

## **Honglong Chang**

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### **Biography**

***Honglong Chang*** is currently a professor at the MEMS Laboratory of Northwestern Polytechnical University (NPU), concurrently he also serves as the department chair of the Department of Microsystems Engineering (DME) since Apr., 2011. He is also an IEEE senior member. From Oct. 2011 to Nov. 2012, he was a Visiting Associate (Faculty) with the Micromachining Laboratory, California Institute of Technology, Pasadena, USA. He was a recipient of the MEMS 2016 Outstanding Paper Award and nominee of Transducer 2015 Outstanding Paper Award.

### **Presentation Title**

#### **A fully automated microflow cytometer for astronauts**

We developed a fully automated microflow cytometer for astronauts, which can finish the whole blood preparation and the white blood cell counting automatically. To the best knowledge of the authors, it is the first microflow cytometer designed for space application with automated blood sample preparation function. An enumeration of lymphocyte subsets is carried out and the results show great agreement with the reference commercial flow cytometer.