

## **Boston University College of Arts & Sciences Institute for Astrophysical Research**

## 2020—2021 ASTROPHYSICS SEMINAR SERIES

## How much should you trust stellar models?

Stellar models are used for a wide range of purposes from characterizing extrasolar planets to untangling the history of our own and other galaxies. Unfortunately, there are still significant uncertainties in the physics of these models, and inconsistencies with recent observations. I will discuss how we model stellar interiors, and what that means for our ability to accurately and precisely estimate stellar parameters. I will also show that large photometric and spectroscopic surveys have significantly improved our understanding of stellar convection,

rotation, and mixing in the past few years. Finally, I will discuss how this improved physical understanding impacts the utility of stellar models, including the estimation of stellar ages, and the prospects for future improvements.

