The Department of Civil and Environmental Engineering at the University of Houston presents...

CIVE 6111 Graduate Seminar

Dynamics of West Antarctic glaciers using remote sensing observations and ice-sheet models

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Classroom Business Building (CBB) - Room 122
Zoom: https://uh-edu-cougarnet.zoom.us/j/93292307195

Abstract
The rate of global sea level rise has been rising over the past century and increased further in the recent decades. Two of the major causes of global sea level rise are thermal expansion caused by ocean warming and increased melting of land ice, including glaciers and ice sheets. With 58 meters of sea level equivalent, the Antarctic Ice Sheet is an important indicator of climate change and driver of sea level rise. West Antarctica and especially the glaciers located in the Amundsen Sea Embayment (ASE) will be prominent regions for determining Antarctica's overall contribution. In particular Pine Island, Thwaites, Pope, Smith and Kohler glaciers sit below sea level making the ASE region vulnerable to destabilization. The dynamics of the ice sheet flow are well established, and simulations indicate continued mass loss at an increased rate. However, satellite observations show unanticipated abrupt changes in glaciers 'grounding zones retreat rates and glaciers speed up. Combining remote sensing observations with mechanical modeling techniques is fundamental to determine what physical processes characterize the dynamic grounding zone migration, as well as to ascertain how these newly discovered physical processes could be integrated into glacier models.
In this presentation we will discuss the physical processes that control the short-term fluctuations of the grounding zone and what is the sensitivity of grounding line migrations to tides and how it is related to glacier parameters.

Bio
Natalya Maslennikova graduated from the Novosibirsk State University in Russia with a Bachelor's degree in Chemical and Biological Physics. Also, she finished a National Research Institute of Additional Education and Vocational Training in Moscow with a Pedagogy specialization. Currently she is working towards her PhD in Geosensing Engineering, where her research interests are in glaciology and remote sensing.