



San Mateo County Astronomical Society



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SMCAS General Meeting and Presentation on Friday March 3, 2017

[Dr Mehmet Alpaslan](#)

Post Doctoral Research Fellow
NASA Ames Research Center

How galaxies are influenced by the largest structures in the Universe

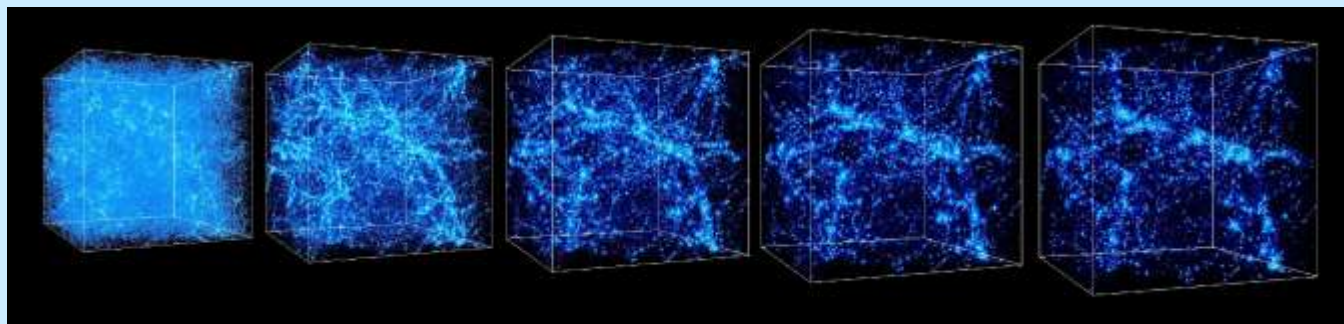
Friday, March 3, 2017 , [College of San Mateo, Building 36](#)

SMCAS General meeting at 7:00 p.m. ISC Room, room 110

Presentation at 8:00 p.m. [Planetarium](#)

Free and open to the public, free parking.

When viewed at the largest scales, the distribution of galaxies in the Universe resembles a complex, tangled web: an interconnected network of filaments of galaxies that surround vast, empty voids. Simulations and theory have established that filaments – the largest, most densely populated structures in the Universe - have formed in the billions of years after the Big Bang, and serve as conduits for transporting gas into galaxies, which they then turn into stars.



Simulation of the Formation of the large scale structure of the universe (click on picture)

Thanks to advances in telescope instrumentation the current generation of galaxy surveys is finally able to observe the night sky in sufficient detail to accurately map the Cosmic Web for the first time, and begin to understand the role it plays in influencing the evolutionary fate of galaxies. In this talk, Dr. Alpaslan will review advances in mapping out the filamentary network of the Universe using data from the [Galaxy And Mass Assembly \(GAMA\) survey](#), as well as discuss some recent advances in understanding how the galaxies that live in dense filament differ from those that exist alone in isolated voids.



Dr Alpaslan is a postdoctoral research fellow within the NASA Postdoctoral Program, based at NASA's Ames Research Center. His research focuses primarily on detecting and classifying large scale structures in the Universe (filaments, voids, and clusters) and understanding the role that these, and other environments, play in galaxy evolution and formation. He is also deeply interested in galaxy redshift surveys, astrostatistics, big data astronomy, and is a member of the [Galaxy and Mass Assembly \(GAMA\) survey](#).

Mehmet received his PhD at the University of St Andrews and the International Centre for Radio Astronomy Research at the University of Western Australia, working with Simon Driver and Aaron Robotham. He obtained his PhD in the summer of 2014, and began his appointment at NASA Ames in July 2014.