

Colloquium

SFB 956

Conditions and Impact of Star Formation

8 July 2019

Monday 3:00 pm

Physikalische Institute Köln

Lecture Hall III

Zülpicher Straße 77 | 50937 Köln

Amelie Saintonge

University College London, UK

From Cosmic Web to Molecular Clouds: the Multiple Scales of Star Formation

Observations of molecular gas and dust in distant galaxies are experiencing a coming-of-age, transitioning from a "discovery" to a "survey" mode. New and upgraded facilities are now making it possible to survey the cold interstellar medium efficiently for large galaxy samples, and these observations are proving to be critical in refining our general picture of galaxy evolution. In this talk, I will review results from a number of new large surveys for molecular gas and dust across the galaxy population at low and high redshifts, and show how they combine to lend strong support in favour of the "equilibrium" model for galaxy evolution, under which most of galaxy evolution is regulated by gas inflows and outflows, and by the efficiency of the star formation process. These results highlight the multi-scale nature of the galaxy evolution problem, from gas flows along the cosmic web to the small-scale physics of star formation, and the need to investigate new tools to study the cold interstellar medium of distant galaxies.

