



### Seminar

## Ultra-low Temperature Technologies and Frontier Physics Research

Dr. Zuyu Zhao

*Janis Research Company*

**Time:** 2:00pm, Nov. 24, 2014 (Monday)

**时间:** 2014年11月24日 (周一) 下午2:00

**Venue:** Room 607, Conference Room A, Science Building 5

**地点:** 理科五号楼607会议室

### Abstract

ULT technologies has been developed shoulder to shoulder with helium physics research (where the ULT Physics research originally started), and they have found themselves with much broader applications in Frontier Physics research nowadays such as ULT-STM systems in high magnetic fields, Angle-resolved photoelectron spectroscopy (ARPES) below 1K, Cosmology Physics, Atomic Physics, Dark matter search, Quantum computing, sub-mK Physics, etc.

This talk starts with an example of application of ULT technology in classical He-3 physics research, followed by examples of its applications in contemporary frontier Physics research,

A couple of novel ULT instrumentation example for general Physics research are given near the end of the talk, and the future demand and challenges of ULT technology applications on basic research will be briefly discussed.

Discussion session is available at the end of the seminar.

### About the Speaker

Dr. Zuyu Zhao received his B.S. degree from Fudan University in 1982, Class 77. He came to US in 1983 with the World Bank Scholarship and graduated from Northwestern University with Ph.D degree of physics in 1990. He then spent two and half year working at Harvard University as post-doc and set a new lab pursuing Bose-Einstein condensation on spin polarized hydrogen.

Dr. Zhao joined Janis Research Company in 1993 and focused on developing custom ultra-low temperature facilities for the research and science community.

He is currently the Board of Director and Vice-President-Principal scientist of the company. At the same time, he has been elected as member of the AIP <<Physics Today>> Advisory Committee Member from 7/1/2007 to 6/30/2013.