

Workshop for WISEE 2019, Ottawa, Canada

October 16-18, 2019

Sensor Technologies for Applications in Aerospace Extreme Environment

Call for Presentations

Chair: Dr Prakash Patnaik, NRC Aerospace Research Centre, Ottawa Canada

Aerospace is recognized as one of the top high technology industry in the World continuously developing new technologies to reduce manufacturing costs, greening the operations by reducing the environmental effects and reducing the sustainment costs. Sensors are now widely used in the aircraft to monitor the operating environment and estimate the impact of the aircraft operation on safety and sustainment. This one-day workshop will cover on sensor technologies for Aerospace Vehicles operating in extreme operating environment such as volcanic ash, particulate, dusty erosive environment, and extreme heat conditions and icing environment. Functionality and safety of aerospace vehicles heavily rely on data from sensors. As the air vehicle experiences these extreme environments, so do the installed sensors. Therefore, it is important that the sensors have to withstand and perform their functionality in these extreme environments. In recent years, there has been a significant progress in this and the field of research is constantly evolving. The primary objectives of this workshop are to bring together individuals working in this field to highlight their research / breakthroughs, share experiences / best practices, discuss new ideas, and to initiate collaborations.

Following are the topics to be covered in this workshop:

- Novel sensors for extreme environment(Sand, Volcanic ash and Icing conditions)
- Degradation of sensors/Physics of failure
- Sensor data analytics/Diagnostics and prognostics
- Reliability of Structural integrity of sensors
- Multi-functional sensors
- Wireless sensors
- Thin Film Sensors for extreme heat and strain measurement
- Manufacturing of sensors/sensor arrays by 3-D printing
- Verification, validation, and certification of sensors
- Lessons learned, experiences, and best practices

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