



# The CaterPillar Project

Brendan Griffen<sup>1</sup>

Greg Dooley<sup>1</sup>, Alex Ji<sup>1</sup>, Mark Vogelsberger<sup>1,2</sup>, Facundo Gomez<sup>3</sup>,  
Brian O'Shea<sup>3</sup>, Lars Hernquist<sup>2</sup>, Anna Frebel<sup>1</sup>

<sup>1</sup>Kavli Institute For Astrophysics & Space Research (MIT) <sup>2</sup>Center for Astrophysics (Harvard) <sup>3</sup>Michigan State University

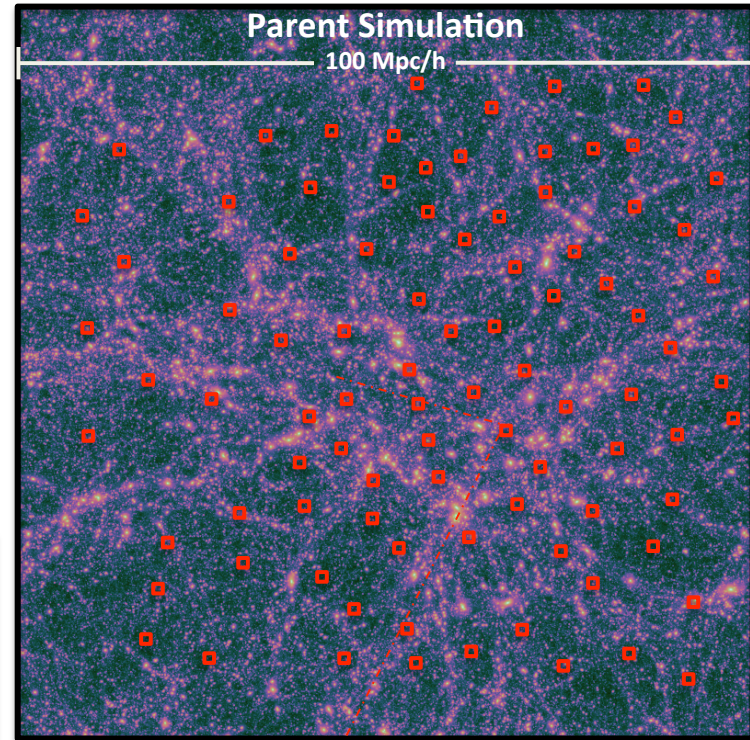
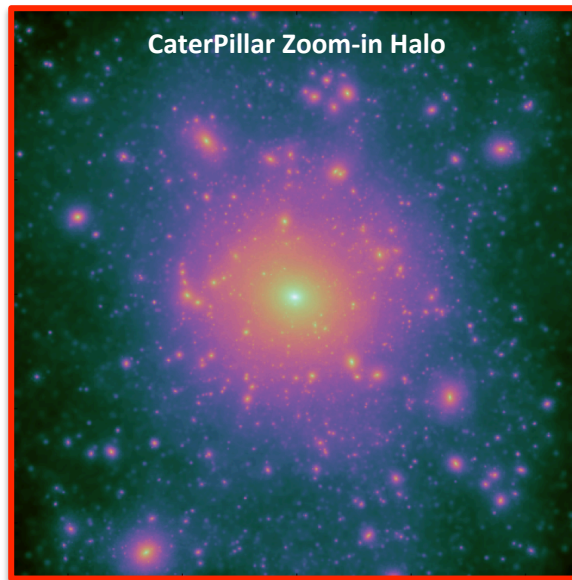
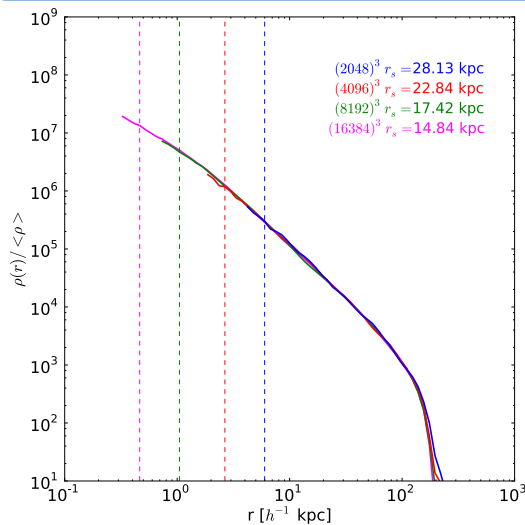


## What is the CaterPillar Project?

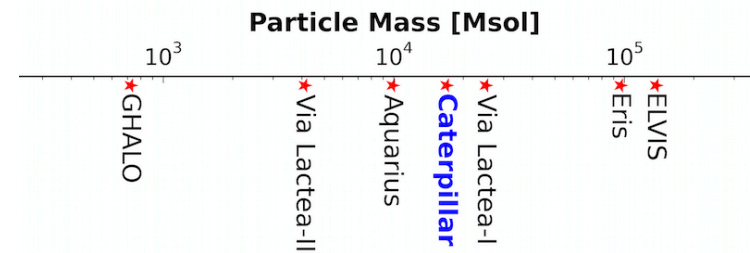
**60** “Aquarius resolution” ( $10^4 M_\odot$ ) dark matter halos including many Local Group analogues in a  $\Lambda$ CDM Planck cosmology.

## What are the goals of the CaterPillar Project?

To provide a large statistical sample of Milky Way/Local Group analogues to better quantify the extent of the *missing satellite/too big to fail* problems, study dwarf (+“first”) galaxies and examine the assembly of the Milky Way.



<http://caterpillar.scripts.mit.edu/www/>



- Uncontaminated regions up to 2 Mpc.
- Convergence achieved over the range expected.
- Subhalo mass functions agree with previous literature.