



Special Workshop on Communications and Networking Technologies for Responding to COVID-19

A Workshop in Conjunction with IEEE GLOBECOM 2020, Taipei, Taiwan

Dec. 7, 2020 (Full day)

The outbreak of COVID-19 pandemic has resulted in over 10.4 million cases and 505,000 deaths by June 30, 2020. It has caused extreme strains on health systems and economies of many countries and has dramatically changed the way people live and work. Due to the high level of contagiousness, social distancing, isolation and contact tracking have been widely introduced to counter the epidemics before any treatment or vaccine is available. With the new lifestyle involving self-quarantine, smart-working from home, virtual conferencing, online education and remote patient monitoring, the demand for ICT services and applications has been unprecedented. Therefore, it is critical to develop novel communications and networking technologies/solutions, including data collection, surveillance, contact tracing, and eHealth, to face today's challenges brought by COVID-19 and prepare for future ones.

This workshop aims at soliciting high-quality articles to share the state-of-the-art innovations, developments and insights in applying communications and networking technologies to contain and conquer the global health crisis, restore our normal life, and get ready for future challenges. We will also take this opportunity to connect researchers, experts, and scholars from both industry and academia to share their recent studies, investigations, and findings in dealing with the challenges raised by COVID-19. This workshop welcomes papers presenting design and application of communications and networking technologies for understanding, treating and preventing COVID-19, and for the new lifestyle in response to COVID-19.

Topics of interest include, but are not limited to:

- AI technologies for trend detection, analysis and tracing on social networks
- Ambient Assisted Living (AAL) Internet of Things (IoT) for remote monitoring of COVID-19 patients
- Communications technology in post COVID-19 world
- Contact/proximity tracing and its privacy considerations
- Conversational AI and virtual agents to provide instant help for self-quarantined users
- Data and network analytics using machine learning
- Data collection from communication and sensory platforms with precision concern
- Digital signal processing (DSP) algorithms towards early diagnosis
- Early warning and alerting systems for forefront outbreak
- Edge computing aided Social IoT (SIoT) and its architecture, protocol, routing, and clustering design

- Energy-efficient SIoT for smart care on pandemic
- Epidemic modeling of virus propagation for prediction
- Federated multimodal learning from interactive SIoT and social networks
- Human computer interaction
- Infodemic (e.g., misinformation, conspiracy theories and scams) combating technologies
- Interpretable and expert-driven AI and data-driven deep learning solutions for public health policy
- IoT for smart care on pandemic
- Multimodal behavior analysis for self-quarantined users
- Networking to support virtual, augmented, and mixed reality
- Online teaching and meeting using innovate communication technologies and applications
- Platforms and solutions for eHealth patient monitoring
- Privacy and public health balancing
- Propagation control policies such as lockdown, quarantine, social distancing, and travel restrictions
- Remote/online medicine and e-Health for best care of patients
- Representation learning and AI on spatio-temporal data and geometric data for mobility mining
- Robotics applications for the reduction of infection risk
- Testing design and pooled testing
- Wearable medical wireless sensors

The workshop accepts only novel and previously unpublished English-written papers, with a maximum length of six (6) printed pages (10-point font) including figures without incurring additional page charges (maximum 1 additional page with over-length page charge if accepted).

SUBMISSION LINK: <https://edas.info/newPaper.php?c=27753>

WEBPAGE LINK: <https://globecom2020.ieee-globecom.org/workshop/sws-special-workshop-communications-and-networking-technologies-responding-covid-19>

IMPORTANT DATES:

- Paper Submission Deadline: ~~Aug. 10, 2020~~ **Aug. 14, 2020**
- Acceptance Notification: **September 15, 2020**
- Camera-Ready: **October 1, 2020**

General Co-Chairs

H. Vincent Poor (Princeton University, USA)
 Neeli Prasad (SmartAvatar B.V., Netherlands)
 Honggang Wang (University of Massachusetts, Dartmouth, USA)
 Chia-Han Lee (National Chiao Tung University, Taiwan)
 Christos Verikoukis (Centre Tecnològic de Telecomunicacions de Catalunya, Spain)
 De-Nian Yang (Academia Sinica, Taiwan)

TPC Co-Chairs:

Andrea Sciarrone (University of Genoa, Italy)
 Valeria Loscri (Inria, France)
 Ali Tajer (Rensselaer Polytechnic Institute, USA)