

## **Theme: Environmental Technology for Sustainability**

### **- Sub Theme: Virus Sensing, Diagnosis, and Inactivation**

The spread of COVID-19 has become a global healthcare issue around the world. People have been taking various political, social, technical, and medical measures to overcome this crisis for the last two years. The pandemic is expected to end anytime shortly, but we will have to prepare in advance for new technological approaches in case of other virus threats in the future. First, we need to develop new sensing and diagnosis tools for the airborne virus that not only address the need for high sensitivity but also fulfill economic objectives in addition to the need for rapidness in the field or resource-limited settings. Second, we need to develop new virus inactivation techniques that are environmentally friendly, easy and safe to work with, produce neither waste nor toxic byproducts, and with high energy efficiency.

We are aiming to find new methods and materials for effective virus sensing/diagnosis and inactivation technology.

The topics we pursue through this GRO are as follows:

- New rapid detection method for the airborne virus.
- New low-cost material for airborne virus detection devices.
- New materials or devices focusing on the precise diagnosis of COVID-19.
- New energy-efficient technology for effective inactivation of the airborne virus.
- New antiviral coating material for surface disinfection.

※ *The topics are not limited to the above examples and the participants are encouraged to propose ootheriginal ideas.*

※ Funding: Up to USD 150,000 per year