

The Chinese University of Hong Kong Department of Geography and Resource Management

will present a seminar

by

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Monitoring Changes in Greenland Outlet Glaciers Using Geophysical Methods

Abstract:

The Cryosphere, the frozen portion of the Earth's surface, has been undergoing significant and fast changes in the past decades, associated with changes in the global climate system. The Cryosphere presents diverse problems that are arguably best solved by using interdisciplinary knowledge and methods. I will give two presentations in on a new discipline named Cryosphere Geophysics that uses state-of-the-art geophysical methods to monitor changes of cryospheric systems. This first talk will be concentrated on the Greenland Ice Sheet, one of the largest single contributors to sea level rise in the past two decades. I will explain how we quantify ice mass balance of a Greenland outlet glacier (Jakobshavn) by directly measuring surface elevation change using airborne altimetry and by indirectly measuring the crustal isostatic uplift. Then I will present our most recent assessment of the mass loss from the Northeast Greenland Ice Sheet from numerous geophysical measurements. The geometry of the bedrock and monotonic trend in glacier speed up and mass loss suggests that dynamic drawdown of ice in this region will continue in the future. In my second talk at the ISEIS Friday Seminar next week, I will switch to changes in Arctic permafrost in a warming climate.

About the Speaker:

Prof. Lin Liu recently joined CUHK's new Earth System Science Programme under the Faculty of Science. He is a geophysicist by training, from an undergraduate program in Wuhan University, a PhD in the University of Colorado. Before joining the CUHK, he was a George Thompson Postdoc Fellow at Stanford University. His study applies a wide range of geophysical techniques to the Earth's complex cryospheric systems, aiming to quantify and understand their significant changes in a warming climate. He conducted four field trips in polar regions including Alaska and Greenland. The next one in planning is a trip to the Tibet Plateau.

Language: English

Date: 27 February 2014 (Thursday)

Time: 4:30-6:00pm

Venue: Room 233

Wong Foo Yuan Building

Chung Chi College

~All are Welcome~

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