

4TH WETTON PUBLIC LECTURE

SEPTEMBER 21ST, 2022, 6PM

Martin Wood Lecture Theatre, 20 Parks Rd, Oxford OX1 3PB

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PEERING BACK TO COSMIC DAWN TO DECODE THE MYSTERIES OF GALAXY EVOLUTION

This is an exciting time for astronomy, as new telescopes are coming online that will survey huge swaths of the sky at many wavelengths. Instruments on some of these telescopes, such as the recently launched James Webb Space Telescope, are so sensitive that we can peer back in time to view galaxies when the Universe was only a few percent of its present age. At the same time, theoretical simulations of galaxy formation have become extremely detailed and sophisticated. However, there are still many puzzles in our current theories of how galaxies form and evolve. What determines how rapidly a galaxy can make new stars, and why has star formation in some galaxies completely ceased? Why do we see galaxies with different shapes and colors? How do galaxies grow the supermassive black holes that lurk in their centers, and how do these monsters affect their hosts? I will talk about the work that my collaborators and I are doing to make links between theoretical predictions and observations, and what insights we hope to gain about the mysteries of galaxy formation.