

2015 Fellow of the American Geophysical Union, 2016 Fellow of the American Meteorological Society



Roger Samelson

Professor,
Physics of the Ocean and Atmosphere

Roger Samelson has been named a 2015 Fellow of the American Geophysical Union. This year, 60 Fellows have been elected and were recognized during the Honors Ceremony at the 2015 AGU Fall Meeting in San Francisco, Calif. AGU Fellows are selected for their exceptional contributions to Earth and space sciences. Samelson was also named a 2016 Fellow of the American Meteorological Society. AMS Fellows are selected for their outstanding contributions to the atmospheric or related oceanic or hydrologic sciences or their applications during a substantial period of years.

Samelson is a physical oceanographer and atmospheric scientist with broad research interests in the mathematical physics of the planetary fluid environment. As the author or co-author of over 90 peer-reviewed research publications, he has studied the general fluid dynamics and thermodynamics of the ocean and atmosphere; coastal and arctic meteorology; coastal, mesoscale and large-scale ocean circulation; and the instabilities and nonlinear dynamics of geophysical fluids.

In one recent project, he and colleagues developed a new description of the fluctuating currents that are found throughout the World Ocean. The study showed that these currents arise through an effectively random process, in which chance alignments can result in the formation of long-lived ocean vortices that may be hundreds of miles in diameter and persist for many months or sometimes years. These features can be thought of as the ocean's internal weather systems, and their cumulative effect is believed to have an important influence on the Earth's climate.

In addition, Samelson is the author of two textbooks, including *The Theory of Large-Scale Ocean Circulation* (Cambridge University Press, 2011). In that text, Samelson explores advanced ocean modeling techniques and linkages between large-scale ocean mixing and the Earth's climate.

Prior to joining Oregon State, he received a B.S. in physics from Stanford University and an M.S. in mathematics and Ph.D. in physical oceanography from Oregon State University. He was a recipient of the Office of Naval Research Young Investigator Award and has served as editor of the *Journal of Physical Oceanography* and on numerous scientific program and review committees.



"I am privileged to spend my professional life at a fascinating and beautiful intersection of mathematical physics and the planetary environment that supports human life, in the company of a wonderful group of colleagues across the globe who share these interests and, generously, their ideas. When I entered this field three decades ago, I was following my heart and my parents' encouragement to do just that, but I also hoped that in the long run I might be able to make some worthwhile contributions to the science. I treasure this recognition from my colleagues and the AGU and AMS, in part because it is an affirmation that I've not only enjoyed myself but also have contributed a few ideas that have proved useful to others; so, looking back, I can feel that I made the right choice on both counts." – Roger Samelson