

Curriculum vitae

Research:

There are three facets to my research. First, I am interested in adopting a system and control theoretic point of view on the theory of networks: I basically like to understand what are the systems aspects of dynamic networks, networks that have dynamic nodes and edges, networks as dynamic systems with inputs, outputs, and observables, control, estimation, and games on networks, networks-of-networks, and networks as the state of a dynamical system that evolves over time- its characterization, identification, estimation, and control. I believe that this systems point of view on networks will have important consequences in a number of disciplines, including networked engineered systems, biology, sociology, economics, physics, neuroscience, and smart materials. Second, I like to utilize optimization principles for analysis and synthesis of engineering systems and networks, analysis of efficient/distributed/online algorithms, approximation and relaxations of nonconvex models, and implications of the theory of algorithms for problems in system theory. The third facet of my research is on dynamics, estimation, and control issues for aerospace vehicles, including aircraft flight controls, unmanned aerial vehicles, autonomous aerospace systems, energy efficient aerospace systems, cooperative robotics, and monolithic and distributed spacecraft.

Editorial:

IEEE Transactions on Control of Network Systems ([TCNS](#))

IEEE Transactions on Control Systems Technology ([TCST](#))

Students:

The graduate and undergraduate students in our group come from various backgrounds, including aerospace engineering, applied mathematics, computer science, electrical engineering, physics, etc. However, they all share an enthusiasm for control systems, mathematics, optimization, flight, and hardware. For the current list of students, as well as the alumni of the lab, see [Rain Group Members](#).

Awards & Recognitions:

- Graduate Instructor of the Year, Aeronautics & Astronautics, 2015
- Fellow of IEEE, 2015
- Professor of the Year, Aeronautics and Astronautics, 2010
- College of Engineering Innovator Award for Teaching, 2008
- Keynote speaker, Graduation, Aeronautics and Astronautics, 2008
- Professor of the Year, Aeronautics and Astronautics, 2006
- University of Washington Distinguished Teaching Award, 2005
- Member; University of Washington Teaching Academy (since 2005)
- Professor of the Year, Aeronautics and Astronautics, 2004

- NASA Space Act Award, 2004
- NASA New Technology Award, 2001
- Shuttle Radar Topography Mission Award, JPL, Caltech, 2000
- Achievement Award for the Cassini Program, NASA, 1998
- Cassini Attitude and Articulation Control Subsystem Award, JPL, Caltech, 1997
- Finalist, IEEE Control System Society Best Student Paper Award, 1996

Biography: *(third person)*

Mehran Mesbahi received my Ph.D. from USC in 1996. He was a member of the Guidance, Navigation, and Analysis group at JPL from 1996-2000 and an Assistant Professor of Aerospace Engineering and Mechanics at University of Minnesota from 2002-2002. He is currently a Professor of Aeronautics and Astronautics and an Adjunct Professor of Mathematics at the University of Washington and the Executive Director of the Joint Center for Aerospace Technology Innovation. He was the recipient of NSF CAREER Award in 2001, NASA Space Act Award in 2004, UW Distinguished Teaching Award in 2005, UW College of Engineering Innovator Award in 2008, and a Fellow of IEEE (2015). His research interests are distributed and networked aerospace systems, systems and control theory, autonomous aerospace vehicles, and engineering applications of optimization, system theory, theory of networks, and combinatorics.