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### **Impact of TeraGrid on Cosmic Simulations**

TIZIANA DI MATTEO, Carnegie Mellon University

Many of the advances in our understanding of cosmic structure have come from direct computer modeling. In cosmology, we need to develop computer simulations that cover this vast dynamic range of spatial and time scales: we need to include the effect of gravitational fields generated by (dark matter in) superclusters of galaxies on the formation of galaxies, which in turn harbor gas that cools and makes stars and is being funneled into supermassive blackholes the size of the solar system. Computational cosmology, simulating the entire universe, represents perhaps one of most challenging application for the TeraGrid. I will present recent and upcoming work on computational cosmology using the TeraGrid systems.