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BMSB 2021

**IEEE International Symposium on
Broadband Multimedia Systems and Broadcasting**

BROCHURE

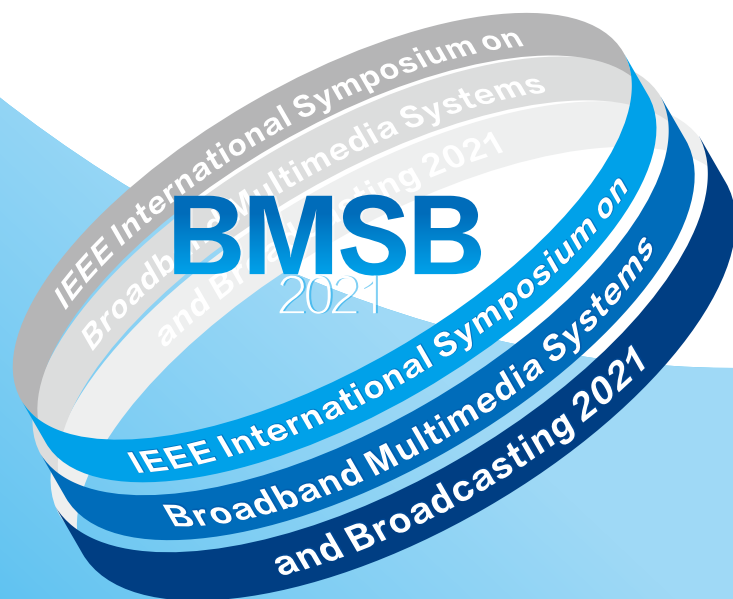August 4–6, 2021
Chengdu, China

BMSB 2021

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Welcome Message

Welcome to the **16th IEEE International Symposium on Broadband Multimedia Systems and Broadcasting (BMSB)**, August 4-6, 2021, Chengdu, China, in a special virtual mode! I would like to start by wishing you and your families my personal best – on your health and safety in these difficult times.

Sponsored by the IEEE Broadcast Technology Society (BTS), BMSB is a premier forum for the presentation and exchange of technical advances in the rapidly converging areas of multimedia broadcasting, telecommunications, consumer electronics, and networking technologies. Riding on the great success of the past 15 years, BMSB 2021 continues to receive great support from the IEEE BTS and colleagues around the world despite the raging coronavirus pandemic.

The theme of IEEE BMSB 2021 is "Innovating Multimedia and Broadcasting Systems with AI Techniques", in view that AI (Artificial Intelligence) is greatly empowering multimedia and broadcasting systems to be smarter and more accessible in our daily life. BMSB 2021 has attracted excellent contributions from Asia, Europe and America, covering a wide range of research topics from multimedia transmission to networking, multimedia signal processing to multimedia service and quality, to list a few. 118 papers out of 149 submissions are accepted, amounting to a 79% acceptance rate with each being evaluated by at least two reviewers (2.9 reviewers on average). With more than 100 registered speakers and attendees from 19 countries and regions, BMSB 2021 will feature a diverse panel of online technical presentations, including three keynote talks and 16 regular sessions of contributed papers. We anticipate that all of these sessions will see high attendance rate in the virtual conference and we believe each and every participant will significantly benefit from such rich technical content. We thank all the speakers and participants for making this possible.

I am very much indebted to the Technical Program Chairs in charge of paper review as well as producing a high-quality final program together with other committee members and the BTS staff in a short time, after deciding to switch the conference from a hybrid mode to a fully online version due to the most recent emergence of coronavirus infections in Chengdu. My sincere gratitude goes out to all the authors for their understanding and making extra efforts in preparing online talks including recorded video among others, who all have helped foster this swift and last minute transition.

On behalf of the organizing committee, I would like to deliver our strong eagerness to work hand in hand with you throughout the course of the conference in a memorable and resilient way.

Ce Zhu

General Chair of IEEE BMSB 2021

BMSB 2021 Agenda

BMSB 2021 Conference Program						
	Beijing Time(GMT+8)		Eastern European Time (GMT+2)		NewYork Time (GMT-4)	
Day 1: (4th, Aug, 2021)						
Opening Ceremony	9:30 AM	10:05 AM	3:30 AM	4:05 AM	9:30 PM	10:05 PM
Keynote 1: Innovations in the Next Generation TV	10:10 AM	10:40 AM	4:10 AM	4:40 AM	10:10 PM	10:40 PM
Keynote 2: Recent Development in 5G Broadcast in China	10:45 AM	11:15 AM	4:45 AM	5:15 AM	10:45 PM	11:15 PM
Keynote 3: 6G Vision: Bring Reinforcement-learning Into Ubiquitous Network	11:20 AM	11:50 AM	5:20 AM	5:50 AM	11:20 PM	11:50 PM
Lunch Break	11:50 AM	12:50 PM	5:50 AM	6:50 AM	11:50 PM	12:50 AM
Oral Session A1: Multimedia Transmission-1	1:00 PM	2:50 PM	7:00 AM	8:50 AM	1:00 AM	2:50 AM
Break	2:50 PM	3:10 PM	8:50 AM	9:10 AM	2:50 AM	3:10 AM
Oral Session A2: AI and Next generation systems	3:10 PM	5:00 PM	9:10 AM	11:00 AM	3:10 AM	5:00 AM
Poster Session A1 Paper ID: 4, 18, 27, 30, 32, 36, 73, 102, 125, 128, 133	3:00 PM	5:00 PM	9:00 AM	11:00 AM	3:00 AM	5:00 AM
Online Q&A Session A1	9:00 PM	10:00 PM	3:00 PM	4:00 PM	9:00 AM	10:00 AM
Day 2 (5th, Aug, 2021)						
Oral Session B1: Multimedia Service, Quality and Content-1	8:30 AM	9:40 AM	2:30 AM	3:40 AM	8:30 PM	9:40 PM
Oral Session B2: Multimedia Signal Processing-1	8:30 AM	9:40 AM	2:30 AM	3:40 AM	8:30 PM	9:40 PM
Break	9:40 AM	10:00 AM	3:40 AM	4:00 AM	9:40 PM	10:00 PM
Oral Session B3: Multimedia Service, Quality and Content-2	10:00 AM	11:50 AM	4:00 AM	5:50 AM	10:00 PM	11:50 PM
Oral Session B4: Multimedia Transmission-2	10:00 AM	11:50 AM	4:00 AM	5:50 AM	10:00 PM	11:50 PM
Lunch Break	11:50 AM	12:50 PM	5:50 AM	6:50 AM	11:50 PM	12:50 AM
Oral Session B5: Immersive Image Processing and Applications	1:00 PM	2:50 PM	7:00 AM	8:50 AM	1:00 AM	2:50 AM
Oral Session B6: Multimedia Transmission-3	1:00 PM	2:50 PM	7:00 AM	8:50 AM	1:00 AM	2:50 AM
Break	2:50 PM	3:10 PM	8:50 AM	9:10 AM	2:50 AM	3:10 AM
Oral Session B7: Multimedia Networking-1	3:10 PM	4:20 PM	9:10 AM	10:20 AM	3:10 AM	4:20 AM

BMSB 2021 Conference Program

	Beijing Time(GMT+8)		Eastern European Time (GMT+2)		NewYork Time (GMT-4)	
Oral Session B8: Multimedia Signal Processing-2	3:10 PM	4:20 PM	9:10 AM	10:20 AM	3:10 AM	4:20 AM
Online Q&A Session B1	4:30 PM	5:30 PM	10:30 AM	11:30 AM	4:30 AM	5:30 AM
Awards & BMSB 2022 Announcement	9:00 PM	9:30 PM	3:00 PM	3:30 PM	9:00 AM	9:30 AM
Day 3 (6th, Aug, 2021)						
Oral Session C1: Multimedia Networking-2	9:00 AM	10:50 AM	3:00 AM	4:50 AM	9:00 PM	10:50 PM
Poster Session C1 Paper ID: 3, 14, 19, 22, 29, 39, 40, 45, 82, 117	9:00 AM	10:30 AM	3:00 AM	4:30 AM	9:00 PM	10:30 PM
Poster Session C2 Paper ID: 60, 66, 69, 81, 95, 97, 104, 111, 139, 149	10:30 AM	12:00 PM	4:30 AM	6:00 AM	10:30 PM	12:00 AM

Steering Committee

Yiyan Wu	IEEE BTS/Communications Research Centre	Canada
Pablo Angueira	University of the Basque Country	Spain
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Yipeng Liu	University of Electronic Science &Technology of China	China
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Yingjie Zhou	Sichuan University	China

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Best Paper Award Finalists

Author Names and Paper Title	Country, No. Organizations	Category
Hoiyoon Jung, Sung-Ik Park, Bo-mi Lim, Haechan Kwon, Namho Hur, Sungho Jeon, Hyeongseok Kim and Jeongchang Kim Impact of Cross-Polarization Discrimination for ATSC 3.0 MIMO System	South Korea (3)	PHY Technology
Yang Liu, Jiawei Li, Bin Cao and Mugen Peng Authorization for Access in Fog Radio Access Networks	China (1)	Non-PHY Technology
Xiao Yan, Xiaoxue Rao, Qian Wang, Hsiao-Chun Wu and Yiyan Wu Novel Cooperative Automatic Modulation Classification by Credit-based Consensus Fusion	China, USA, Canada (3)	New Technology

Best Student Award Finalists

Author Names and Paper Title	Country, No. Organizations	Category
Yiwei Zhang, Yihang Huang, Dazhi He, Yin Xu and Wenjun Zhang Using LDM-based Layered Multicast to Enhance System Capacity	China (1)	PHY Technology
Kareem Ali, John Cosmas, Lina Shi, Xun Zhang and Benjamin Meunier Simulated Annealing Optimisation for Optimising 5G Visible Light Communications Location Measurements	U.K., France (2)	Non-PHY Technology
Ernesto Fontes Pupo, Claudia Carballo Gonzalez, Luigi Atzori and Maurizio Murroni Thresholds of outperformance among Broadcast/Multicast access techniques in 5G networks	Italy, Cuba (2)	New Technology

Keynote Talks

Keynote Speaker 1: Madeleine Noland

President, Advanced Television Systems Committee (ATSC), USA

Presentation Time: August 4, 2021, 10:10-10:40AM

Presentation Topic: Innovations in the Next Generation TV

Biography

Madeleine Noland is the President of the Advanced Television Systems Committee Inc. Widely respected for her consensus-building leadership style, she chaired the ATSC technology group that oversees the ATSC 3.0 next-generation broadcast standard before being named ATSC President in May 2019. Previously, she chaired various ATSC 3.0-related specialist groups, ad hoc groups and implementation teams since 2012.

A 15-year industry veteran, Noland held key technology management and standards roles at Backchannelmedia Inc., Telvue Corp. and LG Electronics. She received TV NewsCheck's "2019 Futurist" Women in Technology Award and was named one of 2018's "Powerful Women in Consumer Technology" by Dealerscope magazine. In 2016, she received the ATSC's highest technical honor, the Bernard J. Lechner Outstanding Contributor Award. She graduated cum laude from the University of Massachusetts.

Keynote Speaker 2: Qingjun Zeng

Deputy Director General, China Broadcasting Network (CBN), China

Presentation Time: August 4, 2021, 10:45-11:15AM

Presentation Topic: Recent Development in 5G Broadcast in China

Biography

Mr. Qingjun Zeng has been the deputy director general of China Broadcasting Network company (CBN), since 2014. His duties focus on designing and building nation-wide cable and 5G wireless networks.

From 2018, he has been deputy of communication science and technology committee of Ministry of Industry and Information technology, China (MIIT). From 2003 to 2014, he was the deputy director general of science and technology department under the State Administration of Radio, Film and Television (SARFT), focused on nation-wide broadcasting (cable, wireless and satellite) planning and technical standards, as well as radio and wireless TV frequency assignments. From 2004 to 2013, he was the head of the Chinese delegation to ITU-R SG6 and ITU-T SG9. From 2012 to 2019, he served as the vice chairman of ITU-R SG6.

Keynote Speaker 3: Dr. Yue Zhang

Associate Professor, University of Leister, UK.

Presentation Time: August 4, 2021, 11:20-11:50AM

Presentation Topic: 6G Vision: Bring Reinforcement-learning Into Ubiquitous Network for Massive Machine Connections

Biography

Dr. Yue Zhang is an Associate Professor in the School of Engineering, University of Leicester, UK. He obtained his B.E and M.E degree in 2001 and 2004 respectively at Beijing University of Post and Telecommunications, China. In 2008 he received his PhD degree in Brunel University, UK, where he also worked as a Research Engineer for the EU FP6 project- PLUTO. From 2008, he was a Signal Processing Design Engineer in Microwave Measurement Division-Europe, Anritsu Corp. He was responsible for the RF/IF, digital and DSP design for the measurement instruments for various wireless and broadcasting systems. From 2010, he joined Department of Computer Science and Technology at the University of Bedfordshire, Luton, UK as Reader in Signal Processing. He also worked as a Royal Academy of Engineering, UK, Industrial Fellowship with Aeroflex Ltd. He currently leads EU Horizon 2020 5GPPP project IoRL as the Chief Architect and Deputy Scientifi c and Technical Project Manager. He is also one of the committee members of EU 5G PPP pre-standardisation and 5G Architecture WG. His research interests are signal processing for 5G wireless and mobile systems, radio propagation model and multimedia and wireless networks. Dr. Zhang currently serves as an Associate Editor for IEEE Transactions on Broadcasting, ITU Journal of Intelligent and Converged Networks and IEEE Access.

Technical Sessions

Wednesday, August 4, 2021

Oral Session

Session Time	
	Session A1: Multimedia Transmission-1
1:00PM - 1:20PM	DE-aided ANMSA with edge classification and its application for 5G-NR LDPC Codes Ziqi Zhou, Tsinghua University
1:20PM - 1:40PM	Non-Equiprobable Non-Uniform APSK Constellations Design for BICM Systems Xiaohan Duan, Shanghai Jiao Tong University
1:40PM - 2:00PM	Using LDM-based Layered Multicast to Enhance System Capacity Yiwei Zhang, Shanghai Jiao Tong University
2:00PM – 2:20PM	Novel Cooperative Automatic Modulation Classification by Credit-based Consensus Fusion Xiao Yan, University of Electronic Science and Technology of China
2:20PM – 2:40PM	Efficient Multicast Schemes in Vehicle Network Based on Luby Transform Codes Xu Bin, Shanghai Jiao Tong University
	Session A2: AI, Next generation systems
3:10PM – 3:30PM	An Adaptive Template Update Network for Siamese Trackers Tianyu Zhang, Beijing University of Posts and Telecommunications
3:30PM – 3:50PM	Network intrusion detection based on Contractive Sparse Stacked Denoising Autoencoder Guo Yihao, Beijing University of Posts and Telecommunications
3:50PM – 4:10PM	A Fault Data Generation Algorithm Based on GAN and Policy Gradient Mechanism Yuting Li, State Key Laboratory of Networking and Switching Technology, Beijing University of Posts and Telecommunications, Beijing, China
4:10PM – 4:30PM	Multi-dimensional Data Correlation Analysis Method Based on Neighborhood Preserving Embedding Mechanism Zhongdi Ge, Beijing University of Posts and Telecommunications
4:30PM – 4:50PM	Fault Root Rank Algorithm Based on Random Walk Mechanism in Fault Knowledge Graph Yin Dong Sun, Beijing University of Posts and Telecommunications

Poster Session

Session Time	
	Poster Session A1
3:00PM – 5:00PM	Fingerprint-based Positioning Method over LTE Advanced Pro Signals with GAN training contribute
	Enabling the DVB-I reference client for 5G Broadcast reception – Verification of the overall system
	A DAB+ Approach for Vehicular Tracking
	Unsupervised Learning for D2D-Assisted Multicast Scheduling in mmWave Networks

3:00PM – 5:00PM	Urban SigFox-based mobility System
	Using user's position to improve video multicast subgrouping in 5G NR
	Unsupervised Learning for D2D-Assisted Multicast Scheduling in mmWave Networks
	5G SA Multi-vendor Network Interoperability Assessment
	Target 5G visible light positioning signal subcarrier extraction method using particle swarm optimization algorithm
	A Machine Learning Solution for Automatic Selection of Cellular Networks to Enhance Users' Quality of Service
	On the Feasibility of 5G Massive Concurrent Video Uplink

Online Q&A Session

Online Q&A Session A1-1
Wireless Positioning System Architecture for Terrestrial Broadcast-Broadband-Convergent Networks Sungjun Ahn, ETRI
Multi-Kernel Deformable 3D Convolution for Video Super-Resolution Tianyu Dou, University of Ottawa
Photograph enhancement via imitation-to-innovation training scheme Yi Feng, University of Ottawa
5G Multicast Broadcast Services Performance Evaluation Álvaro Ibanez Latorre, Universidad Politécnica de Valencia
Few Pains, Many Gains: Fast On-device Image Compression through Super Resolution Xian Zhang, Beijing University of Posts and Telecommunications
Dynamic Access control and Slice Allocation algorithm for diverse traffic demand over 5G heterogeneous networks Claudia Carballo Gonzalez, Havana University of Technologies
Simulated Annealing Optimisation for Optimising 5G Visible Light Communications Location Measurements Kareem Ali, Brunel University
RTK Correction Data Transmission Service for Autonomous-Driving via ATSC 3.0 in South Korea Hong-Gi Shin, MBC
A SVM based extrinsic calibration method for RGB-D camera Xiao Chen, Institute of Image Communication and Network Engineering, Shanghai Jiao Tong University
Novel Device-Free Indoor Human Localization using Wireless Radio-Frequency Fingerprinting Prasanga Neupane, Louisiana State University
Online Q&A Session A1-2
Novel Indoor Device-Free Human Tracking Using Learning Systems with Hidden Markov Models Guannan Liu, Louisiana State University
TV-Centric Health Monitoring Leveraging the HbbTV Architecture in a Smart Home Environment Cristinel Gavrila, Transilvania University of Brașov
Non-Point Visible Light Transmitter Localization based on Monocular Camera Hongxiu Zhao, ISEP
Limitations of ATSSS technology in ATSC 3.0 – 5G convergent systems Carlos Barjau, Universidad Politécnica de Valencia
Cross-Layer Joint Optimization Algorithm for Adaptive Video Streaming in MEC-Enabled Wireless Networks Yashar Farzaneh, Dublin City University
AI-based Inter-Tower Communication Networks: Challenges and Benefits Iñigo Bilbao, Unibersity of the Basque Country (UPV/EHU)

ATSC 3.0 Broadcast Core Network for Next-Generation Media Delivery
Rufino R Cabrera, University of the Basque Country
Enabling Convergence of Broadcast and Broadband Using Layered Division Multiplexing for 5G and Beyond
Yu Xue, University of Toronto
A Joint Backscatter and VLC-NOMA Communication Scheme for B5G/6G umMTC System
Dayu Shi, ISEP
An Adaptive Resolution Scheme for Performance Enhancement of a Web-based Multi-User VR Application
Rishabh Pathak, Dublin City University

Online Q&A Session A1-3
ATSC 3.0 Multi-Antenna Receiver's Mobile Performance in Seoul and the Metropolitan Area
Sung-Ik Park, ETRI
Impact of Cross-Polarization Discrimination for ATSC 3.0 MIMO System
Hoiyoon Jung, ETRI
Remote Production System Concept Utilizing Optical Networks and Proof-of-concept for 8K Production
Yasuhiro Mochida, NTT
A Robust Broadcast System Under Time-Varying Channels Based on OTFS Modulation
Hyeongseok Kim, Korea Maritime and Ocean University
In-Band Distribution Link Signal Detection in ATSC 3.0
Zhihong Hong, Communications Research Centre Canada
Prediction of Signal Quality and SFN Interference Metrics Using Machine Learning Models
Dariel Pereira Ruisánchez, LACETEL
New Study of DTV Transmitter-Identification Sequence Capacity
Shih Yu Chang, San Jose State University
Thresholds of outperformance among Broadcast/Multicast access techniques in 5G networks
Ernesto Fontes Pupo, University of Cagliari
Three-stages concatenated Machine Learning model for SFN prediction
Claudia Carballo Gonzalez, Havana University of Technologies
Smart Cities Mobility Monitoring through Automatic License Plate Recognition and Vehicle Discrimination
Matteo Anedda, University of Cagliari

Online Q&A Session A1-4
Study on 4-Layer Layered Division Multiplexing using ATSC 3.0 Broadcasting System
JaeHwui Bae, Electronics and Telecommunications Research Institute
Improved Repetition Transmission for NR-MBS
Seok-Ki Ahn, ETRI
Performance Evaluation of Rel-16 5G-MBMS
Seok-Ki Ahn, ETRI
A Fairness-Driven Resource Allocation Scheme Based on Weighted Interference Graph in HetNets
Bharat Agarwal, Dublin City University
Implementation and Field Verification of ATSC 3.0 On-Channel Repeater
Sunhyoung Kwon, ETRI
Novel Electronic Logistic Coding Using Software-Defined Multiplexing Codes
Elaine Sun, National Tsing Hua University
Transmitter Carrier Offset in ATSC 3.0 Systems: Laboratory Test Results over Multipath Fading Channels
Haechan Kwon, ETRI
Non-Orthogonal Multiple Access in 5G from the Energy Efficiency Perspective
Aritz Abuin, University of the Basque Country (UPV/EHU)
Impact of HPA nonlinearities and Predistortion Techniques in LDM Satellite Systems
Aleksandr Gelgor, Peter the Great St.Petersburg Polytechnic University
Latency Comparison of MMT and ROUTE/DASH for the Transport Layer of the TV 3.0 Project
Allan S S Chaubet, Mackenzie Presbyterian University

Thursday, August 5, 2021

Oral Session

Session Time	
Session B1: Multimedia Service, Quality and Content-1	
8:30AM – 8:50AM	Authorization for Access in Fog Radio Access Networks Yang Liu, Beijing University of Posts and Telecommunications
8:50AM – 9:10AM	Resource Allocation for Componentized Multimedia Service in Ubiquitous Computing Power Environment Jingchun Li, Beijing University of Post and Telecommunications
9:10AM – 9:30AM	BQE-CVP: Blind Quality Evaluator for Colored Point Clouds Based on Visual Perception Lei Hua, Ningbo University
Session B2: Multimedia Signal Processing-1	
8:30AM – 8:50AM	HRTF-based data augmentation method for acoustic scene classification Chuang Shi, University of Electronic Science and Technology of China
8:50AM – 9:10AM	Novel Radio-Frequency Fingerprint Recognition Scheme Using Multiwavelets-Based Cyclic-Spectrum Graph Analysis Qian Wang, University of Electronic Science and Technology of China
9:10AM – 9:30AM	Random Forest Based Fast CU Partition for VVC Intra Coding Quan He, Chongqing University of Posts and Telecommunications
Session B3: Multimedia Service, Quality and Content-2	
10:00AM – 10:20AM	Intelligent Pain Management System Based On IoT Technology Shaojie Yang, Beijing University of Posts and Telecommunications
10:20AM – 10:40AM	Multi-Granularity Decomposition for Componentized Multimedia Applications based on Graph Clustering Ziliang Wang, Beijing University of Posts and Telecommunications
10:40AM – 11:00AM	An Optimal and Lightweight Convolutional Neural Network for Performance Evaluation in Smart Cities based on CAPTCHA Solving Stephen Dankwa, University of Electronic Science and Technology of China
11:00AM – 11:20AM	A Computational Offloading Method Based on Resource Joint Optimization Dai Song, Beijing University of Posts and Telecommunications
Session B4: Multimedia Transmission-2	
10:00AM – 10:20AM	UAV Resource Cooperation Based on Reinforcement Learning Mingang Shan, Shanghai Jiao Tong University
10:20AM – 10:40AM	Voice Bearing Technology for Multi-Operator Shared 5G Network Guiqing Liu, China Telecom Corporation
10:40AM – 11:00AM	A Hybrid LDM, TDM and Hierarchical Modulation signal structure for In-band Distribution Link transmission in SFN Lidie Liu, Shanghai Jiao Tong University
11:00AM – 11:20AM	A Frequency Interleaver Scheme with Cyclic Shift for LTE-based 5G Terrestrial Broadcasting Hao Ju, Shanghai Jiao Tong University
11:20AM – 11:40AM	Deep reinforcement learning based multicast mode selection for SFN Hao Cheng, Shanghai Jiao Tong University
Session B5: Immersive Image Processing and Applications	
1:00PM - 1:20PM	Lossless Point Cloud Attribute Compression with Normal-based Intra Prediction Qian Yin, University of Electronic Science and Technology of China

1:20PM - 1:40PM	No-reference Panoramic Image Quality Assessment based on Ajacent Pixels Correlation Wenxin Ding, Shanghai University
1:40PM - 2:00PM	RAI-Net: Range-Adaptive LiDAR Point Cloud Frame Interpolation Network Lili Zhao, University of Electronic Science and Technology of China
2:00PM – 2:20PM	Light Field Image Quality Assessment Using Contourlet Transform Hailiang Huang, Huaqiao University
2:20PM – 2:40PM	Reduced-Reference 3D Image Quality Measurement via Spatial to Gradient Domain Feature Aggregation Jian Ma, Anhui University
Session B6: Multimedia Transmission-3	
1:00PM - 1:20PM	Research on 5G Wireless Networks and Evolution Guiqing Liu, China Telecom Group
1:20PM - 1:40PM	A Spectrum Sensing Algorithm for DTMB-A based on Accumulated Autocorrelation of Multiple Frames Huang Yunchuan, Tsinghua University
1:40PM - 2:00PM	Deep Reinforcement Learning for Spectrum Sharing in Future Mobile Communication System Sizhuang Liu, Tsinghua University
2:00PM – 2:20PM	Piecewise Linear Interpolation based LOG-BP algorithm for 5G LDPC codes Xu Bin, Shanghai Jiao Tong University
2:20PM – 2:40PM	Experimental Testing of High-Capacity Bandwidth Efficient Visible Light Communication with Silicon-based RGBY-LED Yuhao Wang, Nanchang University
Session B7: Multimedia Networking-1	
3:50PM –4:10PM	Configurable Low Delay Congestion Control Scheme for Cellular Network Weijia Huang, Shanghai Jiaotong University
3:10PM –3:30PM	An optimized Inactivation Decoding of BATS Codes Juan Yang, University of Electronic Science and Technology of China
3:30PM –3:50PM	Study on Chinese State Grid 230MHz Private 5G Network Jianqi Li, Electric Power Intelligent Sensing Technology and Application State Grid Corporation Joint Laboratory , Global Energy Interconnection Research Institute Co., Ltd. (GEIRI)
Session B8: Multimedia Signal Processing-2	
3:10PM –3:30PM	Low-complexity acoustic scene classification using data generation based on primary ambient extraction Chuang Shi, University of Electronic Science and Technology of China
3:30PM –3:50PM	Video Enhancement Based on Unpaired Learning Jinjin Chen, Shanghai Jiao Tong University
3:50PM –4:10PM	3D-BitNet: Flow-Agnostic and Precise Network for video Bit-Depth Expansion Wen Geyingjie, Shanghai Jiao Tong University

Online Q&A Session

Online Q&A Session B1-1
An Adaptive Template Update Network for Siamese Trackers Tianyu Zhang, Beijing University of Posts and Telecommunications
Authorization for Access in Fog Radio Access Networks Yang Liu, Beijing University of Posts and Telecommunications
Resource Allocation for Componentized Multimedia Service in Ubiquitous Computing Power Environment Jingchun Li, Beijing University of Post and Telecommunications
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	Lili Zhao, University of Electronic Science and Technology of China
Novel Radio-Frequency Fingerprint Recognition Scheme Using Multiwavelets-Based Cyclic-Spectrum Graph Analysis	
	Qian Wang, University of Electronic Science and Technology of China

Online Q&A Session B1-2

A Computational Offloading Method Based on Resource Joint Optimization	
	Dai Song, Beijing University of Posts and Telecommunications
Video Enhancement Based on Unpaired Learning	
	Jinjin Chen, Shanghai Jiao Tong University
Network intrusion detection based on Contractive Sparse Stacked Denoising Autoencoder	
	Guo Yihao, Beijing University of Posts and Telecommunications
Light Field Image Quality Assessment Using Contourlet Transform	
	Hailiang Huang, Huaqiao University
A Fault Data Generation Algorithm Based on GAN and Policy Gradient Mechanism	
	Yuting Li, State Key Laboratory of Networking and Switching Technology, Beijing University of Posts and Telecommunications, Beijing, China
Multi-dimensional Data Correlation Analysis Method Based on Neighborhood Preserving Embedding Mechanism	
	Zhongdi Ge, Beijing University of Posts and Telecommunications
Fault Root Rank Algorithm Based on Random Walk Mechanism in Fault Knowledge Graph	
	Yin Dong Sun, Beijing University of Posts and Telecommunications
3D-BitNet: Flow-Agnostic and Precise Network for video Bit-Depth Expansion	
	Wen Geyingjie, Shanghai Jiao Tong University
BQE-CVP: Blind Quality Evaluator for Colored Point Clouds Based on Visual Perception	
	Lei Hua, Ningbo University
Reduced-Reference 3D Image Quality Measurement via Spatial to Gradient Domain Feature Aggregation	
	Jian Ma, Anhui University
Random Forest Based Fast CU Partition for VVC Intra Coding	
	Quan He, Chongqing University of Posts and Telecommunications
RGB-Based No-Reference Depth Map Quality Assessment Method	
	Meng Yang, Xi'an Jiaotong University

Online Q&A Session B1-3

DE-aided ANMSA with edge classification and its application for 5G-NR LDPC codes	
	Ziqi Zhou, Tsinghua University
Non-Equiprobable Non-Uniform APSK Constellations Design for BICM Systems	
	Xiaohan Duan, Shanghai Jiao Tong University
UAV Resource Cooperation Based on Reinforcement Learning	
	Mingang Shan, Shanghai Jiao Tong University
Buffer Displacement Based Online Learning Algorithm For Low Latency HTTP Adaptive Streaming	
	Mingyue Hao, Shanghai Jiao Tong University

SpaAbr: Size Prediction Assisted Adaptive Bitrate Algorithm for Scalable Video Coding Contents Jinghao Yuan, Shanghai Jiao Tong University	
Voice Bearing Technology for Multi-Operator Shared 5G Network Guiqing Liu, China Telecom Corporation	
Early Drop: A Packet-Dropping Incentive Rate Control Mechanism to Keep Data Fresh under Heterogeneous QoS Requirements Yiqin Tan, Tsinghua University	
Using LDM-based Layered Multicast to Enhance System Capacity Yiwei Zhang, Shanghai Jiao Tong University	
Research on 5G Wireless Networks and Evolution Guiqing Liu, China Telecom Group	
A Hybrid LDM, TDM and Hierarchical Modulation signal structure for In-band Distribution Link transmission in SFN Lidie Liu, Shanghai Jiao Tong University	
A Spectrum Sensing Algorithm for DTMB-A based on Accumulated Autocorrelation of Multiple Frames Huang Yunchuan, Tsinghua University	
Novel Cooperative Automatic Modulation Classification by Credit-based Consensus Fusion Xiao Yan, University of Electronic Science and Technology of China	

Online Q&A Session B1-4

Deep Reinforcement Learning for Spectrum Sharing in Future Mobile Communication System Sizhuang Liu, Tsinghua University	
Configurable Low Delay Congestion Control Scheme for Cellular Network Weijia Huang, Shanghai Jiaotong University	
A Frequency Interleaver Scheme with Cyclic Shift for LTE-based 5G Terrestrial Broadcasting Hao Ju, Shanghai Jiao Tong University	
Design of a next generation 5G broadcasting core network in China Zhixin Liu, Shanghai Jiao Tong University	
Efficient Multicast Schemes in Vehicle Network Based on Luby Transform Codes Xu Bin, Shanghai Jiao Tong University	
Piecewise Linear Interpolation based LOG-BP algorithm for 5G LDPC codes Xu Bin, Shanghai Jiao Tong University	
An optimized Inactivation Decoding of BATS Codes Juan Yang, University of Electronic Science and Technology of China	
Deep reinforcement learning based multicast mode selection for SFN Hao Cheng, Shanghai Jiao Tong University	
Application of Federated Learning in Industrial Internet with Device Identifier Zhang Xu, China Academy of Information and Communications Technology	
Study on Chinese State Grid 230MHz Private 5G Network Jianqi Li, Electric Power Intelligent Sensing Technology and Application State Grid Corporation Joint Laboratory , Global Energy Interconnection Research Institute Co., Ltd. (GEIRI)	
Experimental Testing of High-Capacity Bandwidth Efficient Visible Light Communication with Silicon-based RGBY-LED Wang Yuhao, Nanchang University	

Friday, August 6, 2021

Oral Session

Session Time	
	Session C1: Multimedia Networking-2
9:00AM –9:20AM	Buffer Displacement Based Online Learning Algorithm For Low Latency HTTP Adaptive Streaming Mingyue Hao, Shanghai Jiao Tong University
9:20AM –9:40AM	SpaAbr: Size Prediction Assisted Adaptive Bitrate Algorithm for Scalable Video Coding Contents Jinghao Yuan, Shanghai Jiao Tong University
9:40AM –10:00AM	Early Drop: A Packet-Dropping Incentive Rate Control Mechanism to Keep Data Fresh under Heterogeneous QoS Requirements Yiqin Tan, Tsinghua University
10:00AM –10:20AM	Design of a next generation 5G broadcasting core network in China Zhixin Liu, Shanghai Jiao Tong University
10:20AM –10:40AM	Application of Federated Learning in Industrial Internet with Device Identifier Zhang Zu, China Academy of Information and Communications Technology

Poster Session

Session Time	
	Poster Session C1
9:00AM – 10:30AM	Performance Analysis of Machine Learning-based Face Detection Algorithms in Face Image Transmission over AWGN and Fading Channels
	Wireless Sensor or Access-Point Deployment Using Coverage-Area Maximization over Visibility Graph
	Evaluation of LDPC codes and Layered Division Multiplexing in Digital Radio Mondiale Plus
	On Wireless Channel Classification Based on CP-OFDM System
	A Low-Complexity Hybrid Precoding Scheme for mmWave MIMO Systems with Dynamic Subarrays
	8K-UHD service platform using SHVC for ATSC 3.0-based terrestrial broadcasting
	ACARS Signal Source Generation and Recognition Based on Convolutional Neural Network
	An Efficient Network for Boosting Human Pose Estimation
	An Efficient Networking Approach for Broadband PLC Networks
	On the Aliasing-Elimination for CAS Channel Estimation

Poster Session

Session Time	
	Poster Session C2
10:30AM – 12:00AM	FTN-based Emergency Alert Signal Detection Technique based on Deep Learning Technology
	Modulation Signal Denoising Based on Auto-encoder
	Outphasing Modulator for Secure Communication in 0.1THz Band
	Data Collection Scheme Based on Route Planning Algorithm with Maximization of Resource Utility
	Spectrum Allocation of Multi-Priority Operators Based on Repeated Game in Future Mobile Communication
	MET-DE Aided Design of Low-Rate DTMB-A LDPC Codes
	Efficient Fault Rules Mining for Multimedia Broadband Services in Power Sensor Network
	A Fast Virtual and Real Mixing Method for Adaptive Wear
	A Block Chain Platform with Equipment ID for Industrial Internet
	RGB-Based No-Reference Depth Map Quality Assessment Method

Registration Rate

Categories	Full RegistrationBefore and on Jul.9(23:59 GMT+8)		Early BirdBefore and on Jul.9(23:59 GMT+8)		LateFrom Jul.10 to Jul.26 (23:59 GMT+8)	
	USD	CNY	USD	CNY	USD	CNY
IEEE BTS Member	$630	￥4400	$630	￥4400	$680	￥4800
IEEE Member	$680	￥4800	$680	￥4800	$730	￥5100
IEEE Life Member	$530	￥3700	$530	￥3700	$580	￥4100
Non-Member	$780	￥5500	$780	￥5500	$830	￥5800
IEEE Student	NA		$400	￥2800	$450	￥3200
Non-IEEE Student			$440	￥3100	$490	￥3400

Speakers' Instruction

Since BMSB2021 is a hybrid conference, we provide a virtual platform. To prepare your online presentation content, you need to prepare a video of your presentation. Your video will be posted within your session on the IEEE BMSB 2021 on-demand virtual platform. If your paper is accepted as a poster paper, you will also be asked to prepare a poster in a PDF file for the poster session. More details on preparing your presentation files are outlined below.

Requirement of The File Format		
	Oral Paper	Poster Paper
Mandatory	Video (.mp4)	PDF Poster (no audio/video included)
Optional	PDF Slides	Video (.mp4)

Video Presentation Instructions :

- Duration: 15 minutes max
- File size: 150MB max
- Video file format: mp4
- Dimensions: Minimum height 720 pixels, aspect ratio: 16:9

Poster Presentation Instructions :

- File Type: PDF
- File Size: 50 mb or less
- PDF Size: A0 - Landscape 1189 mm wide x 841 mm tall (46.8 inches x 33.1 inches)
- Must be a single page
- Must NOT be password protected
- Must be saved to open to "fit page" size (in Acrobat: Preferences – Page Display – Page Layout - Zoom – Fit Page)
- Must NOT have multimedia content (video/animation) included in the PDF poster

Instructions for Recording PPT Presentation as a Video

Example with Microsoft Office 2019

Step 1: select Slide Show > Record Slide Show

Step 2: choose from two options:

    Record from Current Slide

    Record from Beginning

Step 3: when ready, select Record and start presentation/speaking

Step 4: manage your recording:

    Pause: to pause a recording

    Stop: to end a recording

    Replay: to replay a recording

    Pen, Highlighter, Eraser: use the pen, highlighter or eraser tools to mark up your presentation/recording

Step 5: Remove your recording: select Clear and choose from options

Step 6: save a recording as a video: select File > Export

    Save your recording in MP4

Step 7: Upload your recorded presentation video to BMSB Whova Virtual Conference Platform