**Session Title**: Energy harvesting and self-powered wearable systems

**Introduction**:

The goal and theme of the proposed special session.

The proposed special session aims to highlight recent progress in harvesting energy from human motion, thermal gradients, and ambient environmental sources, with an emphasis on self-sustaining solutions for wearable devices. Topics include cutting-edge materials, smart sensors, and efficient energy management strategies to power health monitoring, fitness tracking, and IoT-enabled wearables. By addressing challenges such as miniaturization, reliability, and user comfort, the session seeks to foster interdisciplinary collaboration and inspire the creation of next-generation self-powered systems. Ultimately, it aims to contribute to a future where wearable devices operate seamlessly and sustainably, reducing dependency on external power sources while enhancing user experience and functionality.

**Topics**:

* Smart materials and structures
* Self-powered wearable systems
* Material science in energy harvesting and sensing
* Mechanical design of energy harvesting systems
* Theoretical and applications of energy harvesting systems
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