

Physics Colloquium

A (very) Abridged View of
25 Years of Discoveries With
The Hubble Space Telescope

Wednesday, October 21

2:00 pm

RNS 210

Refreshments served!



Michael Rutkowski

Research Associate,
Institute for Astrophysics
at the
University of Minnesota

Michael Rutkowski is a native of Virginia, born in small town where there was little else to do in the summer but swim in the river and in the winter but to look at the sky. He attended a small college in central Virginia, Hampden Sydney College, and upon graduation moved out to the deserts of central Arizona, attending Arizona State University. There he worked with ground-based observatories taking advantage of the desert's dark skies, and of course HST. He moved to Minnesota in the summer of 2013 and collaborates on projects broadly motivated by his interests in galaxy formation and evolution.

Over the past 25 years, HST has been the workhorse for the astrophysical community—data from HST have supported a Nobel prize, countless discoveries, and tens of thousands of scientific publications. The speaker has grown up with Hubble: its discoveries introduced him to astrophysics and in his research career thus far, Michael has had the opportunities to explore galaxy evolution in the low and high redshift universe with Hubble. In this lecture, Michael will discuss a few choice research projects, past and present, which have made use of multiple generations of instrument onboard “the people’s telescope.” At the University of Minnesota, this research has most recently focused on detecting the sources of Lyman Continuum emission in the intermediate redshift universe. By observing $z \sim 1$ star-forming galaxies (SFGs), Michael and his colleagues hope to better understand the physics of the Epoch of Reionization. At present, there is a significant tension between independent observations of the ionization of neutral Hydrogen in the high redshift universe in comparison with a dearth of observations demonstrating SFGs can produce a sufficiently strong UV background to initiate and sustain reionization. Michael discusses recent results from this survey of SFGs and prospects for the future, both with HST and future observatories.