SCHOOL OF ENGINEERING

ENVIRONMENTAL SYSTEMS

UCMERCED | SOE School of Engineering

UNCOVERING NEW HYDROLOGICAL PROCESSES IN THE TROPICS WITH GNSS-R

ABSTRACT

The Cyclone Global Navigation Satellite System (CYGNSS) is in many ways, a unique mission. With its ability to penetrate clouds and canopies and a strong sensitivity to water, CYGNSS has helped us uncover new spatio-temporal dynamics of water at the surface of the Earth. In this presentation, I will describe how we leveraged computer vision together with CYGNSS data to produce new maps of surface inundation that have been shifting our understanding of how much standing water is present in tropical ecosystems. I will then explain how this new information is helping us fill the information gap and improve our predictions of methane emissions, streamflow generation, and flooding in areas too remote to obtain in-situ data. Finally, I will discuss how new commercial missions will help bring this new understanding to fast changing boreal latitudes.

CYNTHIA GERLEIN-SAFDI
ASSISTANT PROFESSOR
UNIVERSITY OF CALIFORNIA, BERKELEY

BIOGRAPHY

Cynthia Gerlein-Safdi received a BSc and an MEng in Geophysical Engineering from the Ecole et Observatoire des Sciences de la Terre in Strasbourg, France. She received a PhD in Civil and Environmental Engineering from Princeton University in 2017 and was a member of the Michigan Society of Fellows from 2017 to 2020. After two years spent as a research scientist at Lawrence Berkeley National Laboratory, she started her current position as an Assistant Professor in the department of Civil and Environmental Engineering at UC Berkeley in January 2022. Her work links the water and carbon cycles of ecosystems across spatio-temporal scales to understand how shifts in water availability might impact our future climate.

SEMINAR INFO

DATE: MAY 12TH, 2025

SOCIAL HOUR: 3:10 PM-3:30 PM
SEMINAR TIME: 3:30 PM - 4:30 PM

LOCATION: COB1 110