Theme: Future Camera & Sensor

- Sub-theme: Short to Long IR technologies, coatings, and devices for Imaging & Sensing Applications

We are looking for new ideas to bring innovations to the next generation of sensing and imaging technologies in the IR spectral domain ranging from short to long infrared wavelengths (SWIR, MWIR, and LWIR). We are highly interested in (but not limited to) the following list of topics

1) High performance & low-cost multispectral & hyperspectral sensing & imaging of uncooled technologies in the SWIR, MWIR, and/or LWIR ranges

2) (SW, M, LW) IR based high resolution & low cost partial and/or complete non-invasive biosensors

3) Coatings and devices with adaptive and tunable IR optical properties

4) Bioinspired materials, geometry, and anatomy for advanced optical functions, sensing, and imaging, including (but not limited to) emission control, anti-reflection, polarization, depth perception, and low light imaging.

5) Bio-inspired IR vision processing algorithms and techniques

6) Hybrid (RGB/UV/polarization + SWIR/MWIR/LWIR) imaging and sensing systems and relevant processing, algorithms, and techniques

7) (SW, M, LW) IR- to visible/NIR upconversion materials, devices, and technologies

8) Thermal energy harvesting innovative concepts, designs, and technologies for powering wearables

※ The participants are also encouraged to propose new ideas outside the topics listed above.
※ Funding: Up to USD 150,000 per year