISY 2022), Serbia	"Machine learning for detecting traffic anomalies"	September 16, 2022
Ljiljana Trajkovic	IEEE Malaysia Section	IEEE SMC Society Distinguished Lecturer Program	"Machine learning for detecting ransomware using BGP routing records"	September 12 2022
Ljiljana Trajkovic	Organizers	2022 International Conference on Advanced Robotics and Intelligent Systems (ARIS 2022), Taipei City, Taiwan	"Machine Learning for Detecting Traffic Anomalies using BGP Routing Records"	August 25, 2022
Ljiljana Trajkovic	Organizers	The 2nd International Conference on Big Data Engineering and Education (BDEE 2022), Chengdu, China	"Machine learning for detecting ransomware using BGP routing records"	August 6, 2022
Ljiljana Trajkovic	IEEE CAS Society Distinguished Lecturer Program	29th International Conference on Systems, Signals and Image Processing (IWSSIP 2022), Sofia, Bulgaria	"Complex networks"	June 2, 2022

3.5. Other distinguished IEEE services

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

Your Name	Organization	Position/Activities	Period
Michael Peter Kennedy	IEEE	Chair, IEEE Technical Field Awards Council	2022-23
Michael Peter Kennedy	IEEE	Vice Chair, IEEE Awards Board	2023
Ljiljana Trajkovic	IEEE Election Oversight Committee	Vice-Chair/Chair	2022-2023
Ljiljana Trajkovic	IEEE Tellers Committee	Member/Vice-Chair	2022-2023

Hiroo Sekiya	IEEE CAS	CASS BoG	(2019-2022, 2023-2026)
Yoko Uwate	IEEE CAS	BoG member, Conference division	Jan. 2021 – Dec. 2023
Yoko Uwate	IEEE CAS	DEI chair	May. 2022 - present
Yoko Uwate	IEEE CAS	Shikoku chapter, secretary	Jan. 2019 - present
Marco Storace	Technical Committee on Nonlinear Circuits and Systems	Chair	May 2021 - current
Federico Bizzarri	Technical Committee on Nonlinear Circuits and Systems	Chair-Elect	May 2021 - current
Erivelton Nepomuceno	Nonlinear Circuits and Systems Technical Committee	Secretary	June 2021 – May 2023
Daniilo Comminiello	IEEE CAS Central & South Italy Chapter	Finance Chair	01/01/2023 – 31/12/2024
Hiroo Sekiya	CASS Japan Joint Chapter	Hybrid YP/Industry Meeting for Encouraging Students Young Researchers to Survive COVID-19	28 Nov. 2022
Alejandro Rojas	IEEE Chile Sur Section	Vice-Chair	2022-2023
Ahmed Madian	IEEE Egypt section	Secretary	2022-2024
Ahmed Madian	IEEE CASS Egypt TC	Chair	2022-2024
Ljiljana Trajkovic	IEEE Brain Technical Community Steering Committee	Member, SMC Society Representative	2021-2023
Ljiljana Trajkovic	IEEE Smart Village Governing Board	Member, SMC Society Representative	2020-2023
Ljiljana Trajkovic	IEEE Smart Cities Steering Committee	Member, SMC Society Representative	2020-2023
Ljiljana Trajkovic	IEEE Circuits and Systems Society joint Chapter of the Vancouver/Victoria Sections	Past Chair	2021-2023
Ljiljana Trajkovic	IEEE Control Systems Society, Robotics and Automation Society, and Systems, Man, and Cybernetics Society Chapter of the Vancouver Section	Vice-Chair	2011-2023
Ljiljana Trajkovic	IEEE Simon Fraser University Student Branch	Mentor	2008-2023
Mustak ErhanYalcin	IEEE CASS Turkey Chapter	Chair	2022-2024

4. TC Significant Technical Leadership and Innovations

- The NCAS TC has been selected by the CASS TA division to receive one of the Best TC/SIG Awards for 2022.
- Costas Psychalinos is member of the Organization Committee of the CASS Seasonal 3-day school on “SMART Integrated Circuit Design Methodology: Enabling AI IC Design and Design Cycle Speed Up”, November 25-27, 2023, Thessaloniki, Greece.

5. New plans for the next year

Improvement of submissions of papers to the NCAS Track at ISCAS

On September 2022 we approved the rules for the recognition of the Best NCAS Track Manuscript at ISCAS, which are based on the experience ripened at ISCAS 2022. These rules have been applied this year to select the Best NCAS Track Manuscript at ISCAS 2023.

During the TC meeting at ISCAS 2023, we will further discuss on how to improve the number of submissions to our track. It would be nice that papers submitted to approved special sessions organized by TC members are included in the number of papers submitted to the TC Track. This would also stimulate the TC members to organize special sessions.

We will also discuss about special issues of CASS journals focused on selected TC topics.

Improvement of the TC pages in the CASS website

We would appreciate very much the updating of the TC webpages in the new CASS website, so that we can check and improve them.