FOR IMMEDIATE RELEASE

University of Washington Researchers Developing Mobile Device that Destroys Viruses and Bacteria on Surfaces

UW innovation using UV and IR light will help minimize the spread of disease by disinfecting common surfaces

SEATTLE, Wash. (April 27, 2020) – Researchers from the University of Washington (UW) are developing a mobile "flashlight-like" device that disinfects common surfaces using ultraviolet (UV) light and infrared (IR) light. CoMotion, UW's collaborative innovation hub, recently filed a provisional patent on behalf of the team which is led by Professors Jun Liu and Jihui Yang from the UW's Department of Materials Science & Engineering with postdoc Mengyu Yan (MSE) and graduate student Mitchell Kaiser (Chemistry).

In response to the novel coronavirus pandemic (COVID-19), the team is working to create solutions to minimize the spread of the disease, provide critical aid to health care workers and their patients, and ensure the safety, health and well-being of households.

The new mobile device can effectively and rapidly destroy viruses and bacteria on surfaces. Professor Liu says, "Many surfaces are not suitable or accessible for chemical disinfection such as clothes, sofas, papers, porous materials, fabrics, food containers, and food. However, UV light is an effective disinfecting method, and UV lamps are commercially available."

The team's idea is to take advantage of the synergistic effect of chemical and physical treatment. They are developing a device that combines multiple electromagnetic sources to more effectively kill microbes than one particular radiation source could achieve alone.

The device can be used for almost any surface, including food and food packaging, fabrics, computers and cell phones, elevators, door handles and knobs, mail and mail packaging, and in settings including automobiles, buses, airplanes, buildings, hospitals, gyms and sports complexes, and conference centers.

This innovation is part of the team's larger effort to use powerful Li-ion batteries to enable new energy storage and advanced mobile health care technologies. For example, this particular antivirus device can also be designed for different applications, such as hand-held devices for daily household use, and backpack or suitcase devices for large-area disinfections in public spaces.

The team plans to collaborate with industry to manufacture these devices. Their next steps are to validate effectiveness and launch a startup for rapidly moving to commercialization.

About the University of Washington and CoMotion
Ranked by Reuters as the #1 most innovative public university in the world, the University of Washington is a leading recipient of federal funding research, producing innovations that have the power to change the world.

CoMotion at the University of Washington is the collaborative innovation hub dedicated to expanding the global economic and societal impact of the UW community. By developing and connecting to local and global innovation ecosystems, CoMotion helps innovators achieve the greatest impact from their discoveries. Find more information at https://comotion.uw.edu.

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