

## **Towards the complete mass function of dusty galaxies**

Michał Michałowski<sup>1</sup>, James Dunlop<sup>1</sup>, Maciej Koprowski<sup>1</sup>

<sup>1</sup> *Institute for Astronomy, University of Edinburgh, Royal Observatory, Edinburgh*

### **Abstract**

The distribution of galaxy masses as a function of redshift provides an important constraint on galaxy evolution models, as it informs us about integrated star-formation in the past. I will present recent results on the stellar mass distribution of dusty galaxies in the distant universe. First, using various SED codes applied to real and simulated submm galaxies, I will show to what extent we can reconstruct their masses from broadband photometry. Then I will present what we have learnt from stellar masses of submm galaxies found in the SCUBA2 Cosmology Legacy Survey. Due to unprecedented image quality of SCUBA2, the size of the images ( $\sim 2 \text{ deg}^2$ ) and their depth, this sample is unique in terms of completeness, and redshift recovery fraction. Finally, I will discuss the preliminary results on stellar masses of fainter dusty galaxies, discovered in the ALMA Cycle 1 survey of the Hubble Ultra Deep Field.