

# 2020 Annual Report (June 2019 – May 2020)

## Multimedia Systems & Applications Technical Committee

### IEEE Circuits and Systems Society

Chairman: Dr. Sen-ching Samson Cheung  
Secretary: Dr. Wen-Huang Chang

## 1. Technical Committee Meeting(s):

(Please state the number of TC meetings in the past year, where held, TC meeting attendance rate, and was a quorum present.)

The MSA Technical Committee in the IEEE Circuits and Systems Society organized only one annual TC meetings between June 2019 and May 2020, which was held on July 11, 2019 during ICME 2019. 14 out of 50 members participated in that meeting. Since less than 1/3 of the TC members attended, a quorum was not present. The second annual meeting, normally held during ISCAS, was postponed to October 2020. However, a virtual TC meeting was held on July 6, 2020 during ICME 2020 - 23 members attended, and a quorum was present. Also, a new round of member election is currently underway with 15 nominees for 12 new member positions and 1 nominee for 1 new member emeritus position.

## 2. Members submitted Annual Reports:

First Name	Last Name	Affiliation	Email	IEEE Grade	IEEE Region
Sen-ching Samson	Cheung	University of Kentucky	<a href="mailto:sccheung@ieee.org">sccheung@ieee.org</a>	Fellow	R3
Luciano	Agostini	UFPEL - Brazil	<a href="mailto:agostini@inf.ufpel.edu.br">agostini@inf.ufpel.edu.br</a>	Senior Member	R9
Ivan	Bajic	Simon Fraser University, Canada	<a href="mailto:ibajic@ensc.sfu.ca">ibajic@ensc.sfu.ca</a>	Senior Member	R7
Wen-Huang	Cheng	National Chiao Tung University	<a href="mailto:whcheng@nctu.edu.tw">whcheng@nctu.edu.tw</a>	Senior Member	R10
Homer	Chen	National Taiwan University	<a href="mailto:homer@ntu.edu.tw">homer@ntu.edu.tw</a>	Fellow	R10
Jie	Chen	University of Alberta	<a href="mailto:jchen@ece.ualberta.ca">jchen@ece.ualberta.ca</a>	Fellow	R7
Zhibo	Chen	USTC	<a href="mailto:chenzhibo@ustc.edu.cn">chenzhibo@ustc.edu.cn</a>	Senior member	R10
Ichiro	Ide	Nagoya University	<a href="mailto:ide@i.nagoya-u.ac.jp">ide@i.nagoya-u.ac.jp</a>	Member	R10
Jiaying	Liu	Peking University	<a href="mailto:liujiaying@pku.edu.cn">liujiaying@pku.edu.cn</a>	Senior member	R10
Jiwen	Lu	Tsinghua University	<a href="mailto:lujiwen@tsinghua.edu.cn">lujiwen@tsinghua.edu.cn</a>	Senior Member	R10
C.-C. Jay	Kuo	Univ. of Southern California	<a href="mailto:cckuo@sipi.usc.edu">cckuo@sipi.usc.edu</a>	Fellow	R6
Jie	Liang	Simon Fraser university	<a href="mailto:jiel@sfu.ca">jiel@sfu.ca</a>	Senior member	R7
Weisi	Lin	Nanyang Tech University	<a href="mailto:wslin@ntu.edu.sg">wslin@ntu.edu.sg</a>	Fellow	R10
Dong	Liu	Univ. of Science and Technology of China, Hefei, China	<a href="mailto:dongeliu@ustc.edu.cn">dongeliu@ustc.edu.cn</a>	Senior Member	R10
Zicheng	Liu	Microsoft	<a href="mailto:zicliu@outlook.com">zicliu@outlook.com</a>	Fellow	R6
Chong	Luo	Microsoft Research Asia	<a href="mailto:clu@microsoft.com">clu@microsoft.com</a>	Senior Member	R10
Enrico	Magli	Politecnico di Torino	<a href="mailto:Enrico.magli@polito.it">Enrico.magli@polito.it</a>	Fellow	R8
Tao	Mei	JD.COM	<a href="mailto:tmei@live.com">tmei@live.com</a>	Fellow	R10
Jingjing	Meng	University at Buffalo	<a href="mailto:Jmeng2@buffalo.edu">Jmeng2@buffalo.edu</a>	Senior member	R1
Mrak	Marta	BBC, R&D	<a href="mailto:Marta.mrak@outlook.com">Marta.mrak@outlook.com</a>	Senior Member	R8
Peng	Cui	Tsinghua University	<a href="mailto:cuiip@tsinghua.edu.cn">cuiip@tsinghua.edu.cn</a>	Senior Member	R10
Yong	Rui	Lenovo	<a href="mailto:yongrui@lenovo.com">yongrui@lenovo.com</a>	Fellow	R6
Dong	Tian	InterDigital	<a href="mailto:dong.tian@gmail.com">dong.tian@gmail.com</a>	Senior Member	R1
Shuai	Wan	Northwestern Polytechnical University	<a href="mailto:swan@nwpu.edu.cn">swan@nwpu.edu.cn</a>	Member	R10
Yonggang	Wen	Nanyang Technological University, Singapore	<a href="mailto:yqwen@ntu.edu.sg">yqwen@ntu.edu.sg</a>	Fellow	R10
Wu	Liu	JD AI Research	<a href="mailto:liuwu1@jd.com">liuwu1@jd.com</a>	Member	R10
Jian	Zhang	University of Technology Sydney	<a href="mailto:jian.zhang@uts.edu.au">jian.zhang@uts.edu.au</a>	Senior member	R10
Lei	Zhang	Microsoft	<a href="mailto:leizhang@microsoft.com">leizhang@microsoft.com</a>	Fellow	R6
Wei-Shi	Zheng	Sun Yat-sen University	<a href="mailto:wszheng@ieee.org">wszheng@ieee.org</a>	member	R10
Ce	Zhu	University of Electronic Science & Technology of China	<a href="mailto:eczhu@uestc.edu.cn">eczhu@uestc.edu.cn</a>	Fellow	R10
Nam	Ling	Santa Clara University	<a href="mailto:nling@scu.edu">nling@scu.edu</a>	Fellow	R6

### 3. Accomplished Technical Activities

#### 3.1. IEEE Conference/Event organizations

(Please highlight conference/events are technically and financially co-sponsored by the CAS Society)

Your Name	Conference Sponsors	Conference/Event Title	Your Role
Samson Cheung	IEEE CAS	ISCAS 2019	Track Chair
Samson Cheung	IEEE CAS	ISCAS 2020	Track Chair
Luciano Agostini	IEEE CAS	ICECS 2019 - IEEE International Conference on Electronics Circuits and Systems	Track Chair: Signal Image and Video Processing Architectures
Luciano Agostini	IEEE CAS ACM Sigda IFIP SBC SBMicro	SBCCI 2020 - IEEE/ACM Symposium on Integrated Circuits and Systems Design	Track Chair: Digital, Circuits and Applications
Luciano Agostini	IEEE CAS IEEE SPS	3rd IEEE Seasonal School on Digital Processing of Visual Signals and Applications	Track Chair: Video Processing
Luciano Agostini	IEEE CAS	ISCAS 2019 - IEEE International Symposium on Circuits and Systems	Review Committee Member (RCM)
Luciano Agostini	IEEE CAS IEEE CS IEEE SPS IEEE ComSoc	ICME 2019 - IEEE International Conference on Multimedia and Expo	Reviewer
Ivan Bajic	IEEE CAS + 3 other societies	IEEE International Conference on Multimedia and Expo (ICME 2020)	Area Chair
Ivan Bajic	IEEE CAS + 3 other societies	The 1st ICME Workshop on Hyper-Realistic Multimedia for Enhanced Quality of Experience @ ICME 2020	Organizer (Co-Chair)
Ivan Bajic	IEEE SPS	IEEE International Conference of Image Processing (ICIP) 2019	Area Chair
Ivan Bajic	IEEE SPS	IEEE International Conference of Image Processing (ICIP) 2020	Area Chair
Wen-Huang Cheng	IEEE CAS	2020 IEEE International Conference on Multimedia & Expo (ICME 2020)	Technical Program Chair
Wen-Huang Cheng	IEEE CAS	2020 ISCAS	Track Chair
Wen-Huang Cheng	IEEE SPS	2019 IEEE International Conference on Image Processing (ICIP 2019)	Innovation Chair
Homer Chen	IEEE SPS	ICIP 2019	General Co-Chair
Homer Chen	IEEE CS	MIPR 2020	Award Co-Chair
Homer Chen	IEEE CAS	ICME 2020	Publicity Co-Chair
Jie Chen	IEEE CAS	ISCAS 2020	Reviewer
Jie Chen	IEEE EMBS	IEEE International Conference of Engineering in Medicine and Biology	Theme Editor
Zhibo Chen	IEEE CAS	Picture Coding Symposium 2020	Chair of TPC
Zhibo Chen	IEEE CAS	ISCAS 2020	Review Committee Member
Jiaying Liu	IEEE CAS	IEEE ICME 2020	Publicity Chair
Jiaying Liu	IEEE CAS	IEEE VCIP 2019	TPC Chair
Jiwen Lu	IEEE CAS	IEEE ICME 2020	Technical Program Co-Chair
Dong Liu	IEEE CASS, SPS, CS, ComSoc	ICME 2019	Registration Co-Chair
Chong Luo	IEEE CAS	ISCAS 2020	Review Committee Member
Enrico Magli	IEEE CAS	IEEE ICME 2020	Publicity co-chair
Jingjing Meng	IEEE CAS	ISCAS 2020	Review Committee Member
Jingjing Meng	IEEE CAS Signal Processing, etc.	ICME 2019	Area Chair
Jingjing Meng	IEEE CAS	VCIP 2022	Program co-chair
Marta Mrak	IEEE CAS, CS, ComSoc, SPS	2021 IEEE International Conference on Multimedia & Expo (ICME 2021)	Panel Chair
Marta Mrak	IEEE CAS, CS, ComSoc, SPS	2020 IEEE International Conference on Multimedia & Expo (ICME 2020)	General Chair
Marta Mrak	IEEE CAS	2019 IEEE International Conference on Visual Communications and Image Processing (VCIP 2019)	Industry Liaison Chairs
Marta Mrak	IEEE CAS, CS, ComSoc, SPS	2019 IEEE International Conference on Multimedia & Expo (ICME 2019)	Lead Technical Program Committee Chair
Peng Cui	IEEE CAS	ICME	PC member
Peng Cui	IEEE CAS	ICME	Tutorial Lecture

Yong Rui	IEEE CAS	IEEE ICME 2020	Multimedia Star Innovator Award Review Committee Member
Dong Tian	IEEE CAS	ICME 2019	Demo Chair
Shuai Wan	IEEE CAS	ICME 2020	TPC lead chair
Shuai Wan	IEEE CAS	ISCAS 2020	Review Committee Member
Yonggang WEN	IEEE CS	the Fifth IEEE International Conference on Multimedia Big Data (IEEE BiMM'19), September 11-13 2019, Singapore	Award Committee Co-Chair
Yonggang WEN	IEEE CAS	2019 IEEE International Conference on Multimedia and Expo (IEEE ICME'19), July 23-27 2019, Shanghai, China	Award Committee Co-Chair
Jian Zhang	IEEE CAS	IEEE Visual Communication and Image Processing (VCIP) 2019	Co-General Chair
Wei-Shi Zheng	IEEE CAS	ICME 2020	Area Chair
Wei-Shi Zheng	BMVA	BMVC 2020	Area Chair
Wei-Shi Zheng		IJCAI 2020	SPC
Wei-Shi Zheng	AFCV	ACCV 2020	Area Chair
Wei-Shi Zheng	IEEE SPS	ICIP 2020	Area Chair
Wei-Shi Zheng	IEEE CS	ICPR 2020	Area Chair
Ce Zhu	IEEE CAS, CS, ComSoc, SPS	IEEE International Conference on Multimedia and Expo (ICME) 2020	Technical Program Co-Chair
Ce Zhu	IEEE CAS CS, ComSoc, SPS	IEEE International Conference on Multimedia and Expo (ICME)	Steering Committee member, 2019-2020
Ce Zhu	IEEE SPS	IEEE International conference on Image Processing (ICIP) 2019	Awards Committee member
Nam Ling	IEEE	Umedia 2019	General Co-Chair
Nam Ling	IEEE CAS	SOCC 2019	Tutorial Chair
Nam Ling	IEEE	ICIEA 2019	Int'l Advisory Committee Member

### 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
Samson Cheung	IEEE CAS	IEEE Transactions on Multimedia	AE, Member of Steering committee
Samson Cheung	IEEE CAS	IEEE Open Journal of Circuits and Systems (OJCAS)	AE
Samson Cheung	IEEE SPS	IEEE Transactions on Image Processing	AE
Samson Cheung	Elsevier	Signal Processing: Image Communication	AE
Luciano Agostini	IEEE CAS	IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)	Associate Editor
Luciano Agostini	IEEE CAS	IEEE Open Journal of Circuits and Systems (OJCAS)	Associate Editor
Luciano Agostini	IEEE CAS	IEEE Transactions on Circuits and Systems I (TCAS I)	Guest Editor
Ivan Bajic	IEEE SPS	IEEE Signal Processing Letters	Senior Area Editor
Wen-Huang Cheng	IEEE CAS	IEEE Transactions on Multimedia	AE
Homer Chen	IEEE SPS	IEEE JSTSP	Senior Editor
Jie Chen	IEEE CAS	IEEE Transacts on Biomedical Circuits and Systems	AE
Jie Chen	IEEE EMBS	IEEE Open Journal of Engineering in Medicine and Biology	AE
Jiwen Lu	IEEE CAS	IEEE Transactions on Circuits and Systems for Video Technology	Associate Editor
Enrico Magli	IEEE CAS	IEEE Transactions on Circuits and Systems for Video Technology	Associate Editor, member of TCSVT 2020 best paper award committee
Tao Mei	IEEE CAS	CSVT	Associate Editor
Jingjing Meng	IEEE CAS	T-CSVT	AE
Marta Mrak	IEEE CAS, CS, ComSoc, SPS	Transactions of Multimedia	Associate Editor
Yonggang WEN	IEEE Communications Society	IEEE Communications Surveys and Tutorials	Area Editor
Yonggang WEN	IEEE CS	IEEE Transactions on Big Data	Associate Editor

Jian Zhang	IEEE CAS	IEEE Transactions on Multimedia	Associate Editor
Lei Zhang	IEEE CAS	IEEE Transactions on Multimedia	AE
Lei Zhang	IEEE CAS	IEEE Transactions on Circuits and Systems for Video Technology	AE
Ce Zhu	IEEE Signal Processing Society	IEEE Transactions on Image Processing	Associate Editor
Ce Zhu	IEEE Broadcast Technology Society	IEEE Transactions on Broadcasting	Associate Editor
Ce Zhu	IEEE Signal Processing Society	IEEE Journal of Selected Topics in Signal Processing, Special Issue "Perception-driven 360-degree Video Processing", Feb. 2020	Guest Editor

### 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
Samson Cheung	IEEE Fellow (through CAS)	2020-
Luciano Agostini	Brazilian CNPq Distinguished Researcher Grant - PQ 1D	2019-2022
Luciano Agostini	Co-advisor of the Best Brazilian Master Dissertation Award in Microelectronics Area (student Luciano Braatz)	2019
Jie Chen	Distinguished Alumni Award, Department of Electrical & Computer Engineering	2020
Jiaying Liu	IEEE ICME 2020 Best Paper Award	2020
Jiwen Lu	Outstanding Area Chair for ICME 2019	2019
Jie Liang	Nominated for ICME 2020 Best Paper Award and Best Student Paper Award	2020
Marta Mrak	ICME 2019 Outstanding Service Award	July 2019
Yong Rui	International Fellow of Canadian Academy of Engineering	2020.6 --
Wu Liu	IEEE Multimedia Magazine 2018 Best Paper Award	2019.12
Wu Liu	IEEE Transaction on Multimedia 2019 Prized Paper Award	2019.7
Wu Liu	IEEE ICME 2019 Outstanding Service Award	2019.7
Lei Zhang	IEEE Fellow of 2020	2020
Lei Zhang	CVPR 2019 Best Student Paper	2019
Wei-Shi Zheng	ICME 2020 outstanding area chair	2019-2020
Ce Zhu	IEEE CASS Distinguished Lecturer	2019-2020
Nam Ling	Umedia 2019 Excellent Paper Award	Aug 6-9, 2019
Nam Ling	Wilmot J. Nicholson Family Professor (Endowed Chair), Santa Clara U, USA	2020 – 2025

### 3.4. Keynote Speeches/Invited Talks:

Your Name	Invited by	Event/Conference Title	Talk Title	Date
Samson Cheung	University of California Davis	UC Davis AI-in-Health Seed Grant Competition	Automated Detection of Eye Gaze in Infancy to Quantify Autism Risk	January 31, 2019
Wen-Huang Cheng	ICIP 2019	Tutorial	Vision and Text: Search, Generation and Translation	Sept. 22, 2019
Jie Chen	IEEE	EMBC 2019	Using COMSOL to Model Therapeutic Systems and Technologies	July 23-27, 2019
Weisi Lin	IEEE ICIP	IEEE Int'l Conf. on Image Processing (ICIP)	Evaluating and Processing Partially-Artificial Images (tutorial)	Sept 2019
Weisi Lin	IEEE International Conference on Advanced Video and Signal-based Surveillance (AVSS)	Workshop on Content-Aware Video Analysis (CAVA)	Visual Saliency & Quality Estimation with 2D and 3D Cues (Keynote)	September 2019
Zicheng Liu	ICIP2019	ICIP	Human pose estimation and action recognition	Sept. 22, 2019
Zicheng Liu	ICIP2019	ICIP Industry Workshop	3D Skeletal Tracking on Azure Kinect--Azure Kinect Body Tracking SDK	Sept. 23, 2019
Zicheng Liu	CVPR2019	CVPR2019 Workshop on 3D Computer Vision in Medical Environments	3D Skeletal Tracking on Azure Kinect	June 16, 2019
Enrico Magli	Gragorios Tsafaris	Workshop on Computational Intelligence in Remote Sensing And Astrophysics	Deep learning for satellite image processing	July 2019

Tao Mei	CVPR Workshop	IEEE CVPR 2020 LVVU Workshop "Language & Vision with applications to Video Understanding"	Vision and Language: From Perception to Creation	June 19, 2020
Marta Mrak	Workshop Organisers	Workshop on AI for Smart TV Content Production, Access and Delivery (AI4TV) at ACM MM 2019	AI Gets Creative	Oct 2019
Marta Mrak	Summer School Organisers	2019 Intelligent Sensing Summer School, Queen Mary University of London, UK	Use of machine learning in video enhancement	Sept 2019
Yonggang WEN	International Conference on Computing, Networking and Communications	2019 International Conference on Computing, Networking and Communications	Learning to Appreciate: Transforming Multimedia Communications via Deep Video Analytics	Feb 18-21, 2019
Wu Liu	ACM MM Asia 2019	ACM MM Asia 2019 Tutorials on Human-centric Visual Understanding	From multi-person pose estimation to pose tracking: A Survey	16 December 2019
Wu Liu	IEEE ICME 2019	IEEE ICME 2019 Tutorials	Human Behavior Understanding: From Human-Oriented Analysis to Action Recognition	8 July 2019
Jian Zhang	ACM Multimedia Asia	ACM Multimedia Asia	Webly Supervised Fine-Grained Visual Recognition	18 December, 2019
Lei Zhang	Workshop organizers	ICCV Workshop on Video Retrieval Methods and Their Limits	Object and entity recognition for video content understanding	28 October, 2019
Ce Zhu	IEEE CAS Singapore Chapter School of EEE, NTU Teochew Doctorate Society, Singapore	Workshop on Machine learning and its applications (Invited talk)	Deep Learning for In-Loop Filter Design in HEVC	6 August 2019
Ce Zhu	IEEE CAS Singapore Chapter	IEEE CAS Distinguished Lecture, Singapore	Towards Global Rate Distortion Optimization in Video Coding: Recent Developments	7 August 2019
Ce Zhu	IEEE CAS French Chapter IEEE SPS French Chapter	IEEE CAS Distinguished Lecture, Rennes, France	Towards Global Rate Distortion Optimization in Video Coding: Recent Developments	28 Feb. 2019
Nam Ling	Xi'an U of Posts & Telecomms., China	Invited talk	Conducting Research and Writing Research Papers	Nov. 18, 2019
Nam Ling	Waseda U, Japan	Invited talk	Rate-Distortion Optimization for Sparse Coding in Image Compression	May 24, 2019
Nam Ling	Tianjin U, China	Invited talk	Adaptive Sparse Coding for Screen Content and Image Compression	Sep 2, 2019
Nam Ling	Yunnan U, China	Invited talk	Rate-Distortion Optimization for Adaptive Sparse Coding in Image Compression	Sep 4, 2019
Nam Ling	Nanyang Tech. U, IEEE CAS Soc., IEEE IE Soc., Singapore	Invited talk	Adaptive Sparse Coding for Screen Content and Image Compression	Oct 14, 2019
Nam Ling	Fuzhou U, China	Invited talk	Adaptive Sparse Coding for Screen Content and Image Compression	Oct 17, 2019
Nam Ling	Lanzhou U, China	Invited talk	Adaptive Sparse Coding for Screen Content and Image Compression	Nov 19, 2019

### 3.5. Other distinguished IEEE services

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

Your Name	Organization	Position/Activities	Period
Samson Cheung	IEEE CAS	MSA-TC Chair	2019-2022
Wen-Huang Chang	IEEE CAS	MSA-TC Chair-Elect	2019-2022
Homer Chen	IEEE SPS	Member of the Awards Board	2019-2021
Homer Chen	IEEE SPS	Member of the Conferences Board	2020-2021

Homer Chen	IEEE SPS	Member of the Fourier Award Committee	2020
Jie Chen	IEEE EMBS	Technical Committee Vice Chair, Bionanotechnology and BioMEMS,	2019 - now
Marta Mrak	SPS	Technical Directions Board member	2018 -now
Marta Mrak	SPS	MMSP TC, Vice Chair	2019
Marta Mrak	SPS	MMSP TC, Chair	2020-2021
Marta Mrak	SPS	Transactions on Image Processing, Associate Editor	2019 - now
Jian Zhang	CAS VSPC-TC	Conference subcommittee Co-Chair	2017 - now

## 5. 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
  - a. Please include title, scope, status (e.g., submissions, published papers)

**[Virtual ICME]** Marta Mrak, ICME 2020 General Chair - ICME 2020 was organized as the first fully virtual ICME with all live sessions and recording available on demand after each session. This enabled discussions and networking even though many participants were at their homes. Registrations which were not covering publication of papers were free, thus enabling wider community to participate in ICME.

**[VCIP 2019]** MSA TC member Jian Zhang is the leading co-general chair of VCIP 2019 in Sydney with 224 submissions and 134 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)

**[Challenge]** ICME 2019 Grand Challenge: Learning-Based Image Inpainting; Organizers: Dong Liu, Ming-Hsuan Yang. July 2019. 22 submissions, 3 published papers, 58 teams registered for the challenge.

**[Special Issue]** Tao Mei is the Lead GE of TCSVT Special Section on "Video and Language"

- The goal of this special section is to call for a coordinated effort to understand the opportunities and challenges emerging in video and language, identify key tasks and evaluate the state of the art, showcase innovative methodologies and ideas, introduce large scale real systems or applications, as well as propose new real-world datasets and discuss future directions. The video data of interest cover a wide spectrum, ranging from first-person wearable videos, web videos (aka user-generated content), commercial video programs, to surveillance videos. We solicit submissions in all fields of video and language that explore the synergy of video understanding and language processing techniques. The paper submission is September 1, 2020 and the estimated publication date will in September 2021.

**[ICME+TMM]** Marta Mrak, ICME 2019 Lead Technical Program Committee Chair / TMM Associate Editor - Stronger collaboration between TMM and ICME was enabled. This means that in addition to providing the opportunity to authors of TMM papers to present recently published journal papers at ICME, now the best ICME papers can be recommended for publication in TMM, in an extended format (subject to peer review). This was successfully implemented with a fast track review for TMM during the second half of 2019.

**[ICME Special Session]** MSA TC members Wu Liu and Liang Zheng, along with Lexing Xie and Yi Yang, organized the ICME 2019 Special Session on Multimedia Technologies Empowering Retail Experiences on July 9, 2019: [http://www.icme2019.org/conf\\_sessions#collapse-5](http://www.icme2019.org/conf_sessions#collapse-5)

- This special session is proposed under the context of fast growing of retail stores. Today's empowering retail store is undergoing a dramatic transformation. A sharpened focus on customers and their shopping is converting traditional store sites into leaders of technological innovation. The application of multimedia technologies such as unmanned convenience stores and face recognition payment in the retail industry has achieved rapid development. Meanwhile,

the empowering retail experiences promote the development of new technologies. New technologies will continue to be an important driving force for new retail change. Thus, in this special session we aim to bring together the latest advance in this field to draw attention from both the academic and industrial community. There are 19 submissions and 6 published papers (Google citation:15, full text views: 700+). 50 participants attended the session.

**[ICME Tutorial]** MSA TC member Wu Liu and Ting Yao organized the ICME 2019 Tutorials on Human Behavior Understanding: from Human-Oriented Analysis to Action Recognition on July 8, 2019: [http://www.icme2019.org/conf\\_tutorials#collapse-2](http://www.icme2019.org/conf_tutorials#collapse-2)

- Analyzing human behaviour in videos is one of the fundamental problems of computer vision and multimedia understanding. The task is very challenging as video is an information-intensive media with large variations and complexities in content. With the development of deep learning techniques, researchers have strived to push the limits of human behaviour understanding in a wide variety of applications from action recognition to event detection. This tutorial will present recent advances under the umbrella of human behavior understanding, which range from the fundamental problem of how to learn "good" video representations, to the challenges of categorizing video content into human action classes, finally to multimedia event detection and surveillance event detection in complex scenarios. Over 100 participants attended the tutorial.

(3) Organized new CASS initiatives

None

(4) Established cross-TCs/SIGs collaborations

**[ICME Fast-Track to 4 Journals]** Marta Mrak, ICME 2020 General Chair - Collaboration between ICME and TMM resumed in the preparation for ICME 2020, this time in close collaboration with Lead Technical Program Committee Chair Shuai Wan (also MSA member). Based on the positive experience with TMM in 2019, in 2020 additional collaboration between ICME and 3 other journals and magazines have been enabled, so that extended versions of best contributions from ICME are then fast-tracked in extended format. The 4 journals and magazines which now accept submissions of the best ICME 2020 contributions in extended versions are:

- Transactions on Multimedia (CAS, CS, ComSoc, SPS)
- Open Journal of Circuits and Systems (CAS)
- Signal Processing Magazine (SPS)
- MultiMedia Magazine (CS)

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

**[CVPR Award]** Xin Wang, Qiuyuan Huang, Asli Celikyilmaz, Jianfeng Gao, Dinghan Shen, Yuan-Fang Wang, William Yang Wang, and Lei Zhang. "Reinforced cross-modal matching and self-supervised imitation learning for vision-language navigation." CVPR 2019 Best Student Paper Award.

In the words of the CVPR 2019 Best Paper Award Committee, "Visual navigation is an important area of computer vision. This paper makes advances in vision-language navigation. Building on previous work in this area, this paper demonstrates exciting results based on self-imitation learning within a cross-modal setting."

**[ICME Award]** Yueyu Hu, Shuai Yang, Wenhan Yang, Ling-Yu Duan, and Jiaying Liu. "Towards Coding for Human and Machine Vision: A Scalable Image Coding Approach", Proc. of IEEE International Conference on Multimedia & Expo (ICME), London, UK, July 2020. Best Paper Award

Summary: We propose a novel image coding framework by leveraging both the compressive and the generative models, to support machine vision and human perception tasks jointly. Given an input image, the feature analysis is first applied, and then the generative model is employed to perform image reconstruction with features and additional reference pixels, in which compact edge maps are extracted in this work to connect both kinds of vision in a scalable way. The compact

edge map serves as the basic layer for machine vision tasks, and the reference pixels act as a sort of enhanced layer to guarantee signal fidelity for human vision.

**[ACMMM Award]** Wei-Shi Zheng: 1st Place in ACM MM Grand Challenge on Large-scale Human-centric Video Analysis in Complex Events (Track-1), 2020.

**[TMM Prize Paper Award 2019]** TC members Wu Liu and Tao Mei are co-authors of TMM 2019 Prize Paper Award, titled "PROVID: Progressive and Multimodal Vehicle Reidentification for Large-Scale Urban Surveillance".

**[IEEE Fellows]** Four MSA-TC members were elevated to IEEE Fellow in 2020: Touradj Ebrahimi, Yonggang Wen, Lei Zhang and Sen-ching Samson Cheung