

2022 Annual Report (June 2021 – May 2022)
Circuits and Systems Education and Outreach Technical
Committee
IEEE Circuits and Systems Society

Chair: Lu Yu
Secretary: Babak AYZIFAR

1. Technical Committee:

The Circuits and Systems Education and Outreach Technical Committee (CASEO TC) focuses on the education and outreach of circuits and systems. The TC shall address the role, the process and the promotion of the education of CAS subjects in electrical engineering education and make initiatives to enhance its quality and attraction worldwide. Special attention is devoted to outreach initiatives that stimulate youngsters to CAS items worldwide, and to the social and ethical role of CAS related topics.

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

A TC meeting in the past year was held in 04:00-05:30 UTC in May 26, 2021. It was an online zoom session. 13 members attended the TC meeting.

2. Voting Members:

First Name	Last Name	Affiliation	Email	IEEE Grade	IEEE Region
Pamela	Abshire	University of Maryland	pabshire@umd.edu	Fellow	1-6
M. Omair	Ahmad	Concordia University	omair@ece.concordia.ca	Fellow	7
Eduard	Alarcon	UPC, Barcelona	eduard.alarcon@upc.edu	Senior member	8
Massimo	Alioto	Univ. Siena	malioto@ieee.org	Fellow	10
Babak	Ayazifar	Univ. California	ayazifar@eecs.berkeley.edu		1-6
Magdy	Bayoumi	University of Louisiana	mab@cacs.louisiana.edu	Fellow	1-6
Mario	Biey	Polit. Torino	mario.biey@polito.it		8
Sergio	Callegari	Univ. Bologna	Sergio.callegari@unibo.it		8
Zhibo	Chen	University of Science and Technology China	chenzhibo@ustc.edu.cn	Senior Member	10
Malgorzata	Chrzanowska-Jeske	Portland State Univ.	jeske@ece.pdx.edu		1-6
Martin	di Federico	Univ. Nacional del Sur	mdife@ieee.org	Senior member	9
Orla	Feely	Univ. College Dublin	orla.feely@ucd.ie	Fellow	8
Randy	Geiger	Iowa State University	rlgeiger@iastate.edu	Fellow	1-6
Magdy Tawfik	Hanna	Fayoum University	hanna@ieee.org	Life Senior Member	8
Yun	He	Tsinghua University	hey@tsinghua.edu.cn	Fellow	10
Yih Fang	Huang	Univ. Notre Dame	huang@nd.edu	Fellow	4
Izzet	Kale	Univ. of Westminster	kalej@wmin.ac.uk		8
Shoba	Krishnan	Santa Clara University	skrishnan@scu.edu		1-6
Rajja	Lehto	Tampere Univ. Technology	rajja.lehto@ieee.org		8
Yong	Lian	York University	eleliany@gmail.com	Fellow	7
Jiaying	Liu	Peking University	liujiaying@pku.edu.cn	Senior member	10
Arjuna	Madanayake	Florida International University	amadanay@fiu.edu		1-6
Mohsin M.	Mamali	The University of Texas Permian Basin	mohsin.jamali@utpb.edu	Senior Member	5
Fernando Gehm	Moraes	Pontifical Catholic University of Rio Grande do Sul	Moraes@pucrs.br	Senior Member	9
Josef A.	Nossek	Tech. Univ. München	josef.a.nossek@tum.de	Life Fellow	8
Tokunbo	Ogunfunmi	Santa Clara Univ.	toqunfunmi@scu.edu	Senior Member	1-6
Ravi	Ramachandran	Rowan University	ravi@rowan.edu	Senior Member	1-6
Ricardo	Reis	Federal University of Rio do Grand Sul	reis@inf.ufrgs.br	Senior Member	9
Robert	Rieger	Kiel University	ri@tf.uni-kiel.de	Senior member	8

Field Code Changed

M.N.S.	Swamy	Concordia Univ. Montreal	swamy@encs.concordia.ca	Fellow	7
Yinan	Sun	Tsinghua University	sunynan@tsinghua.edu.cn	Member	10
Yap-Peng	Tan	NTU	EYP.Tan@ntu.edu.sg	Fellow	10
Tuna	Tarim	Texas Instruments	tuna@ti.com		1~6
Sergios	Theodoridis	Univ. Athens	stheodor@di.uoa.gr	Life Fellow	10
Liljana	Trajkovic	Simon Fraser University	lilja@cs.sfu.ca	Life Fellow	7
Joos	Vandewalle	Kath Univ Leuven	Joos.Vandewalle@gmail.com	Life Fellow	8
Joerg	Velten	University of Wuppertal	velten@uni-wuppertal.de	Senior member	8
Srinivasa	Vemuru	Ohio Northern University	s-vemuru@onu.edu		1~6
Yongxiang	Xia	Hangzhou Dianzi University	xiayx@hdu.edu.cn	Senior Member	10
Lu	YU	Zhejiang University	yul@zju.edu.cn	Senior Member	10

Geographical distribution of TC members (percentage of total)

	2022
Total number of TCs	%
Regions 1 – 6 (U.S.A.)	32.5
Region 7 (Canada)	10.0
Region 8 (Europe/Africa, Middle East)	27.5
Region 9 (Central/South America)	7.5
Region 10 (Asia/Pacific)	22.5

Gender distribution of TC members (percentage of total)

	2022
Total number of TCs	%
Male	77.5
Female	22.5

Distribution of TC members by affiliation (percentage of total)

	2022
Total number of TCs	%
Academia	97.5
Industry	2.5
Government	0.0

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
Randy Geiger	IEEE CAS	ISCAS 2022	General Co-Chair
Zhibo Chen	IEEE CAS	ISCAS 2022	Track Chair
Lu Yu	IEEE CAS	ISCAS 2022	Track chair
Mohsin M. Jamali	IEEE CAS	ISCAS 2022	Special Session organizer, Session Chair
Tokunbo Ogunfunmi	IEEE CAS	ISCAS 2022	Special Session organizer, Session Chair, RCM Member, Reviewer
Yongxiang Xia	IEEE CAS	ISCAS2022	RCM member, Reviewer
Yong Lian	IEEE CAS	AICAS2021	Advisory Board Member
Randy Geiger	IEEE CAS	MWSCAS	Steering Committee member
Randy Geiger	IEEE CAS	NAECON	Organizing committee member

Yun He	IEEE CAS VSPC TC	VCIP 2021	Tutorial chair
Jiaying Liu	IEEE CAS	VCIP 2022	Registration Chair

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

Your Name	Conference Sponsors	Conference/Event Title	Your Role
Jiaying Liu	IEEE CAS, CS, ComSoc, SP, ATH	IEEE International Conference on Multimedia & Expo (ICME)	Panel 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://ieeecas.org/publications>)

Your Name	Journal Sponsors	Journal Title	Your Role
Robert Rieger	IEEE CAS EMB	IEEE Transactions on Biomedical Circuits and Systems	Associate Editor-in-Chief
Zhibo Chen	IEEE CAS	IEEE OJCAS	Guest Editor
Yong Lian	IEEE CAS	IEEE OJCAS	Guest Editor
Yongxiang Xia	IEEE CAS	IEEE OJCAS	AE (from Jan 2022)
Robert Rieger	IEEE CAS	IEEE TCAS I – Regular Papers	Associate Editor
Yongxiang Xia	IEEE CAS	IEEE TCAS-II	AE (till Dec 2021), Guest Editor (GE) for the Special Issue of IEEE TCAS-II on IEEE ISCAS 2022
Robert Rieger	IEEE CAS	IEEE TCAS II– Express Briefs	Guest Editor
Ravi Ramachandran	IEEE CAS	Circuits, Systems and Signal Processing	Associate Editor
Zhibo Chen	IEEE CAS	IEEE TCSVT	Associate Editor
Lu Yu	IEEE CAS	IEEE TCSVT	Associate Editor
Jiaying Liu	IEEE CAS	IEEE TCSVT	Associate Editor
Tokunbo Ogunfunmi	IEEE CAS, SPS	IEEE T-SP, Circuits, Systems and Signal Processing	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
Ljiljana Trajkovic	IEEE CAS Society Distinguished Lecturer: 2021-2022	2021-2022
Joos Vandewalle	Gustav Kirchhoff award	2022

3.4. Keynote Speeches/Invited Talks:

Your Name	Invited by	Event/Conference Title	Talk Title	Date
Ljiljana Trajkovic	Chair, CAS Chapter, Rakesh Kumar Palani <Rakesh.Kumar.Palani@ee.iitd.ac.in>	IEEE CAS Society Distinguished Lecture Program, Delhi, India	"Data mining and machine learning for analysis of network traffic"	April 5, 2022
Ljiljana Trajkovic	Organizers	14th International Conference on Computer and Automation Engineering, ICCAE 2022, Melbourne, Australia	"Machine learning for detecting power outage and ransomware using BGP routing records," (keynote talk)	March 26, 2022
Ljiljana Trajkovic	Organizers	The 5th International Conference on Big Data and Education, ICBDE 2022, London, United Kingdom	"Machine learning for detecting power outage and ransomware using BGP routing records," (keynote talk)	February 27, 2022

Ljiljana Trajkovic	Chair, IEEE SMC Student Branch Chapter	IEEE Systems, Man, and Cybernetics Society Student Branch Chapter, Sri Sairam Engineering College, Chennai, Tamil Nadu, India	"IEEE SMC Society," Inauguration of the IEEE SMC Society (invited talk)	February 10, 2022
Ljiljana Trajkovic	Organizers	5th International Workshop on Networking Women in Distributed Computing and Networks, NWDCN 2022, IIIT Delhi, India	"Data Mining and Machine Learning for Analysis of Network Traffic" (invited talk)	January 4, 2022
Ljiljana Trajkovic	Chair, Graduate Program, Roberto Rosas Romero <roberto.rosas@udlap.mx>	Intelligent Systems, Universidad de las Américas Puebla	"Data Mining and Machine Learning for Analysis of Network Traffic" (invited seminar)	November 26, 2021
Ljiljana Trajkovic	Yingxu Wang <yingxu@ucalgary.ca>	20th IEEE International Conference on Cognitive Informatics and Cognitive Computing: Panel on Future Development of IC*CC	"Cognitive Informatics: Complexity Sciences, Data Mining, and Machine Learning" (panel)	October 30, 2021
Ljiljana Trajkovic	Celia Shahnaz <celiashahnaz@gmail.com>	First IEEE PES Humanitarian Activity Committee Congress	"IEEE Smart Cities" (panel)	October 24, 2021
Ljiljana Trajkovic	Organizers	The 6th International Conference on Integrated Circuits, ICICM 2021, Nanjing, China	"Data Mining and Machine Learning for Analysis of Network Traffic" (keynote talk)	October 23, 2021
Ljiljana Trajkovic	Marcin Ziolek <m.ziolek@ieee.org>	IEEE Day in Poland 2021	"Data Mining and Machine Learning for Analysis of Network Traffic" (invited talk)	October 20, 2021
Ljiljana Trajkovic	Organizers	The First International Conference on Neuromorphic Computing, ICNC 2021, Wuhan, China	"Data Mining and Machine Learning for Analysis of Network Traffic" (keynote talk)	October 16, 2021
Ljiljana Trajkovic	Organizers	2021 5th International Conference on E-Business and Internet, ICEBI 2021, Singapore	"Data Mining and Machine Learning for Analysis of Network Traffic" (keynote talk)	October 16, 2021
Ljiljana Trajkovic	Organizers	19th IEEE International Symposium on Intelligent Systems and Informatics, SISY 202, Subotica, Serbia	"Data mining and machine learning for analysis of network traffic" (keynote talk)	September 16, 2021
Ljiljana Trajkovic	Celia Shahnaz <celia.shahnaz@ieee.org>	International Women in Engineering COVID-19 Congress 2021, WIECOV 2021, Bangladesh	"Technical society engagement and activities" (keynote talk)	August 22, 2021
Ljiljana Trajkovic	Organizers	10th International Conference on Informatics, Electronics & Vision (ICIEV) and 5th Int Conf on Imaging, Vision & Pattern Recognition	"Data mining and machine learning for analysis of network traffic," (keynote talk)	August 16, 2021
Ljiljana Trajkovic	Amit Jha <ajha@ieee.org>	IEEE CAS Society Distinguished Lecture Program, Santa Clara Valley	"Data mining and machine learning for analysis of network traffic"	June 17, 2021
Ljiljana Trajkovic	Daoyi Dong <d.dong@adfa.edu.au>	2021 SMC Society Cybernetics Summer School, Osaka, Japan	"Data mining and machine learning for detecting traffic anomalies and intrusions"	June 12, 2021
Ljiljana Trajkovic	Victor Raskin <vraskin@purdue.edu>	Annual Conference of the North American Fuzzy Information Processing Society	"Data mining and machine learning for detecting traffic anomalies and intrusions" (keynote talk)	June 8, 2021

3.5. Other distinguished IEEE services

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

Your Name	Organization	Position/Activities	Period
Zhibo Chen	CAS VSPC-TC	Secretary	2020.08-
Yong Lian	IEEE Publication Services and Products Board (PSPB)	Member at Large	2022.1-2024.12
Yong Lian	IEEE PSPB Strategic Planning Committee	Member	2022
Yong Lian	IEEE PSPB Publishing Conduct Committee	Member	2022
Yong Lian	IEEE Products and Services Committee	PSPB Rep.	2022
Yong Lian	IEEE Ad Hoc Committee on Guiding the IEEE Constitutional Amendment	Member	2022
Yong Lian	IEEE Ad Hoc Committee Accelerating Partnerships with Chinese Publications	Chair	2022
Yong Lian	IEEE Periodicals Partnership Opportunities Committee	Chair	2019 - 2024
Yong Lian	IEEE Periodicals Committee	Member	2019 - 2024
Yong Lian	IEEE Periodicals Review and Advisory Committee	Member	2019 - 2024
Yong Lian	IEEE Fellow Committee	Member	2020 - 2021
Yong Lian	IEEE Fellow Strategic Planning Subcommittee	Member	2022
Yong Lian	CASS	Past President	2020 - 2021
Yong Lian	CASS Awards Committee	Chair	2020 - 2021
Yong Lian	CASS Nominations Committee	Chair	2020 - 2021
Yong Lian	CASS Flexible and Wearable Circuits and Systems Standards Committee	Chair	2022 - 2024
Ljiljana Trajkovic	IEEE CAS Society Fellows Evaluation Committee	Member	2022
Ljiljana Trajkovic	IEEE Gustav Robert Kirchhoff Award Committee	Chair/Past Chair	2020-2021/2022
Ljiljana Trajkovic	IEEE Election Oversight Committee	Member/Vice-Chair	2021/2022
Ljiljana Trajkovic	IEEE Tellers Committee	Member/Vice-Chair	2021/2022
Ljiljana Trajkovic	IEEE Brain Technical Community Steering Committee	Member, SMC Society Representative	2021-2022
Ljiljana Trajkovic	IEEE Smart Village Governing Board	Member, SMC Society Representative	2020-2022
Ljiljana Trajkovic	IEEE Smart Cities Steering Committee	Member, SMC Society Representative	2020-2022
Ljiljana Trajkovic	IEEE Circuits and Systems Society joint Chapter of the Vancouver/Victoria Sections	Past Chair	2021-2022
Ljiljana Trajkovic	IEEE Control Systems Society, Robotics and Automation Society, and Systems, Man, and Cybernetics Society Chapter of the Vancouver Section	Vice-Chair	2011-2022
Ljiljana Trajkovic	IEEE Simon Fraser University Student Branch	Mentor	2008-2022
Lu Yu	CAS Standards Activities Sub Division	Voting member	2022-2023
Joos Vandewalle	IEEE Thesaurus Editorial Board	Member	2016-2021
Joos Vandewalle	IEEE Fellow Committee	Member	2021-2022
Jiaying Liu	IEEE ICME Steering Committee	Member, MSA-TC Representative	2021-2022
Tokunbo Ogunfunmi	MDPI Entropy	Lead Guest Editor	2022

4. TC Significant Technical Leadership and Innovations

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

- (1) Established/organized new CASS journals/conferences/workshops
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
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)

- a. Organized Focus Sessions on *Improving Gateway Electrical Engineering Courses* and Focus Session on *Experimental Teaching Systems* in ISCAS 2022. 10 papers are accepted.
- b. Lead the newly established Flexible and Wearable Circuits and Systems Standards Committee of CASS.
- c. Organized a special section on *Circuits and Systems for Flexible Electronics* and a special section on *Optimized Image/Video Coding based on Deep Learning* in IEEE Open Journal of Circuits and Systems (OJCAS), Nov. and Dec. 2021.

(3) Organized new CASS initiatives

- a. Involved in the newly established IEEE CAS Standards Activity Sub-Division as one of voting members, established 4 standards committees, defined scopes and designed Policy and Procedure for those standards committees.

(4) Established cross-TCs collaborations

(5) Awards received by the TC or the TC members

- a. Prof. Joos Vandewalle received Gustav Kirchhoff award in 2022.

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?

- a. Contribute CAS related education modules to <https://www.ieee.org/education/>
- b. Propose special session on CAS Education in ISCAS 2023