



BIRZEIT UNIVERSITY

كلية العلوم Faculty of Science

دائرة الفيزياء Department of Physics

تتشرف دائرة الفيزياء بدعوتكم لحضور محاضرة عامة بعنوان:

Using Rare Event Sampling to Understand the Strongest Tropical Cyclones

Presented by

Dr. Dorian Abbot

Department of Geophysical Sciences, University of Chicago, USA

On

Saturday 18, January 2020 at 11:00am

Faculty of Science– S. Abdulhadi Building room 372

Abstract: Abbot will talk about the basic physics of tropical cyclones (hurricanes), including how the Carnot cycle is a good approximation for how they generate power. Then he will discuss how tropical cyclones might change as a result of climate change. It turns out that the rarest and strongest storms cause almost all of the damage and deaths. The problem is that it's very hard to simulate these storms accurately because they are so rare. Finally, Abbot will discuss some techniques he has been working on with friends to access these strong, rare storms with numerical simulations. These techniques could dramatically improve our ability to forecast changes in tropical cyclones with climate change.

About the speaker: Dr. Abbot is an Associate Professor at the department of geophysical sciences at the university of Chicago. He have an undergraduate degree in physics (2004, Harvard) and a PhD in applied math (2008, Harvard). He uses mathematical and computational models to understand and explain fundamental problems in Earth and Planetary Sciences. He also has worked on problems related to climate, paleoclimate, the cryosphere, planetary habitability, and exoplanets, but I'm always excited to think about new things. Recently, he has been focusing a lot of effort on terrestrial exoplanets and habitability.