

2024 Annual Report (June 2023 – May 2024)
CAEO Technical Committee/ Special Interest Group
IEEE Circuits and Systems Society

Chair: Ljiljana Trajkovic
Chair-Elect/Secretary: Vacant
Past Chair: Babak Ayazifar

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.

2. Voting Members:

First Name	Last Name	Affiliation	Email	IEEE Grade	IEEE Region
Pamela	Abshire	University of Maryland	pabshire@umd.edu	F	R1-6
M Omair	Ahmad	Concordia University	omair@ece.concordia.ca		R7
Eduard	Alarcon	Universitat Politècnica de Catalunya	eduard.alarcon@upc.edu		R8
Massimo	Alioto	National University of Singapore	malioto@ieee.org		R10
Babak	Ayazifar	UC Berkeley	ayazifar@eecs.berkeley.edu		R1-6
Magdy	Bayoumi	University of Louisiana	mab@cacs.louisiana.edu, magdy1112@yahoo.com	F	R1-6
Sergio	Callegari	University Bologna	sergio.callegari@unibo.it		R8
Marco	Carminati	Politecnico di Milano	marco1.carminati@polimi.it		R8
Zhibo	Chen	University of Science and Technology of China	chenzb@ieee.org, chenzhibo@ustc.edu.cn	SM	R10
Malgorzata	Chrzanowska-Jeske	Portland State University	jeske@ece.pdx.edu		R1-6
Martin	di Federico	University Nacional del Sur	mdife@ieee.org		R9
Orla	Feely	University College Dublin	orla.feely@ucd.ie	F	R8
Randy	Geiger	Iowa State University	rlgeiger@iastate.edu, r.geiger@ieee.org	F	R1-6
Yun	He	Tsinghua University	hey@tsinghua.edu.cn	F	R10

Mohsin	Jamali	University of Toledo	mohsin.jamali@utoledo.edu, mohsin.jamali@utpb.edu		R1-6
Izzet	Kale	University of Westminster	kalei@westminster.ac.uk, izzet.kale@gmail.com	F	R8
Peter	Kennedy	University College Dublin	peter.kennedy@ucd.ie	F	R8
Shoba	Krishnan	Santa Clara University	skrishnan@scu.edu		R1-6
Raija	Lehto	Tampere University of Technology	raija.lehto@ieee.org		R8
Yong	Lian	York University	eleliany@gmail.com	F	R7
刘家瑛 Jiaying	Liu	Peking University	liujiaying@pku.edu.cn	SM	R10
Arjuna	Madanayake	Florida International University	amadanay@fiu.edu		R1-6
Wolfgang	Mathis	University of Hannover	mathis@tet.uni-hannover.de	F	R8
Josef A	Nossek	Technical University of Munich	josef.a.nossek@tum.de	F	R8
Tokunbo	Ogunfunmi	Santa Clara University	togunfunmi@scu.edu		R1-6
Ravi	Ramachandran	Rowan University	ravi@rowan.edu		R1-6
Ricardo	Reis	Universidade Federal do Rio Grande do Sul	reis@inf.ufrgs.br		R9
Robert	Rieger	Kiel University-Taiwan	ri@tf.uni-kiel.de, rrieger@mail.nsysu.edu.tw		R10
Fakhrul	Zaman Rokhani	Universiti Putra Malaysia	fzr@upm.edu.my	M	R10
Mst Shamim Ara	Shawkat	Florida International University	mshawkat@fiu.edu		R1-6
Carlos	Silva-Cardenas	Pontificia Universidad Catolica del Peru	csilva@pucp.edu.pe		R9
Yinan	Sun	Tsinghua University	sunyinan@tsinghua.edu.cn		R10
M N S	Swamy	Concordia University	swamy@encs.concordia.ca	F	R7
Magdy	Tawfik	Hanna Fayoum University	hanna@ieee.org		R8

Yap-Peng	Tan	Nanyang Technological University	eyptan@ntu.edu.sg		R10
Tuna	Tarim	Texas Instruments	tuna@ti.com		R1-6
Sergios	Theodoridis	University of Athens	stheodor@di.uoa.gr	F	R8
Ljiljana	Trajkovic	Simon Fraser University	ljilja@sfu.ca	LF	R7
Joos	Vandewalle	KU Leuven	joos.vandewalle@esat.kuleuven.be	LF	R8
Joerg	Velten	University of Wuppertal	velten@uni-wuppertal.de		R8
Srinivasa	Vemuru	Ohio Northern University	s-vemuru.1@onu.edu		R1-6
Chamith Abewardana	Wijenayake	University of Queensland	c.wijenayake@uq.edu.au		R10
Yongxiang	Xia	Hangzhou Dianzi University	xiayx@hdu.edu.cn	SM	R10
Lu	Yu	Zhejiang University	yul@zju.edu.cn		R10

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

	2023
Total number of TCs	%
Regions 1 – 6 (U.S.A.)	13/44=29.55%
Region 7 (Canada)	4/44=9.1%
Region 8 (Europe/Africa, Middle East)	13/44=29.55%
Region 9 (Central/South America)	3/44=6.8%
Region 10 (Asia/Pacific)	11/44=25.0%

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

	2023
Total number of TCs	%
Male	36/44=81.8%
Female	8/44=18.2%

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

	2023
Total number of TCs	%
Academia	43/44=97.7%
Industry	1/44=2.3%
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
Zhibo Chen	IEEE CAS	2024 IEEE ISCAS	Track Chair
Jiaying Liu	IEEE CAS	2024 IEEE ISCAS	Session Chair/RCM
Jiaying Liu	IEEE CAS	2024 IEEE ICME	Grand Challenge Chair
Fakhrul Zaman Rokhani	IEEE CAS	2024 IEEE ISCAS	RCM, Session Chair, Embedded Workshop Chair
Ljiljana Trajkovic	IEEE CAS	2024 IEEE ISCAS	Track Chair, Education in Circuits and Systems
Yongxiang Xia	IEEE CAS	2024 IEEE ISCAS	Review Committee Member, Session Chair

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

Your Name	Conference Sponsors	Conference/Event Title	Your Role

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://ieeecas.org/publications>)

Your Name	Journal Sponsors	Journal Title	Your Role
Zhibo Chen	IEEE CAS	IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)	Associate Editor
Zhibo Chen	IEEE CAS	IEEE JETCAS	Corresponding Guest Editor
Jiaying Liu	IEEE CAS	IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)	Associate Editor
Fakhrul Zaman Rokhani	IEEE CAS	IEEE Transactions on CAS I	Senior 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
Zhibo Chen	Best Paper Award of IEEE VCIP-2024	2023

3.4. Keynote Speeches/Invited Talks:

Your Name	Invited by	Event/Conference Title	Talk Title	Date
Peter Kennedy	Prof. Sergio Callegari	Invited Lecture, Cesena	"Why We Love and Hate Digital Delta Sigma Modulation"	7 June 2023
Peter Kennedy	ACRC, Technion, Israel	Invited Lecture, online	"Mitigating Nonlinear Phenomena in Fractional-N Frequency Synthesis"	13 September 2023
Peter Kennedy	Prof. Fabio Villone, Prof. Marco Storace	Gasparini Doctoral School, Napoli, Italy	"Foundations of Nonlinearity for Microelectronics"	5-9 February 2024
Peter Kennedy	Prof. Masoud Babaie, Dr. Wanghua Wu	ISSCC 2024 Forum 5: Recent Developments in High-Performance Frequency Synthesis Circuits and Systems, San Francisco	"Prediction and Mitigation of Spurs in Fractional Synthesizers"	22 February 2024
Jiaying Liu	MIPI Workshop	2023 IEEE/CVF CVPR	"Low-Light Image Enhancement for Intelligent Analytics"	2023/06/18
Jiaying Liu	LQVD Workshop	2023 ACM MM Asia	"Low-Light Image Enhancement for Intelligent Analytics"	2023/12/08
Jiaying Liu	Tutorial	2024 IEEE ISCAS	New Era of Artificial Intelligence: Unleashing the Power of Large Models in Visual Applications"	2024/04/19
Fakhrul Zaman Rokhani	IEEE EDS	International Symposium on the Physical and Failure Analysis of Integrated Circuits	"Reliable and Energy-Efficient Network-on-Chip- Techniques and Design Methodologies"	July 24, 2023
Fakhrul Zaman Rokhani	IEEE CAS	CASS-wide Webinar	"Universalization in IC Design" by CASS (UNIC-CASS Focused Lecture	August 16, 2023
Fakhrul Zaman Rokhani	Bandung Institute of Technology	CASS day in Indonesia	"AI's Role in Precision Ageing of Senior Citizens"	Dec 18, 2023
Fakhrul Zaman Rokhani	IEEE SSCS	ASSCC IT Vision in Asia	"Synergistic Academia-Industry Research and Education in Malaysia's Semiconductor Landscape"	Nov 5, 2023
Fakhrul Zaman Rokhani	Vietnam National University	CASS Day in Vietnam	"Analysis, Modelling and Machine Learning-based Standard Cell Library Selection for Power-	Nov 8, 2023

			Performance-Area (PPA) in Early-Stage design”	
Fakhrul Zaman Rokhani	Dedan Kimathi University, Kenya	Seasonal School CAS on Wearable Technologies	“Wearable Solutions for Improving Quality of Life (QoL) of Senior Adults”	March 21, 2024
Ljiljana Trajkovic	Organizers	ICBDE 2023, Jinan, China	“Machine learning for detecting Internet traffic anomalies”	Jun 16, 2023
Ljiljana Trajkovic	Prof. Haibin Zhu	E-CARGO Online Summer School	“THMS and more”	Jul 16, 2023
Ljiljana Trajkovic	Organizers	EEEMEET 2023, Vancouver, Canada	“Machine learning for detecting Internet traffic anomalies”	Aug 14, 2023
Ljiljana Trajkovic	Prof. Maciej Ogorzalek	ICIAM 2023, Waseda University, Tokyo, Japan	“Machine learning for detecting Internet traffic anomalies”	Aug 20, 2023
Ljiljana Trajkovic	Organizers	ICCVIT 2023: Chenzhou, China	“Machine learning for detecting Internet traffic anomalies”	Aug 25, 2023
Ljiljana Trajkovic	Organizers	ECSSP 2023: Kunming, China	“Machine learning for detecting Internet traffic anomalies”	Aug 26, 2023
Ljiljana Trajkovic	Organizers	ECCST 2023: Shanghai, China	“Machine learning for detecting Internet traffic anomalies”	Sep 15, 2023
Ljiljana Trajkovic	Organizers	ICCSIE 2023, Putrajaya, Malaysia	“Machine learning for detecting Internet traffic anomalies”	Sep 21, 2023
Ljiljana Trajkovic	Organizers	ICAAI 2023, Istanbul, Turkey	“Machine learning for detecting Internet traffic anomalies”	Oct 13, 2023
Ljiljana Trajkovic	Organizers	WECE 2023, Guilin, China	“Machine learning for detecting Internet traffic anomalies”	Oct 27, 2023
Ljiljana Trajkovic	Organizers	BDCIA 2023, Huanggang, China	“Machine learning for detecting Internet traffic anomalies”	Nov 2, 2023
Ljiljana Trajkovic	Organizers	COMNETSAT 2023, Malang, Indonesia	“Machine learning for detecting Internet traffic anomalies”	Nov 23, 2023
Ljiljana Trajkovic	Organizers	ICAISE 2023, Errachidia, Morocco	“Machine learning for detecting Internet traffic anomalies”	Nov 24, 2023
Ljiljana Trajkovic	Organizers	ISCIMI 2023, Mexico City, Mexico	“Machine learning for detecting Internet traffic anomalies”	Nov 25, 2023
Ljiljana Trajkovic	Organizers	IEEE Southeastern Michigan SMC Chapter	“Data mining and machine learning for analysis of network traffic”	Nov 28, 2023
Ljiljana Trajkovic	Prof. İlhem Kallel	SMC DLP, Hammamet, Tunisia	“Machine learning for detecting Internet traffic anomalies”	Dec 13, 2023

Ljiljana Trajkovic	Prof. Ilhem Kallel	TSYP11, Hammamet, Tunisia	"Machine learning for detecting Internet traffic anomalies"	Dec 19, 2023
Ljiljana Trajkovic	Organizers	ICADCML 2024: VIT-AP University, India	"Machine learning for detecting Internet traffic anomalies"	Jan 5, 2024
Ljiljana Trajkovic	Organizers	EEISS 2023, Changsha, China	"Machine learning for detecting Internet traffic anomalies"	Jan 13, 2024
Ljiljana Trajkovic	Prof. Luke Chen	University, UK 2024	"Machine learning for detecting Internet traffic anomalies"	Feb 21, 2024
Ljiljana Trajkovic	Dr. Vakhtang Putkaradze	ATCO SpaceLab Speaker Series	Machine learning for detecting Internet traffic anomalies"	Feb 23, 2024
Ljiljana Trajkovic	Organizers	ICIEE 2024, Jeju, South Korea	"Machine learning for detecting Internet traffic anomalies"	Feb 27, 2024
Ljiljana Trajkovic	Organizers	CIDT 2024, Wuhan, China	"Machine learning for detecting Internet traffic anomalies"	Mar 8, 2024
Ljiljana Trajkovic	Organizers	ISPP 2024, Kunming, China	"Machine learning for detecting Internet traffic anomalies"	Mar 8, 2024
Ljiljana Trajkovic	Prof. Francesco Sorrentino	University of New Mexico, Albuquerque	"Machine learning for detecting Internet traffic anomalies"	Apr 19, 2024

3.5. Other distinguished IEEE services

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

Your Name	Organization	Position/Activities	Period
Zhibo Chen	IEEE CAS VSPC-TC	Chair	2022-2024
Yun He	IEEE SPS	Award Board Member	2003
Yun He	IEEE CAS	Fellow Evaluation Committee 2024	2004
Peter Kennedy	IEEE Awards Board	Vice-Chair	2023-2024
Fakhrul Zaman Rokhani	IEEE CAS	Vice President Education and Communications	2023-2024
Fakhrul Zaman Rokhani	IEEE CAS	Chair Institute for Global Education	2023-2024
Fakhrul Zaman Rokhani	IEEE CAS	Committee for IEEE Future Direction-Global Semiconductor	2023-present
Ljiljana Trajkovic	IEEE Election Oversight Committee	Chair	January 2023-December 2024

Ljiljana Trajkovic	IEEE Hearing Board	Member	January 2023-December 2023
Ljiljana Trajkovic	IEEE Brain Technical Community TC 2.0	Member of the Steering Committee	January 2023-December 2024
Ljiljana Trajkovic	IEEE Fellow Committee	Member	January 2023-December 2023
Ljiljana Trajkovic	IEEE Tellers Committee	Vice-Chair	January 2022-December 2023

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)
 - “Advance on generative visual signal coding and processing” special issue in IEEE JETCAS organized by Zhibo Chen.
 - “Improving Student Retention and use of AI/ChatGPT in Engineering Education” special session at ISCAS 2024 organized by Mohsin M. Jamali and Ljiljana.
- (3) Organized new CASS initiatives
- (4) Established cross-TCs/SIGs collaborations
 - “Rising Star Initiatives in 2023,” IEEE CAS VSPC (Visual Signal Processing and Communication), organized by Zhibo Chen.
- (5) Awards received by the TC/SIG or the TC/SIG members
 - Book published: G. Samaey and J. Vandewalle, (2023), *The invisible power of mathematics. The pervasive impact of mathematical engineering in everyday life*, (Copernicus Books, 176), Springer, ISBN: 978-1-0716-2776-1. doi: 10.1007/978-1-0716-2776-1.
 - Joos Vandewalle received the Honorary Doctorate, Peter Pazmany Catholic University, Budapest, Hungary, 11 October 2023.

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?

- Special Sessions are planned for MWSCAS 2024 and ISCAS 2025.