



# PHYSICS AND ASTRONOMY COLLOQUIUM

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**“What processes have shaped the Milky Way - and how do we uncover them?”**

## Abstract

The stars of the Milky Way encode its formation history and enable us to test the processes that have shaped spiral Galaxies, across the smallest to largest scales. I will showcase two regimes where stars have been used to test and uncover important physical mechanisms which have shaped the Milky Way. These are: (1) What processes made the Milky Way bulge? (2) What processes set the orbital radii of the stars in the disk? Finding the answers to these questions relies on transforming a multitude of observed spectra and photometry into physical quantities that characterize the stars, which then in turn link to strong predictions from simulations. I will highlight the recent progress in deriving these quantities, most notably consistent and precise ages and chemical compositions, for almost one hundred thousand stars across the Galaxy.

Monday, January 30, 2017  
3:30 p.m.  
Engineering Computer Science  
Room 104