

CALL FOR PAPERS IEEE Sensors Journal Special issue on Role of Smart Sensing for Communicable Diseases (Including COVID-19)

Communicable diseases are the rapid spread of disease by an infectious agent, such as bacteria, viruses, fungi or parasites, to many people within a short period of time. Various communicable diseases occurred in the past, such as Human Immunodeficiency Virus (HIV), Tuberculosis (TB), Ebola, and Spanish influenza. We witness the terror of recent communicable diseases, *i.e.*, Novel Coronavirus (COVID-19), that affected numerous human lives across the world. Various smart sensing technologies applicable to the rapid and reliable detection, prevention, and control of the spreading of the communicable diseases have been explored. Examples of such smart sensing technologies are biosensors, environmental sensors, and wearable sensors. The localized surface plasmon resonance (LSPR), surface-enhanced Raman scattering, quartz crystal microbalance, and field-effect transistor-based biosensors could be effective tools for rapid, authentic, portable, and more promising diagnosis of the disease virus. Quarantine is another way to control the spreading of the disease virus. Smart sensing may emerge as a useful tool in helping to create an interactive space such as a smart home or hospital for quarantine people. Wearable sensors help collect real-time data about human activities, bio-markers, and surrounding conditions, such as measuring social distancing. The collected data can be used in managing the activities by performing predictive analysis using various machine learning and deep learning techniques. Not only will smart sensing be used for the detection of communicable diseases, but it could also help safeguard against new communicable diseases in the future.

The Guest Editors encourage submissions of papers addressing the role of Smart Sensing for Communicable Diseases, including COVID-19. Original research contributions, tutorials, case studies, and review papers are also encouraged. Manuscripts should provide content to be accessible to general audiences working in the field of sensing systems.

This SI covers design and applications of sensor and sensor systems for communicable diseases, including COVID-19. Topics of interest for this special issue include (but are not limited to):

- Biosensors for communicable disease detection and prevention of its spread
- Novel sensor devices and systems, sensing materials and strategies for rapid and accurate point of need (PON) detection of communicable disease
- Bio-markers and bio-signs for communicable disease diagnostics
- Smart environment: Indoor navigation systems during quarantine
- Smart sensor-based home activity monitoring during quarantine
- Smart sensing for tracking social distancing
- Healthcare smart sensing systems for providing partial or total remote diagnosis
- Wearable and contactless smart sensing for communicable disease

Solicited and invited papers shall undergo the standard IEEE Sensors Journal peer review process. All manuscripts must be submitted on-line, via the IEEE Manuscript Central, see <http://mc.manuscriptcentral.com/sensors>. When submitting, please indicate in the "Manuscript Type" roll down menu, and also select the "Role of Smart Sensing for Communicable Diseases (Including COVID-19)" Special Issue. Authors are particularly encouraged to suggest names of potential reviewers for their manuscripts in the space provided for these recommendations in Manuscript Central. For manuscript preparation and submission, please follow the guidelines in the Information for Authors at the IEEE Sensors Journal web page, <http://www.ieee-sensors.org/journals>.

Deadlines:

Manuscript Submission deadline: February 28, 2022
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