Helen Fricker

Professor at UC San Diego

La Jolla, CA, US

Helen Amanda Fricker's research focuses on ice sheets in Antarctica and Greenland and their role in the climate system.

Biography

Fricker is a professor of geophysics in the Cecil H. and Ida M. Green Institute of Geophysics and Planetary Physics at Scripps Institution of Oceanography at UC San Diego. Her research focuses on ice sheets in Antarctica and Greenland and their role in the climate system. She uses a combination of satellite radar and laser altimetry and other remote-sensing data to understand ice sheet processes. Fricker is widely recognized for her discovery of active sub-glacial lakes, and she has shown that these lakes form dynamic hydrologic systems, where one lake can drain into another in a short period of time. She is also known for her innovative research into Antarctic ice shelf mass budget processes such as iceberg calving and basal melting and freezing. Fricker received her B.Sc., with first-class honors, in mathematics and physics from University College London and her Ph.D. in glaciology from the University of Tasmania. She joined Scripps as a postgraduate researcher. She received the Royal Tasmania Society Doctoral Award for her Ph.D. and the Martha Muse Prize for Science and Policy in Antarctica from SCAR in 2010. Fricker is a member of the American Geophysical Union (AGU), has served as chair of AGU?s Cryospheric Sciences Focus Group, and was recognized as an AGU Fellow in 2017 for ?advances in the understanding of Antarctic ice sheets, ice shelves, and subglacial hydrologic systems.? She received the NASA Group Achievement Award for her role in the Ice, Cloud, and Land Elevation Satellite (ICESat) Mission Development Team, and was a member of the ICESat Science Team. She also serves on NASA Sea Level change Team and the ICESat-2 Science Definition Team, where she advised on land ice measurements for the ICESat-2 satellite launch in September 2018. ICESat-2 is a satellite that will use lasers to measure changes in the heights of Earth?s polar regions, helping scientists calculate future impacts on global sea level and climate.

Areas of Expertise

Sea-Level Rise, Ice Sheets and Sea Levels, Antarctic Geophysics, Planetary Physics, Geophysics, Glaciology, Polar Science

Affiliations

American Geophysical Union (AGU) , ICESat-2 Science Definition Team , NASA Sea Level Change Team

Education

University of Tasmania

Ph.D. Glaciology

University College London
B.Sc. Mathematics and Physics

Accomplishments

Martha Muse Prize
2010 Awarded for Science and Policy in Antarctica from SCAR

NASA Group Achievement Award
2008 Awarded for her role in the Ice, Cloud, and Land Elevation Satellite (ICESat) Mission Development Team

AGU Fellow
2017 Recognized for her ?advances in the understanding of Antarctic ice sheets, ice shelves, and subglacial hydrologic systems.?

Chair of AGU?s Cryospheric Sciences Focus Group
2016

Royal Tasmania Society Doctoral Award
2001
