



## **Arezoo ARDEKANI**

**Home Country**  
Iran

**Degree**  
Post-Doctorate in Mechanical  
and Aerospace Engineering

**Expertise**  
Fluid Mechanics

**Research Focus**  
Multiphase Fluid Mechanics,  
Complex Fluids

**Host University**  
Massachusetts Institute of  
Technology, United States

**Fellowship Awarded**  
2009

Arezoo Ardekani was born in Iran and received her undergraduate degree in mechanical engineering in 2003 from Sharif University of Technology in Tehran, Iran. She received Amelia Earhart fellowships in 2007 and 2008 and graduated in 2009 with her PhD in mechanical and aerospace engineering from University of California Irvine in the United States. She is currently a Shapiro post-doctoral fellow at Massachusetts Institute of Technology in the U.S.

Arezoo is seeking to understand fundamental properties of multiphase flows of Newtonian and non-Newtonian fluids. Her PhD research focused on self-assembly and chaining of particles in viscoelastic liquids, particle-droplet interactions, particle-wall collision and instability of thin liquid sheets. She is currently investigating surface tension-driven instability and break-up of viscoelastic jets, which play a crucial role in the use or processing of many multi-component complex fluids such as paints, inks, insecticides, cosmetics and foods.

Another aspect of her research is related to the properties of migration, aggregation and the chaining of small particles in flows of polymer solutions (viscoelastic fluids) in the oil industry. The addition of polymers in drilling mud can prevent the leakage of drilling fluid into the reservoir. Arezoo is seeking to understand the reasons that polymeric drilling muds suppress the loss of drilling fluids.