

IEEE ComSoc Communication & Information Security TC (CIS-TC)

Annual Meeting at IEEE ICC 2020

**Monday, July 13, 2020,
9.00 AM to 11.00 AM (EDT)**

<https://zoom.us/j/99479206930?pwd=dFlQUdBnZklVa3Z2NEc3T2c1S1JiQT09>

Meeting Agenda

1. **Welcome / Introduction**
2. Approval of the Agenda
3. Approval of Meeting Minutes of IEEE GC 2019, Hawaii, USA
4. IEEE ComSoc CISTC Recognition Award 2020
5. Reports on Conferences
6. Reports on Publications
7. CISTC SIGs
8. Standards Liaison
9. ComSoc Students Competition Award
10. Amendment to TC P&P
11. CISTC Newsletter
12. CISTC COVID-19 related activities
13. Next CISTC Meeting
14. Adjourn

Welcome / Introduction

- TC Officers
 - Chair: Prof. *Francesco Chiti*
 - Vice Chair on Conferences: Prof. *Rongxing Lu*
 - Vice Chair on Publications: Prof. *Bin Xiao*
 - Secretary: Prof. *Hongwei Li*
 - CISTC representative for IEEE ComSoc Student Competition Committee: Prof. *Dongming Peng*
 - CISTC representative for IEEE ComSoc Standards Board: Dr. Neeli R. Prasad
 - Award Chair: Prof. *Abderrahim Benslimane*



Welcome / Introduction (cont'd)

- CIS-TC website:
 - <http://cis.committees.comsoc.org/>
- Two mail distribution lists
 - cistc@comsoc.org
 - TC internal announcements
 - Annual meetings (2 per year: ICC, GLOBECOM)
 - Awards
 - cistc-distribution@comsoc.org
 - CFP distribution
 - Open to all signed-up members to distribute CIS-TC related CFPs
- Subscribe
 - send email to list@comsoc.org using your email account with body:
 - “JOIN CISTC” to join **cistc** list
 - “JOIN CISTC-DISTRIBUTION” to join **cistc-distribution** list

Welcome / Introduction (cont'd)

- CIS-TC member:
 - open to all ComSoc members
 - subscribe to the second mailing list
 - <https://cis.committees.comsoc.org/mailing-list/>
- CIS-TC *active* member:
 - attend 2 of 5 prior CIS-TC Meetings
 - sign attendance list
 - <https://cis.committees.comsoc.org/meetings/>

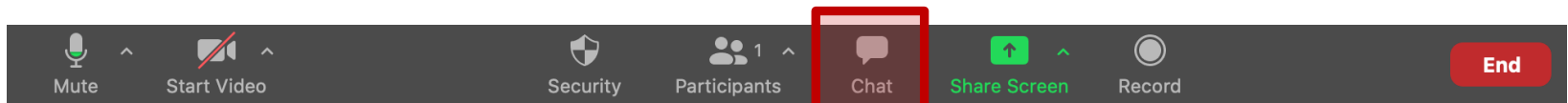
Zoom online Meeting

- ONLINE MEETING URL:
 - <https://zoom.us/j/99479206930?pwd=dFlQUDBnZklVa3Z2NEc3T2c1S1JiQT09>
 - MEETING ID: 994 7920 6930
 - PASSWORD: 688872
- DIAL-IN NUMBER:
 - +1 929 205 6099 US (New York)
 - find your local number (Global numbers included):
<https://zoom.us/u/abhS2CNgD>

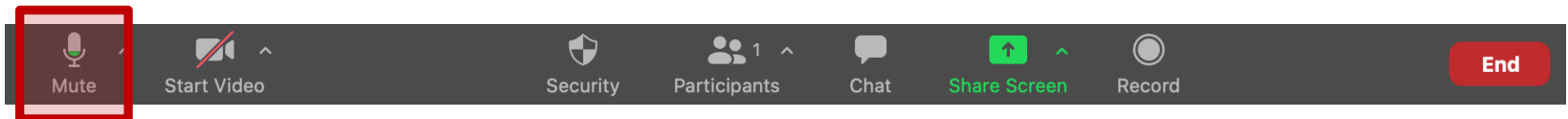


Zoom online Meeting

- Upon joining the Meeting:
 1. please register yourself in the Zoom chat box
 - “Name Surname” + “Affiliation” + “E-mail”



2. please mute your microphone to avoid echoes



3. approval is expressed according to a *silent consensus* policy
4. when leaving the meeting before its ending do not make any announcement

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14. Adjourn

Approval of the Agenda



Meeting Agenda

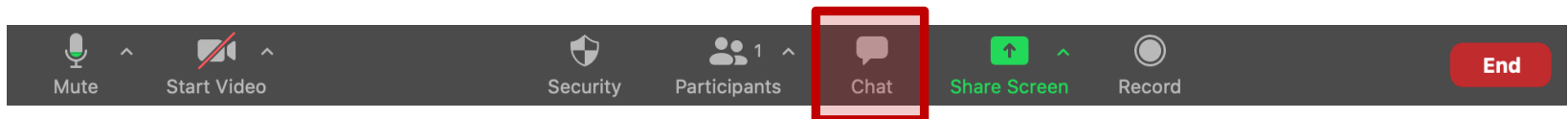
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Approval of Meeting Minutes – IEEE GC 2019

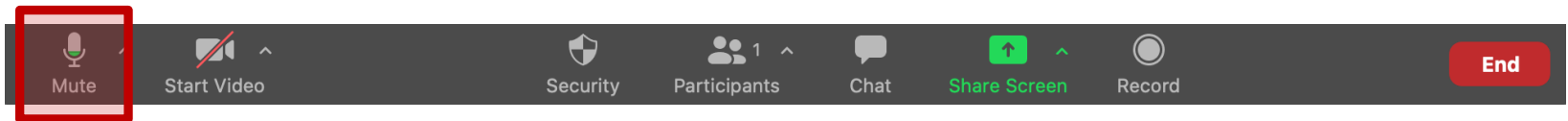
- The meeting minutes have been published on the URL:
 - https://cis.committees.comsoc.org/files/2020/01/CISTC_Meeting_GC_2019_Minutes-1.pdf
 - Alternatively, one can visit the TC website and then click on the link of “Meetings” on the top of the page
 - <http://cis.committees.comsoc.org/>

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Meeting Agenda

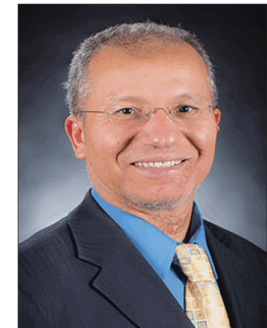
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IEEE ComSoc CISTC Recognition Award 2020

1. Technical Award Committee
 - Prof. *Abderrahim Benslimane, Chair*
 - Prof. *Kui Ren*
 - Prof. *Francesco Chiti*
 - Prof. *Rongxing Lu*
 - Prof. *Bin Xiao*
 - Prof. *Hongwei Li*
2. Call for Nomination has been established
 - Sent in our emailing lists: March 18, 2020
 - Deadline to receive nominations: April 24, 2020
3. 6 nominations have been received

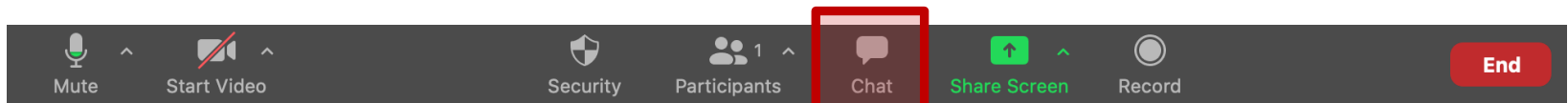
IEEE ComSoc CISTC Recognition Award 2020

- Awarded:
 1. Prof. **Hsiao-Hwa Chen** at Department of Engineering Science National Cheng Kung University Tainan City (Taiwan), for “his contribution to wireless communication security, mainly for physical layer in wireless communication systems”
 2. Prof. **Mohsen Guizani** at Qatar University, Doha (Qatar), for “his contribution to wireless communications security, especially security of IoT devices for health applications and IIoT”
- Awarding Ceremony will take place, due to the global pandemic, at the CIS-TC meeting at IEEE Globecom 2020 in Taipei, Taiwan

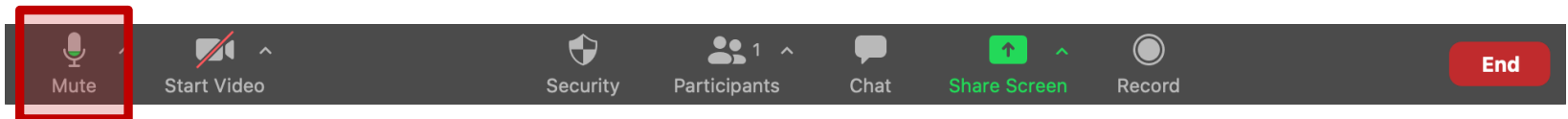


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Conferences



CIS-TC Organized Symposia

Conference: ICC2020

Full Conference Name:	“Communications & Information System Security” Symposium
Date & Location:	7-11 June 2020 // Virtual Conference
Website:	https://icc2020.ieee-icc.org/

Papers

Submitted:	216
Accepted:	87
Reviews:	3.3
TPC:	229

CISTC Representatives

Shui Yu, University of Technology Sydney, Australia

Bin Xiao, Hong Kong Polytechnic, China

Jennifer Chen, Rutgers University, USA

CIS-TC Organized Symposia

Conference: Globecom 2020

Full Conference Name:	“Communications & Information System Security” Symposium
Date & Location:	7-11 December 2020 Taipei, Taiwan
Website:	https://globecom2020.ieee-globecom.org/

Papers

Submitted:	182
Accepted:	TBD
Reviews:	TBD
TPC:	173

CISTC Representatives

Farid Naït-Abdesselam, University of Missouri - Kansas City, USA

Weizhi Meng, Technical University of Denmark, Denmark

Chin-Tser Huang, University of South Carolina, USA

CISTC Affiliate Conferences

Conference: CNS 2020

Full Conference Name:	IEEE Conference on Communications and Network Security
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Date & Location:	29 June - 1 July 2020, Avignon, France
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Website:	https://cns2020.ieee-cns.org/
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Papers

Submitted:	151
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Accepted:	43
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Reviews:	
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TPC:	91
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CISTC Representatives

Abderrahim Benslimane, General Chair

CISTC Affiliate Conferences

Conference: WiMob 2020

Full Conference Name:	16th International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob 2020)
Date & Location:	October 12-14, 2020, Thessaloniki, Greece
Website:	http://www.wimob.org/wimob2020/

Papers

Submitted:	NYD
Accepted:	NYD
Reviews:	
TPC:	113

CISTC Representatives

Abderrahim Benslimane, Steering Committee Chair

CISTC Affiliate Conferences

Conference: ICACT2020

Full Conference Name:	IEEE/ICACT 2020 22nd International Conference of Advanced Communications Technology
Date & Location:	16-19 February, 2020, Phoenix Park, PyeongChang, Korea
Website:	http://www.icact.org/

Papers

Submitted:	403
Accepted:	123
Reviews:	3
TPC:	433

CISTC Representatives

Prof. Yi Qian, PhD, IEEE ComSoc CIS-TC (2014-15 Chair), University of Nebraska-Lincoln, USA

Dr. Peter Mueller, IEEE ComSoc CIS-TC (2012-13 Chair), Zurich IBM, Switzerland

Prof. Hsiao-Hwa chen, PhD, IEEE ComSoc CIS-TC (2010-11 Chair), National Cheng Kung University, Taiwan

Prof. Byeong-Nam Yoon, PhD, IEEE ComSoc CIS-TC, Global IT Research Institute (GiRI), Korea

Dr. Myung-Won Song, (TPC Co-Chair: Review) National Information Society Agency (NIA), Korea

CISTC Affiliate Conferences

Conference: WTS 2020

Full Conference Name:	Wireless Telecommunications Symposium 2020
Date & Location:	April 22-24, 2020; Virtual Conference
Website:	http://www.cpp.edu/wtsi

Papers

Submitted:	66
Accepted:	25
Reviews:	≥ 3
TPC:	49

CISTC Representatives

Steven Powell, California State Polytechnic University, Pomona
Thomas Ketseoglou, California State Polytechnic University, Pomona
Qing-An Zeng, North Carolina A&T State University
Ehsan Sheybani, University of South Florida

CISTC Affiliate Conferences

Conference: CSNET 2020

Full Conference Name:	4th Cyber Security in Networking Conference
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Date & Location:	October 21 – 23, 2020, Lausanne, Switzerland
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Website:	https://csnet-conference.org/2020/
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Papers

Submitted:	
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Accepted:	
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Reviews:	
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TPC:	
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CISTC Representatives

Abderrahim Benslimane, Laboratoire Informatique d'Avignon University of Avignon, France

Xiaodong Lin (University of Guelph, Canada)

CISTC Affiliate Conferences

Conference: CSNET 2019

Full Conference Name:	3 rd Cyber Security in Networking Conference
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Date & Location:	October 23 – 25, 2019, Quito, Ecuador
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Website:	https://csnet-conference.org/2019/
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Papers

Submitted:	49
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Accepted:	21
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Reviews:	3
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TPC:	56
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CISTC Representatives

Abderrahim Benslimane, Laboratoire Informatique d'Avignon University of Avignon, France

Xiaodong Lin (University of Guelph, Canada)

CISTC Affiliate Conferences

Conference: WISEE2020

Full Conference Name:	The 8th Annual IEEE International Conference on Wireless for Space and Extreme Environments
Date & Location:	Oct 12 – 14 Vicenza Italy (Now Online)
Website:	https://attend.ieee.org/wisee-2020/

Papers

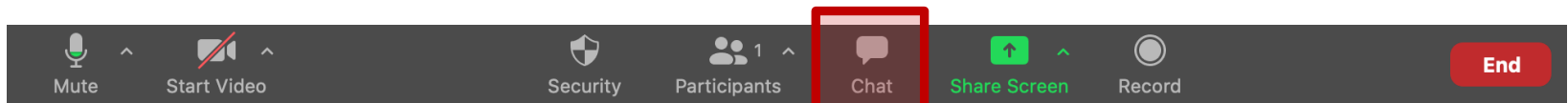
Submitted:	~ 100
Accepted:	~ 50
Reviews:	≥ 3
TPC:	70

CISTC Representatives

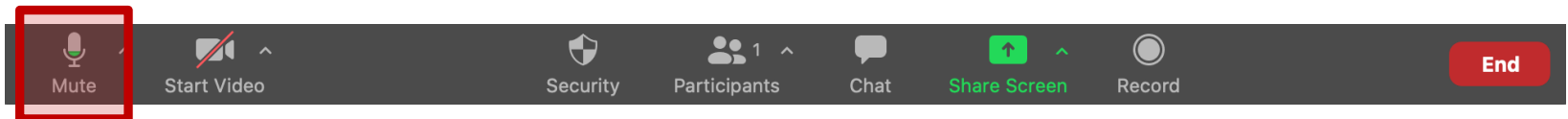


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Publications



Special Issues

No	Special Issue	Publisher/Journal	Editors
1	Privacy in Computing with Big Data and AI (7 January 2020)	Computers & Security	<ul style="list-style-type: none"> • Shujun Li, University of Kent, UK • Willy Susilo, University of Wollongong, Australia • Wei Wang, Beijing Jiaotong University, China.
2	Security and privacy of medical data for smart healthcare (1 February 2020)	ACM Transactions on Internet Technology	<ul style="list-style-type: none"> • Amit Kumar Singh, National Institute of Technology Patna, India • Jonathan Wu, University of Windsor, Canada • Ali Al-Haj, Princess Sumaya University for Technology, Jordan • Calton Pu, Georgia Institute of Technology, USA
3	Recent Trends in Medical Data Security for e-health applications (15 February 2020)	ACM Transactions on Multimedia Computing, Communications and Applications	<ul style="list-style-type: none"> • Amit Kumar Singh, National Institute of Technology Patna, India • ZhihanLv, Qingdao University, China • Hoon Ko, Chosun University, South Korea.

Special Issues

No	Special Issue	Publisher/Journal	Editors
4	Risk and Security of Smart Systems (2 March 2020)	Elsevier Journal of Information Security and Application	<ul style="list-style-type: none"> • Slim Kallel, University of Sfax, Tunisia • Frederic Cuppens, IMT Atlantique, France • Nora Cuppens, IMT Atlantique, France • Ahmed Hadj Kacem, University of Sfax, Tunisia • Lotfi Ben-Othmane, IOWA State University, USA.
5	Enabling Cognitive Smart Cities: Security and Privacy in IoT applications (CSCIoT) (5 March 2020)	Elsevier Computer Communications	<ul style="list-style-type: none"> • Prabhat K. Mahanti, University of New Brunswick, Canada • Chuan-Ming, National Taipei University of Technology, Taiwan • Mahmoud Shafik, Computing and Mathematics University of Derby, UK • Vincenzo Puri, University of Milan, Italy • Amir H. Gandomi, University of Technology Sydney, Australia • Deepak Kumar Jain, Chongqing University of Posts and Telecommunications, China.
6	Security in Embedded Systems (15 March 2020)	EURASIP Journal on Information Security	<ul style="list-style-type: none"> • Andreea Vescan, Babeş-Bolyai University, Romania • Camelia Serban, Babeş-Bolyai University, Romania • Horia Florin Pop, Babeş-Bolyai University Cluj-Napoca, Romania • Darius Bufnea, Babeş-Bolyai University Cluj-Napoca, Romania.

Special Issues

No	Special Issue	Publisher/Journal	Editors
7	Blockchain-Envisioned Drones: Realizing 5G-Enabled Flying Automation (15 March 2020)	IEEE Network	<ul style="list-style-type: none"> • Sahil Garg, Université du Québec, Canada • Gagangeet Singh Aujla, Newcastle University, UK • Aiman Erbad, Qatar University, Doha, Qatar • Joel J. P. C. Rodrigues, Brazil and Instituto de Telecomunicações, Portugal • Min Chen, Huazhong University of Science and Technology, China • Xianbin Wang, Western University, Canada.
8	A Multidisciplinary Approach to Internet of Things Cybersecurity and Risk Management (30 March 2020)	Elsevier Computers & Security	<ul style="list-style-type: none"> • Kim-Kwang Raymond Choo, The University of Texas at San Antonio, USA • Keke Gai, Beijing Institute of Technology, China • Luca Chiaraviglio, University of Rome Tor Vergata, Italy • Qing Yang, University of Rhode Island, USA.
9	Privacy and Security in Evolving Internet of Multimedia Things (31 March 2020)	ACM Transactions on Multimedia Computing, Communications and Applications	<ul style="list-style-type: none"> • Suraj Sharma, IIIT Bhubaneswar, India • Hesham El-Sayed, University of Auckland, New Zealand • Xuyun Zhang, UAE University, Al Ain, United Arab Emirates • Zhiyuan Tan, Edinburgh Napier University, UK.

Special Issues

No	Special Issue	Publisher/Journal	Editors
10	Artificial Intelligence Security: Adversarial Attack and Defense (1 April 2020)	IEEE Transactions on Network Science and Engineering	<ul style="list-style-type: none">• Xiaojiang Du, Temple University, USA• Willy Susilo, University of Wollongong, Australia• Mohsen Guizani, Qatar University, Qatar• Zhihong Tian, Guangzhou University, P.R. China.
11	Security, Privacy, and Trustworthiness of Sensor Networks and Internet of Things (15 April 2020)	Sensors	<ul style="list-style-type: none">• Sokratis Katsikas, Norwegian University of Science Technology, Norway• Vasileios Gkioulos, Norwegian University of Science Technology, Norway.

Special Issues

No	Special Issue	Publisher/Journal	Editors
12	Machine Learning Techniques for Cyber Security: Challenges and Future Trends (20 April 2020)	Elsevier Journal of Information Security and Application	<ul style="list-style-type: none"> • Weizhi Meng, Technical University of Denmark, Denmark • Steve Furnell, University of Plymouth, UK • Ruidong Li, NICT, Japan • Jun Zhang, Swinburne University of Technology, Australia.
13	Deep Learning Models and Techniques for Security and Privacy Preservation in 5G Heterogeneous Networks (30 April 2020)	IEEE Network	<ul style="list-style-type: none"> • Neeraj Kumar, Thapar Institute of Engineering and Technology, India • Octavia A Dobre, Memorial University, Canada • Song Guo, Hong Kong Polytechnic University, Hong Kong • Houbing Song, Embry-Riddle Aeronautical University, USA • Amr Mohamed, Qatar University, Qatar.

Special Issues

No	Special Issue	Publisher/Journal	Editors
14	Security and Privacy in Internet of Medical Things: Problems and Solutions (30 April 2020)	Elsevier Computer Communications	<ul style="list-style-type: none"> • Varun G Menon, SCMS School of Engineering and Technology, India • Ali Kashif Bashir, Manchester Metropolitan University, UK • Shahid Mumtaz, Instituto de Telecomunicace, Portugal • Syed Hassan Ahmed, JMA Wireless, USA • Danda B. Rawat, Howard University, USA.
15	Recent Advances in Security and Privacy-Preserving Techniques of Distributed Networked Systems (1 May 2020)	Information Sciences	<ul style="list-style-type: none"> • Qing-Long Han, Swinburne University of Technology, Australia • Lei Ding, Nanjing University of Posts and Telecommunications, China • Xiaohua Ge, Swinburne University of Technology, Australia.

Special Issues

No	Special Issue	Publisher/Journal	Editors
16	Security and Privacy Issues of Smart Network Systems (1 May 2020)	IEEE Transactions on Network Science and Engineering	<ul style="list-style-type: none"> • Jiming Chen, Zhejiang University, China • Enrico Natalizio, University of Lorraine, France • Hideaki Ishii, Tokyo Institute of Technology, Japan • Rongxing Lu, University of New Brunswick, Canada • Sangheon Park, Korea University, Korea.
17	Security Threats to Artificial Intelligence- Driven Wireless Communication Systems (8 May 2020)	Security and Communication Networks	<ul style="list-style-type: none"> • Huaming Wu, Tianjin University, China • Xiaolong Xu, Nanjing University of Information Science and Technology, China • Kaitai Liang, University of Surrey, UK • Yuan Yuan, Michigan State University, USA • Junqing Zhang, University of Liverpool, UK.
18	Emerging Blockchain Applications and Technology (15 May 2020)	Springer World Wide Web Journal	<ul style="list-style-type: none"> • Rui Zhang, University of Melbourne, Australia • C. Mohan, Tsinghua University, China • Ermyas Abebe, IBM Research Australia.

Special Issues

No	Special Issue	Publisher/Journal	Editors
19	Deep Learning Models for Safe and Secure Intelligent Transportation Systems (30 May 2020)	IEEE Transactions on Intelligent Transportation Systems	<ul style="list-style-type: none"> • Alireza Jolfaei, Macquarie University, Australia • Neeraj Kumar, Thapar Institute of Engineering and Technology, India • Min Chen, Huazhong University of Science and Technology, China • Krishna Kant, Temple University, USA.
20	Blockchain Enabled Edge Computing and Intelligence (1 June 2020)	IEEE Internet of Things Journal	<ul style="list-style-type: none"> • Qinghua Lu, CSIRO, Australia • Hans-Arno Jacobsen, University of Toronto, Canada • Sumi Helal, University of Lancaster, UK • Jiehan Zhou, University of Oulu, Finland.
21	Blockchain and Edge Computing Techniques for Emerging IoT Applications (15 June 2020)	IEEE Internet of Things	<ul style="list-style-type: none"> • Victor C. M. Leung, Shenzhen University, China • Xiaofei Wang, Tianjin University • F. Richard Yu, Carleton Univeristy, Canada • Dusit Niyato, Nanyang Technological University, Singapore • Tarik Taleb, Aalto University, Finland • Sangheon Park, Korea University, South Korea .

Special Issues

No	Special Issue	Publisher/Journal	Editors
22	New Advances in Blockchain-Based Wireless Networks (15 June 2020)	IEEE ACCESS	<ul style="list-style-type: none"> • Zhipeng Cai, Georgia State University, USA • Yunchuan Sun, Beijing Normal University, China • Ruidong Zhang, University of Wisconsin – Eau Claire, China • Lei Zhang, University of Glasgow, UK • Muhammad Zeeshan Shakir, University of the West of Scotland, UK • Hamed Ahmadi, University of York, UK.
23	Scalable and Secure Platforms for UAV networks (30 June 2020)	Elsevier Computer Communications	<ul style="list-style-type: none"> • Luca Chiaraviglio, University of Rome Tor Vergata, Italy • Vinay Chamola, Birla Institute of Technology and Science, Pilani • BiplabSikdar, National University of Singapore, Singapore • Guangjie Han, Hohai University, China.
24	Artificial Intelligence for Securing Industrial-Based Cyber-Physical Systems (30 June 2020)	IEEE Transactions on Industrial Informatics	<ul style="list-style-type: none"> • Gautam Srivastava, Brandon University, Canada • Jerry Chun-Wei Lin, Western Norway University of Applied Sciences, Norway • Vincent S. Tseng, National Chiao-Tung University, Taiwan • Xuyun (Sean) Zhang, , Macquarie University, Australia.

Special Issues

No	Special Issue	Publisher/Journal	Editors
25	Industrial Security for SmartCities (1 July 2020)	IEEE Internet of Things Journal	<ul style="list-style-type: none">• Huimin Lu, Kyushu Institute of Technology, Japan• Pin-Han Ho, University of Waterloo, Canada• Mohsen Guizani, University of Idaho, USA.

Upcoming Issues

No	Special Issue	Publisher/Journal	Editors
1	Blockchain for Vehicles and Intelligent Communications (15 July 2020)	IEEE Transactions on Vehicular Technology	<ul style="list-style-type: none"> • Yan Zhang, University of Oslo, Norway • Jelena Masic, Ryerson University, Canada • Zibin Zheng, Sun Yat-sen University, China.
2	Malware Analysis and Vulnerability Detection Using Machine Learning (17 July 2020)	Security and Communication Networks	<ul style="list-style-type: none"> • Farrukh A. Khan, King Saud University, Riyadh, Saudi Arabia • Muhammad Faisal Amjad, National University of Sciences and Technology, Pakistan • Yin Zhang, Zhongnan University of Economics and Law, China • Hammad Afzal, National University of Sciences and Technology, Pakistan.
3	Cyber Forensics for Emerging Technologies (30 July 2020)	IEEE Open Journal of the Communications Society	<ul style="list-style-type: none"> • Prabir Bhattacharya, Concordia University, Canada • Indrakshi Ray, Colorado State University, USA • Ali Dehghantanha, University of Guelph, Canada • Yuan Hong, Illinois Institute of Technology, USA • Krishnashree Achuthan, Amrita Vishwa Vidyapeetham, India • Daniel Bastos, British Telecom, UK.

Upcoming Issues

No	Special Issue	Publisher/Journal	Editors
4	Blockchain Solutions for Industrial Internet of Things (30 July 2020)	IEEE Transactions on Industrial Informatics	<ul style="list-style-type: none"> • Yan Zhang, University of Oslo, Norway • Zibin Zheng, Sun Yat-Sen University, China • Hong-Ning Dai, Macau University of Science and Technology, Macau.
5	Novel Cyber-Security Paradigms for Software-defined and Virtualized Systems (1 August 2020)	Elsevier Computer Networks	<ul style="list-style-type: none"> • Fulvio Valenza, Politecnico di Torino, Italy • Matteo Repetto, CNR-IMATI, Italy • Stavros Shiaeles, University of Portsmouth, UK.
6	Cybersecurity for Critical Infrastructure Systems (1 August 2020)	IEEE Communications Magazine	<ul style="list-style-type: none"> • Haider Abbas, National University of Sciences and Technology, Pakistan (Lead) • Huimin Lu, Kyushu Institute of Technology, Japan • Rafia Inam, Ericsson, Sweden • Hafiz Malik, University of Michigan, USA.

Upcoming Issues

No	Special Issue	Publisher/Journal	Editors
7	Intelligent Blockchain for Internet of Things (15 August 2020)	IEEE Internet of Things Journal	<ul style="list-style-type: none"> • Yan Zhang, University of Oslo, Norway • Zhihong Tian, Guangzhou University, China • Davor Svetinovic, Khalifa University of Science and Technology, UAE • Yongxu Zhu, London South Bank University, UK • Danny H.K. Tsang, Hong Kong University of Science and Technology, Hong Kong.
8	IoT and Privacy (31 August 2020)	IEEE Internet of Things Magazine	<ul style="list-style-type: none"> • Erin Kenneally, Elchemy, USA.
9	Secure Artificial Intelligence in Mobile Edge Computing (31 August 2020)	Elsevier Computer Communications	<ul style="list-style-type: none"> • Lianyong Qi, Qufu Normal University, China • Qiang Ni, Lancaster University, UK • Shui Yu, University of Technology Sydney, Australia • Gautam Srivastava, Brandon University, Canada.

Upcoming Issues

No	Special Issue	Publisher/Journal	Editors
10	Security and Privacy in Wireless Sensor Network (31 August 2020)	Sensors	<ul style="list-style-type: none"> • Athanasios V. Vasilakos, Lulea University of Technology, Sweden • Gagangeet Singh Aujla, India and Newcastle University, UK • Sahil Garg, Université du Québec, Canada.
11	Security and Privacy in Wireless Sensor Network (31 August 2020)	Sensors	<ul style="list-style-type: none"> • Athanasios V. Vasilakos, Lulea University of Technology, Sweden • Gagangeet Singh Aujla, India and Newcastle University, UK • Sahil Garg, Université du Québec, Canada.
12	Security and Privacy for AI Models and Applications (1 September 2020)	IEEE Transactions on Network Science and Engineering	<ul style="list-style-type: none"> • Bin Xiao, Hong Kong Polytechnic University, China • Fan Wu, Shanghai Jiao Tong University, China • Francesco Chiti, University of Florence, Italy • Mohammad Hossein Manshaei Florida International University, USA • Giuseppe Ateniese, Stevens Institute of Technology, USA.

Upcoming Issues

No	Special Issue	Publisher/Journal	Editors
13	Blockchain Security and Privacy for the Internet of Things (15 September 2020)	Sensors	<ul style="list-style-type: none"> • Luca Veltri, University of Parma, Italy • Marco Picone, Università degli Studi di Parma, Italy • Simone Cirani, University of Parma, Italy.
14	Latest Developments for Security Management of Networks and Services (15 October 2020)	IEEE Transactions on Network and Service Management	<ul style="list-style-type: none"> • Rémi Badonnel, Telecom Nancy – LORIA / INRIA, France • Carol Fung, Virginia Commonwealth University, USA • Sandra Scott-Hayward, Queen's University Belfast, UK • Qi Li, Tsinghua University, China.
15	Artificial Intelligence: The Security & Privacy Opportunities and Challenges for Emerging Applications (30 November 2020)	Future Generation Computer Systems	<ul style="list-style-type: none"> • Qin Liu, College of Computer Science and Electronic Engineering, Hunan University, China • Guojun Wang, School of Computer Science and Cyber Engineering, Guangzhou University, China • Jiankun Hu, School of Engineering and IT, University of New South Wales, Australia • Jie Wu, Department of Computer and Information Sciences, Temple University, USA.

Upcoming Issues

No	Special Issue	Publisher/Journal	Editors
16	Explainable Artificial Intelligence for Cyber Threat Intelligence (XAI-CTI) Applications (1 December 2020)	IEEE Transactions on Dependable and Secure Computing	<ul style="list-style-type: none">• Hsinchun Chen, University of Arizona, USA• Bhavani Thuraisingham, University of Texas at Dallas, USA• Murat Kantarcioglu, University of Texas at Dallas, USA• Sagar Samtani, Indiana University, USA.
17	Data Privacy Protection in Wireless Sensor Networks (31 December 2020)	Sensors	<ul style="list-style-type: none">• Jordi Forné, Universitat Politècnica de Catalunya, Spain• Javier Parra-Arnau, Karlsruhe Institute of Technology, Germany.

Books

No	Book Title	Publisher	Authors/Editors
1	System-on-Chip Security	Publisher: Springer Publication year: 2020 ISBN: 978-3-030-30596-3	<ul style="list-style-type: none">Farahmandi, Farimah; Huang, Yuanwen and Mishra, Prabhat
2	Mobile Security	Publisher: Springer Publication year: 2020 ISBN: 978-3-662-60855-5	<ul style="list-style-type: none">Westhoff, Dirk
3	Advanced API Security	Publisher: Springer Publication year: 2020 ISBN: 978-1-4842-2050-4	<ul style="list-style-type: none">Siriwardena, Prabath
4	Computer Security and the Internet	Publisher: Springer Publication year: 2020 ISBN: 978-3-030-33649-3	<ul style="list-style-type: none">Van Oorschot and Paul C
5	Cyber-Security in Critical Infrastructures	Publisher: Springer Publication year: 2020 ISBN: 978-3-030-46908-5	<ul style="list-style-type: none">Rass, S., Schauer, S., König, S. and Zhu, Q

Books

No	Book Title	Publisher	Authors/Editors
6	Guide to Computer Network Security	Publisher: Springer Publication year: 2020 ISBN: 978-3-030-38141-7	<ul style="list-style-type: none">• Kizza, Joseph Migga
7	Data Security in Cloud Storage	Publisher: Springer Publication year: 2020 ISBN: 978-981-15-4374-6	<ul style="list-style-type: none">• Zhang, Yuan, Xu, Chunxiang and Shen, Xuemin Sherman
8	Machine Learning Approaches in Cyber Security Analytics	Publisher: Springer Publication year: 2020 ISBN: 978-981-15-1706-8	<ul style="list-style-type: none">• Thomas, Tony, P Vijayaraghavan and Athira, Emmanuel, Sabu
9	Differential Privacy for Dynamic Data	Publisher: Springer Publication year: 2020 ISBN: 978-3-030-41039-1	<ul style="list-style-type: none">• Le Ny, Jérôme
10	Learning-based VANET Communication and Security Techniques	Publisher: Springer Publication year: 2020 ISBN: 978-3-030-01731-6	<ul style="list-style-type: none">• Xiao, L., Zhuang, W., Zhou, S. and Chen, C.

Books

No	Book Title	Publisher	Authors/Editors
11	Secure Quantum Network Coding Theory	Publisher: Springer Publication year: 2020 ISBN: 978-981-15-3386-0	<ul style="list-style-type: none"> • Shang, Tao and Liu, Jianwei
12	Secure Image Transmission in Wireless Sensor Network (WSN) Applications	Publisher: Springer Publication year: 2020 ISBN: 978-3-030-20816-5	<ul style="list-style-type: none"> • Shankar, K. and Elhoseny, Mohamed
13	Cryptography Arithmetic	Publisher: Springer Publication year: 2020 ISBN: 978-3-030-34142-8	<ul style="list-style-type: none"> • Omondi, Amos
14	Fully Homomorphic Encryption in Real World Applications	Publisher: Springer Publication year: 2020 ISBN: 978-981-13-6393-1	<ul style="list-style-type: none"> • Chatterjee, Ayantika and Aung, Khin Mi Mi
15	Securing Social Identity in Mobile Platforms	Publisher: Springer Publication year: 2020 ISBN: 978-3-030-39489-9	<ul style="list-style-type: none"> • Bourlai, Thirimachos, Karampelas, Panagiotis and Patel, Vishal M.

Books

No	Book Title	Publisher	Authors/Editors
16	Blockchain Cybersecurity, Trust and Privacy	Publishser: Springer Publication year: 2020 ISBN: 978-3-030-38181-3	<ul style="list-style-type: none"> • Choo, Kim-Kwang Raymond, Dehghantanha, Ali and Parizi, Reza
17	IoT Security: Advances in Authentication	Publishser: Wiley Telecom Publication year: 2020 ISBN: 9781119527947	<ul style="list-style-type: none"> • Anca D. Jurcut ;PasikaRanaweera and Lina Xu
18	Software Networks: Virtualization, SDN, 5G, and Security	Publishser: Wiley Telecom Publication year: 2020 ISBN: 9781119694724	<ul style="list-style-type: none"> • Guy Pujolle
19	Modeling and Design of Secure Internet of Things	Publisher: Wiley-IEEE Press Publication year: 2020 ISBN: 9781119593393	<ul style="list-style-type: none"> • YaoqingLiu ; Garegin Grigoryan ; Charles A. Kamhoua and Laurent L. Njilla
20	Public Safety Networks from LTE to 5G	Publishser: Wiley Telecom Publication year: 2020 ISBN: 9781119580133	<ul style="list-style-type: none"> • Abdulrahman Yarali

Books

No	Book Title	Publisher	Authors/Editors
21	Computer Network Security	Publisher: Wiley Publication year: 2020 ISBN:9781786305275	<ul style="list-style-type: none"> • Ali Sadiqui
22	Cybersecurity and Decision Makers: Data Security and Digital Trust	Publisher: Wiley Publication year: 2020 ISBN:9781786305190	<ul style="list-style-type: none"> • Marie de Fréminville
23	Design and Analysis of Security Protocol for Communication	Publisher: Wiley Publication year: 2020 ISBN:9781119555643	<ul style="list-style-type: none"> • Dinesh Goyal S. Balamurugan, Sheng-Lung Peng and O.P. Verma
24	Security Analytics for the Internet of Everything	Publisher: CRC Press Publication year: 2020 ISBN : 9780367440923	<ul style="list-style-type: none"> • Mohuiddin Ahmed, Abu S.S.M Barkat Ullah and Al-Sakib Khan Pathan
25	Big Data Analytics and Computing for Digital Forensic Investigations	Publisher: CRC Press Publication year: 2020 ISBN : 9780367456788	<ul style="list-style-type: none"> • Suneeta Satpathy and Sachi Nandan Mohanty

Books

No	Book Title	Publisher	Authors/Editors
26	Architecture and Security Issues in Fog Computing Applications	Publisher: IGI Global Publication year: 2020 ISBN : 1799801942	<ul style="list-style-type: none"> • Sam Goundar, S. Bharath Bhushan and Praveen Kumar Rayani
27	Cryptography: Breakthroughs in Research and Practice	Publisher: IGI Global Publication year: 2020 ISBN : 9781799817635	<ul style="list-style-type: none"> • Information Resources Management Association
28	Quantum Cryptography and the Future of Cyber Security	Publisher: IGI Global Publication year: 2020 ISBN : 9781799822530	<ul style="list-style-type: none"> • Nirbhay Kumar Chaubey and Bhavesh B. Prajapati
29	Deep Learning Strategies for Security Enhancement in Wireless Sensor Networks	Publisher: IGI Global Publication year: 2020 ISBN : 9781799850687	<ul style="list-style-type: none"> • K. Martin Sagayam, Bharat Bhushan, Diana Andrushia and Victor Hugo C. de Albuquerque
30	Implementing Computational Intelligence Techniques for Security Systems Design	Publisher: IGI Global Publication year: 2020 ISBN : 9781799824183	<ul style="list-style-type: none"> • Yousif Abdullatif Albastaki and Wasan Awad

Books

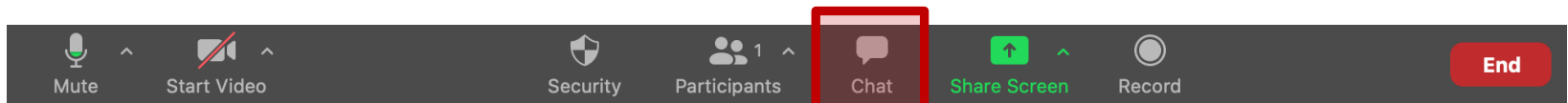
No	Book Title	Publisher	Authors/Editors
31	Security, Privacy, and Forensics Issues in Big Data	Publisher: IGI Global Publication year: 2020 ISBN : 9781522597421	<ul style="list-style-type: none"> Ramesh C. Joshi and Brij B. Gupta
32	Applied Approach to Privacy and Security for the Internet of Things	Publisher: IGI Global Publication year: 2020 ISBN : 9781799824442	<ul style="list-style-type: none"> Parag Chatterjee, Emmanuel Benoist and Asoke Nath
33	Modern Principles, Practices, and Algorithms for Cloud Security	Publisher: IGI Global Publication year: 2020 ISBN : 9781799810827	<ul style="list-style-type: none"> Brij B. Gupta
34	Handbook of Research on Machine and Deep Learning Applications for Cyber Security	Publisher: IGI Global Publication year: 2020 ISBN : 9781522596110	<ul style="list-style-type: none"> Padmavathi Ganapathi and D. Shanmugapriya
35	Securing the Internet of Things: Concepts, Methodologies, Tools, and Applications	Publisher: IGI Global Publication year: 2020 ISBN : 9781522598664	<ul style="list-style-type: none"> Information Resources Management Association (USA)

Books

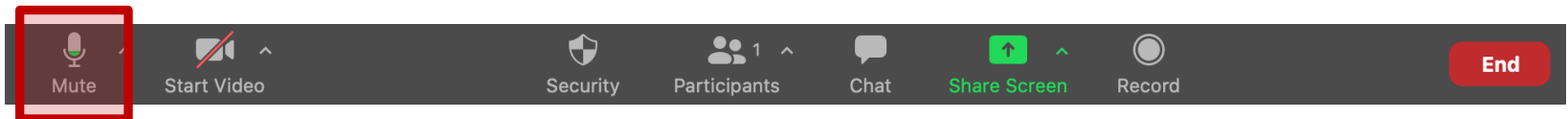
No	Book Title	Publisher	Authors/Editors
36	Security and Privacy Issues in Sensor Networks and IoT	Publisher: IGI Global Publication year: 2020 ISBN : 9781799803737	<ul style="list-style-type: none">• Priyanka Ahlawat and Mayank Dave
37	Privacy Concerns Surrounding Personal Information Sharing on Health and Fitness Mobile Apps	Publisher: IGI Global Publication year: 2020 ISBN : 9781799834878	<ul style="list-style-type: none">• Devjani Sen and Rukhsana Ahmed
38	Blockchain Applications in IoT Security	Publisher: IGI Global Publication year: 2020 ISBN: 9781799824145	<ul style="list-style-type: none">• Harshita Patel and Ghanshyam Singh Thakur

Zoom online Meeting

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4. when leaving the meeting before its ending do not make any announcement

Meeting Agenda

1. Welcome / Introduction
2. Approval of the Agenda
3. Approval of Meeting Minutes of IEEE GC 2019, Hawaii, USA
4. IEEE ComSoc CISTC Recognition Award 2020
5. Reports on Conferences
6. Reports on Publications
- 7. CISTC SIGs**
8. Standards Liaison
9. ComSoc Students Competition Award
10. Amendment to TC P&P
11. CISTC Newsletter
12. CISTC COVID-19 related activities
13. Next CISTC Meeting
14. Adjourn

CISTC SIG

CISTC SIG 1 “IoT cyber security”

- Members
 - Dr. Abderrahim Benslimane, University of Avignon, France
 - Dr. Neeli Prasad, International Technological University, USA
 - Dr. Chunxiao Jiang, Tsinghua University, Beijing, China

CISTC SIG 2 “Security in 5G”

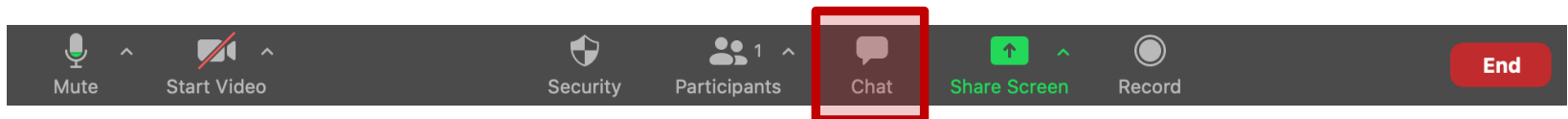
- Members
 - Dr. Hui-Ming Wang, Xi’an Jiaotong University, China

CISTC SIG 3 “Security in blockchains”

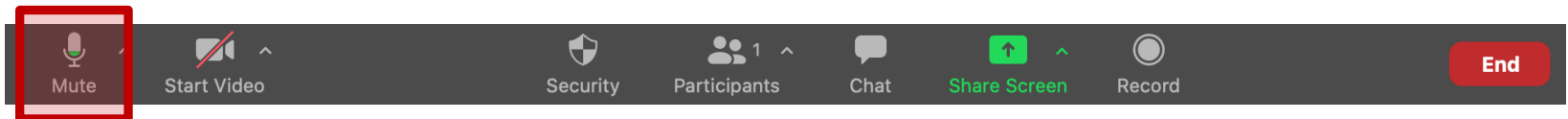
- Members
 - Dr. Abderrahim Benslimane, University of Avignon, France
 - Dr. Bin Xiao, The Hong Kong Polytechnic Univ., China
 - Dr. Aziz Mohaisen, University of Central Florida, USA

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Standards Liaison

COMSOC Standardization Program Development Board (CSPDB) Organization

Director: [Stephen F Bush – bushsf@research.ge.com](mailto:bushsf@research.ge.com)

Board Members:

- SM Hasan (GE)
- Lutz Lampe (UBC)
- Sanjay Goel (SUNY)
- Mehmet Ulema (Manhattan College)
- Tarik Taleb (NEC)
- R. Venkatesha Prasad (TU Delft)

CIS Technical Committee Liaison

CISTC representative: Dr. Neeli Prasad

no meeting requests from Standards Committee

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ComSoc Students Competition Award

- **51** total submissions, reviewed by **47** review *Committee Members* in two phases:
 1. Phase I selected **11** submitted projects
 2. Phase II selected **4** best among the 11 results from Phase I
- **4** best projects were ranked as below with **3** first prizes and **1** second prize.
- other projects from Phase I results plus 4 additional projects deemed with outstanding merit by the committee are listed as *Honorary Mention*

ComSoc Students Competition Award

- **Student Competition 2019 Results**
- First Prize (*ex aequo*)
 - 44 **MiNiMAP**: Localization and Tracking in a Multistatic Millimeter Wave MIMO Radar Network, **MILLER Samuel**, Massachusetts Institute of Technology, USA
 - 19 **AirScope**: An Indoor Air Quality Monitoring System with Distributed Multi-Robots, **HU Zhiwen**, Peking University, China
 - 46 **LICOT**: Litter-Information-Centric Ocean of Things, **RAHMATI Mehdi**, Rutgers University, USA
- Second Prize
 - 2 **Sons**- A Smart Outdoor Navigation System for Visually Impaired People, **SHIBER Aviad**, Technion - Israel Institute of Technology, Israel

ComSoc Students Competition Award

- **"Honorary Mention" Certificates (in no order)**
 - 3 Optical fiber based smart pillow, **SHEN Jinlu**, Washington State University, USA
 - 8 Mobile Stroke Microwave Detector System, **ZHANG Zekun**, Beijing Institute of Technology, China
 - 11 Development Of A Crime Reporting And Hazardous Areas Alert Application, **HAFDI Ahmed**, Ecole nationale superieure d'informatique et d'analyse des systemes, Morocco
 - 13 SMARTHERD: An IoT Machine Learning Based System and Method for Predicting Lameness in Dairy Cattle, **TANEJA Mohit**, TSSG Group, Waterford Institute of Technology , Ireland
 - 15 Ad hoc Emergency Communication for Search and Rescue Drone Using GMSK Modulation with Active Transmitter Localization, **ROHMAN Budiman P.A.**, Kumamoto University, Japan

ComSoc Students Competition Award

- "Honorary Mention" Certificates (in no order)
 - 24 Indoor Navigation for The Visually Impaired, **HETTIARACHCHI Ranjula**, University of Moratuwa, Sri Lanka
 - 28 Wearable Cost Effective Wireless Dry Contact SEMG Sensor System for Controlling Digital Technologies, **DE SILVA Ashwin**, University of Moratuwa, Sri Lanka
 - 37 Intelligent Reconfigurable Reflectarray Antenna-Based High-Definition VR Massive MIMO Prototype for Rural Telemedicine, **TAN Jingbo**, Tsinghua University, China
 - 39 Emergency Communication System for Disaster and Remote Region, **WICAKSONO Agung**, Institut Teknologi Sepuluh Nopember, Indonesia
 - 41 S.A.F.E. - Self Adapting Flying network for communication and computation services in Extreme public safety scenarios, **MENEGHELLO Francesca**, University of Padova, Italy
 - 50 Driving Fatigue Detection System based on RFID, **YANG Chao**, Auburn University, USA

Meeting Agenda

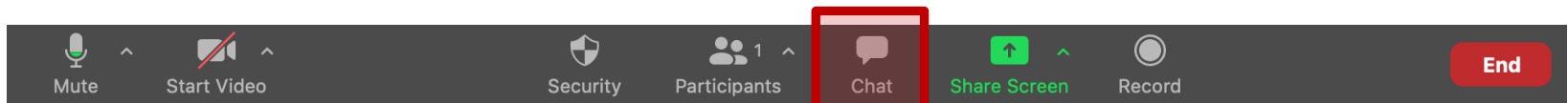
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Amendment to TC P&P

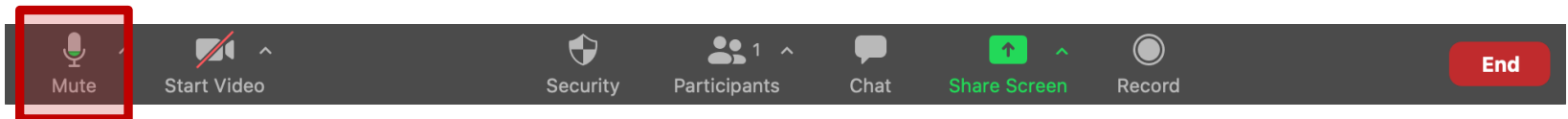
- Minimum mandatory/recommended Policies for Technical Committees Policies and Procedures (Technical Committees Board - June 20, 2020)
 - Charter
 - Objectives
 - Organizational Structure
 - (Voting) Membership
 - Nomination and Election
 - Officers
 - (Awards) Subcommittees
 - Special Interest Groups

Zoom online Meeting

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CISTC Newsletter

<https://cis.committees.comsoc.org/newsletters>



Issue 6 – June 2020

Officers:

Chair: Francesco Chiti, Assistant Professor - Department of Information Engineering University of Florence (Italy)

Vice Chair (Conference): Hongwei Lu, Associate Professor - Faculty of Computer Science, University of New Brunswick (Canada)

Vice Chair (Publication): Bin Xiao, Associate Professor - Department of Computing, Hong Kong Polytechnic University, Hong Kong (China)

Secretary: Hongwei Li, Full Professor - School of Computer, University of Electronic Science and Technology of China, Chengdu (China)

Representative for IEEE ComSoc Standards Board: Newell R. Froom, Founder and CEO, SPA Solutions LLC (USA)

Representative for IEEE ComSoc Student Competition Committee: Dongming Peng, Electrical & Computer Engineering Department, University of Nebraska-Lincoln (USA)

cistc@comsoc.org
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MESSAGE FROM THE CHAIR

Dear CISTC Members,

I would like to express to all of you my sincere gratitude for the opportunity you are providing to me to serve our community as a Chair for the next two years.

I have joined this Committee since 2014, first as Secretary and beside as Vice Chair for Publication and Conference, always experiencing constructive and valuable relationships with the other Officers, that encouraged me to found and direct as the Editor-in-Chief our Newsletter from 2016 until now. This allowed me to deeply understand the specific profile and dynamics of our Community in terms of scientific trends and impacts on dissemination and networking.

I would like to dedicate my office to reinforce the cooperation within our community in order to enhance the quality of our academic and scientific work. In my personal point of view, this could be achieved through an intense team working among and with the Officers, as well as with a coordination of already established thematic working groups, all in continuity with the excellent intuitions, aims and realizations of the past Chairs.

I believe that, since communications networks are constantly evolving into complex, interoperable and pervasive ecosystems, an interdisciplinary approach is the most suited way to understand their multifaceted nature and their potential developments. In this perspective, my intention is to boost the level of interactive discussion and exchanging different views by using this Newsletter as an open platform in progress where all the Members of our Community are welcome to cooperative contribute to imagine our future.

And this is particularly suitable when considering the current global pandemic, which is challenging us to reshape the nature of our relationships by providing them an original quality though communications technologies, where genuine social internetworking could be a promising solution.

Let me conclude this message wishing you to enjoy this Issue,

Sincerely,
Francesco Chiti
Chair of CIS-TC



CISTC Newsletter

CIS-TC Newsletter
 Communications and Information Security Technical Committee
 IEEE

CISTC Technical Recognition Awards 2020

The Committee decided to give CIS-TC Technical Recognition Award 2020 to Professor Hsiao-Hwa Chen at Department of Engineering Science National Cheng Kung University Tainan City (Taiwan), and to Professor Mohsen Guizani at Qatar University, Doha (Qatar), both excellent researchers and extremely active members of IEEE ComSoc and our CISTC.

In particular the motivation for Professor Chen is for "his contribution to wireless communication security, mainly for physical layer in wireless communication systems", while for Professor Guizani is for "his contribution to wireless communications security, especially security of IoT devices for health applications and IoT".

The Committee congratulate with both the Awarded, that, due to the global pandemic, will be awarded during the CIS-TC meeting held at IEEE Globecom 2020 in Taipei, Taiwan.



Mohsen Guizani [S'85, M'89, SM'96, F'09] (mguizani@ieee.org) received his B.S. (with distinction) and M.S. degrees in electrical engineering, and M.S. and Ph.D. degrees in computer engineering from Syracuse University, New York, in 1984, 1986, 1987, and 1990, respectively. He is currently a professor in the Computer Science and Engineering Department at Qatar University. Previously, he served in different academic and administrative positions at the University of Idaho, Western Michigan University, the University of West Florida, the University of Missouri-Kansas City, the University of Colorado-Boulder, and Syracuse University. His research interests include wireless communications and mobile computing, computer networks, mobile cloud computing, security, and smart grid. He is currently the Editor-in-Chief of IEEE Network, serves on the Editorial Boards of several international technical journals, and is the Founder and Editor-in-Chief of the Wireless Communications and Mobile Computing Journal (WCJ). He is the author of nine books and more than 500 publications in refereed journals and conferences. He has guest edited a number of Special Issues in IEEE journals and magazines. He has also served as a TPC member, Chair, and General Chair of a number of international conferences. Throughout his career, he received three teaching awards and four research awards. He also received the 2017 IEEE Communications Society WTC Recognition Award as well as the 2018 Ad Hoc Technical Committee Recognition Award for his contribution to outstanding research in wireless communications and ad hoc sensor networks. He was the Chair of the IEEE Communications Society Wireless Technical Committee and the Chair of the TACS Technical Committee. He served as IEEE Computer Society Distinguished Speaker and is currently an IEEE ComSoc Distinguished Lecturer. He is a Senior Member of ACM.



Hsiao-Hwa Chen (Fellow, IEEE) received the B.Sc. and M.Sc. degrees from Zhejiang University, Hangzhou, China, in 1982 and 1985, respectively, and the Ph.D. degree from the University of Oulu, Oulu, Finland, in 1991. He is currently a Distinguished Professor with the Department of Engineering Science, National Cheng Kung University, Tainan, Taiwan. He has authored or coauthored more than 400 technical papers in major international journals and conferences, six books, and more than ten book chapters in the areas of communications. He was a recipient of the Best Paper Award at IEEE WCNC 2008 and the IEEE 2016 Jack Neubauer Memorial Award. He was the General Chair, the TPC Chair, and the Symposium Chair for many major international conferences. He was or is an Editor or a Guest Editor for numerous technical journals. He is the Founding Editor-in-Chief of Security and Communication Networks Journal (WCJ). He was the Editor-in-Chief of the IEEE Wireless Communications from 2012 to 2015. He was an Elected Member-at-Large of IEEE ComSoc from 2015 to 2016.

CIS-TC Newsletter
 Communications and Information Security Technical Committee
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FORTHCOMING MEETING

The next IEEE ComSoc Communication & Information Security TC (CIS-TC) meeting will be held at IEEE ICC 2020, 7-11 December 2020, Taipei, Taiwan.



FEATURED TOPICS

"Physical Layer Security in Intelligently Connected Vehicle Networks"

Xuewen Luo¹ and Hsiao-Hwa Chen²
¹Communications Research Center, Harbin Institute of Technology, China
²Department of Engineering Science, National Cheng Kung University, Taiwan

In the past decade, many works have been done to develop vehicular network and communication technologies, such as vehicular ad hoc networks (VANETS), IEEE 802.11 based WiFi, dedicated short range communications (DSRC), and LTE-V2X in 3GPP Release 14. With an increasing demand on low latency, high data rate and high quality of service (QoS), traditional vehicular communication technologies cannot satisfy these requirements. Thanks to the rapid development of wireless communication technologies and semiconductor technologies, the next generation of vehicular networks called intelligently connected vehicle (ICV) networks can be realized with a low latency less than 1 ms, a high data rate at 10 Gbps and massive connections. In the near future, multiple wireless communication technologies will coexist in ICV networks, including IEEE 802.11 based technologies, Bluetooth, millimeter wave, massive multi-input and multi-output (MIMO), visible light communication (VLC) and so on. The major wireless communication technologies used in ICV networks are listed in Fig. 1.

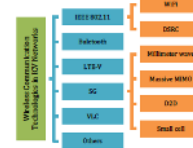


Fig. 1 Wireless communication technologies used in ICV networks.

Equipped with various sensors, RADAR, LIDAR, cameras and RF transceivers, ICV can perceive the surrounding environment, e.g., pedestrian and traffic signs, and exchange information with other smart devices, e.g., base stations (BSs), roadside units (RSUs), smart traffic lights, smart phones, unmanned aerial vehicles (UAVs) and so on. Nowadays, an ICV with various sensors may generate hundreds and thousands of gigabytes data per day, including images and videos of traffic information, entertainment information, emergency information, routing information, etc. The large amount of data may contain a lot of privacy information about vehicles, such as identity, location, and other sensitive information that the vehicles do not want others to know. In addition, the privacy information of other smart devices in the ICV networks should also be protected. Traditionally, these privacy messages are protected via encryption/authentication technologies at the upper layers of vehicular networks. However, modern encryption technologies normally use symmetric keys as session keys for confidential data transmission while the key distribution requires a ubiquitous trusted authority (TA), which will create a lot of communication overhead, and key negotiation needs a great amount of computational resources for running asymmetric cryptographic algorithms.

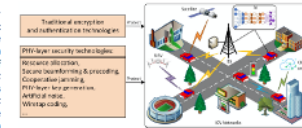


Fig. 2 Security technologies in ICV networks.

Recently, physical (PHY) layer security attracts a lot of attention to secure vehicular communication networks. Comparing to traditional encryption/authentication schemes, PHY layer security consumes less computational resource, and has a lower latency and a lower overhead. The PHY-layer security can provide additional protection as a complementary technology with respect to the traditional encryption/authentication schemes in the ICV networks as shown in Fig. 2. We have been working in PHY-layer security of ICV networks for several years. We presented a comprehensive overview on PHY-layer security assisted ICV networks [1]. The security threats in ICV networks were analyzed, such as eavesdropping attacks on vehicle-to-vehicle (V2V) links, vehicle-to-infrastructure (V2I) links, vehicle-to-satellite (V2S) links, UAV aided communications, and vehicular cloud/edge networks. Furthermore, multiple PHY layer security technologies were summarized to secure information transmission in the ICV networks.



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including radio resource management (RRM) for secrecy rate optimization, cooperative jamming, multi-antenna technologies, PHY-layer key generation and so on. We also investigated the secrecy rate optimization problems in device-to-device (D2D) underlying V2V networks and considered a joint radio resource and power management (RRPM) problem for secure underlying V2V communications [2]. Considering the security performance of both cellular users and V2V links, we proposed two secrecy capacity optimization strategies to optimize the secrecy capacity of a V2V underlying cellular communication system [3]. The first strategy is to maximize the secrecy capacity of V2V links with a cellular user secrecy capacity constraint, while the second one maximized the sum secrecy capacity of V2V links and cellular links with a fairness index. In addition, we also considered different subcarrier and power allocation schemes [3][4]. In our recent research efforts, we aimed to investigate the PHY-layer security performance in vehicular cloud networks and secure computational offloading and mobile crowd computing systems.

Usually, ICV networks are latency sensitive. However, the latency is difficult to model in the ICV networks. In addition, the existing PHY-layer security schemes may have a high latency, such as RRM due to its complex channel state information (CSI) feedback process and non-convex objective functions. Many resource allocation algorithms usually suffer a high complexity, such as Hungarian algorithm whose time complexity is $O(n^3)$, and as the number of users increases, the complexity increases too. Furthermore, many PHY-layer security optimization problems are mixed-integer nonlinear programming (MINLP) problems, which are NP-hard and difficult to obtain analytical optimal solutions. In order to solve these problems in the ICV networks, some new algorithms should be developed. We believe that machine learning (ML) is a promising technology to do this. In distributed RRM schemes, multi-agent reinforcement learning (MARL) algorithms can be adopted in the ICV networks to reduce the latency and algorithm complexity. Also, supervised learning and unsupervised learning can be used to learn the message and artificial noise (AN) precoding matrices in multi-antenna ICV networks. Moreover, ML algorithms can be also utilized to detect the intruders and malicious access points in the networks, such as active eavesdroppers who may send pilot contamination signals.

In summary, the future ICV networks will be intelligent and fully connected, by which the vehicles can communicate with any other smart devices to improve driving safety and ride safety. Also, intelligent services (such as cloud/fog/edge computing, virtual reality, augmented reality, intelligent transportation and so on) will be provided by vehicular service providers. These services require a high level of information security for ICV networks, and traditional encryption technologies may not be good enough due to the high computing capacity of attackers. Thus, the PHY-layer security schemes can provide a complementary protection for the ICV networks. In our future works, several new research directions can be listed in the sequel.

- Considering the rapidly changing vehicular channels due to the dynamic network topology of the ICV networks, we need to design some more efficient PHY-layer security schemes.
- The existing PHY-layer security algorithms are time-consuming and not suitable for latency sensitive ICV networks. Thus, low complexity algorithms should be developed.
- Secure task offloading and mobile crowd computing in vehicular cloud/edge networks are the other research works we will do.
- Due to the heterogeneity in the ICV networks, more efficient and effective network management technologies should be investigated in secure ICV networks.
- Artificial intelligence (AI) is a double-edged sword to secure ICV networks. On one hand, AI can be utilized to detect malicious users and solve complex optimization problems. On the other hand, the vehicles are resource limited but AI technologies may consume a large amount of computing resources. Thus, how to balance these two aspects is very important in ICV networks.

Although challenges remain in the future research works, we believe that PHY-layer security technologies are promising to provide a higher-level security in the ICV networks.

References

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- [2] Y. Li, W. Wang, H.-H. Chen, L. Wang, N. Cheng, W. Meng and X. Shen, "Secrecy Rate Maximization via Radio Resource Allocation in Cellular Underlying V2V Communications," in IEEE Transactions on Vehicular Technology, doi: 10.1109/TVT.2020.2986088.
- [3] X. Luo, H.-H. Chen, W. Meng, "How Much Can Radio Resource Allocation Help to Improve Secrecy Capacity of V2V Under Cellular Networks?" submitted for publication.
- [4] X. Luo, H.-H. Chen and W. Meng, "Joint Resource Allocation and Secrecy Capacity Optimization in V2V Communications: [Invited Paper]," 2019 IEEE/CIC International Conference on Communications in China (ICCC), Changshu, China, 2019, pp. 30-35.

CIS-TC ORGANIZED SYMPOSIA

- *Communications and Information System Security Symposium – ICC2020*, 7-11 June 2020 // Virtual Conference (<https://icc2020.ieee-icc.org/>)
- *Communications and Information System Security Symposium – Globecom2020*, 7-11 December 2020, Taipei, Taiwan (<https://globecom2020.ieee-globecom.org/>)



CIS-TC AFFILIATE CONFERENCES

- **Conference: CNS 2020**
 - o IEEE Conference on Communications and Network Security
 - o 29 June - 1 July 2020, Avignon, France
 - o <https://cns2020.ieee-cns.org/>
- **Conference: WiMob 2020**
 - o 16th International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob 2020)
 - o October 12-14, 2020, Thessaloniki, Greece
 - o <http://www.wimob.org/wimob2020/>
- **Conference: ICAC2020**
 - o IEEE/ICACT 2020 22nd International Conference of Advanced Communications Technology
 - o 16-19 February 2020, Phoenix Park, PyeongChang, Korea
 - o <http://www.icact.org/>
- **Conference: WTS 2020**
 - o Wireless Telecommunications Symposium 2020
 - o April 23-24, 2020, Virtual Conference
 - o <http://www.cpp.edu/wts/>
- **Conference: CSNEI 2020**
 - o 4th Cyber Security in Networking Conference
 - o October 21-23, 2020, Lausanne, Switzerland
 - o <https://csnet-conference.org/2020/>
- **Conference: WISEL2020**
 - o The 8th Annual IEEE International Conference on Wireless for Space and Extreme Environments
 - o Oct 12 - 14 Vicenza Italy (Now Online)
 - o <https://attend.ieee.org/wisee-2020/>

Meeting Agenda

1. Welcome / Introduction
2. Approval of the Agenda
3. Approval of Meeting Minutes of IEEE GC 2019, Hawaii, USA
4. IEEE ComSoc CISTC Recognition Award 2020
5. Reports on Conferences
6. Reports on Publications
7. CISTC SIGs
8. Standards Liaison
9. ComSoc Students Competition Award
10. Amendment to TC P&P
11. CISTC Newsletter
- 12. CISTC COVID-19 related activities**
13. Next CISTC Meeting
14. Adjourn

CISTC COVID-19 related activities

- IEEE Internet of Things Magazine
 - Special Issue on "*Smart IoT Solutions for Combating COVID-19 Pandemic*"
 - Guest Editors:
 - Zubair Md. Fadlullah Lakehead University, Canada
 - Mostafa M. Fouda, Tennessee Technological University, TN, USA
 - Al-Sakib Khan Pathan, Independent University, Bangladesh
 - Nidal Nasser, Alfaisal University, Kingdom of Saudi Arabia
 - *Abderrahim Benslimane*, University of Avignon, France
 - Ying-Dar Lin, National Chiao Tung University (NCTU), Taiwan
 - Important Dates:
 - Manuscript Submission Deadline: 15 July 2020
 - Initial Decision: 31 July 2020
 - Revised Manuscript Due: 31 August 2020
 - Publication Date: September 2020
 - <https://www.comsoc.org/publications/magazines/ieee-internet-things-magazine/cfp/smart-iot-solutions-combating-covid-19>

CISTC COVID-19 related activities

- IEEE Open Journal of the Computer Society (OJ-CS)
 - Special Section on «Cybersecurity: Privacy, Attack, and Defense»
 - Guest Editors:
 - Zhou Su, Xi'an Jiaotong University, China
 - *Abderrahim Benslimane*, University of Avignon, France
 - David (Bong Jun) Choi, Soongsil University, Korea
 - Jiliang Li, University of Gottingen, Germany
 - Dongfeng Fang, California Polytechnic State University, USA
 - Important Dates:
 - Submissions Due: 15 July 2020
 - Notification to Authors: 31 August 2020
 - <https://www.computer.org/digital-library/journals/oj/call-for-papers-special-issue-on-cybersecurity-privacy-attack-and-defense>

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Next CISTC Meeting

- The next IEEE ComSoc's Communication & Information Security TC (CISTC) meeting will be held at IEEE GLOBECOM 2020, 7-11 December 2020 (Taipei, Taiwan)



Adjournment

Thank you for attending!

