

**Save the Date:**

February 11 at 4:30 p.m.

**Lecture Title:**

Surf, Sink or Swim: Understanding Environmentally Important Processes at Water Surfaces

Although the special properties of water have been valued and appreciated for centuries, as scientists we continue to be perplexed by the molecular makeup of water in all its forms. Equally perplexing is the surface of water, the entry gate for anything going into our water. This presentation will highlight what we have learned in our laser and theoretical studies about the intriguing molecular characteristics of a water surface and how its behavior plays a role in environmentally important processes.

2019 Recipient of the Dickson Prize in Science

**GERALDINE RICHMOND**

Presidential Chair in Science and Professor of Chemistry,  
University of Oregon

Chemist      Advocate for Science Literacy and Inclusion



*"I can think of no other chemist — at any age — who has achieved the scientific stature of Richmond and also given so much of her time and energy to assuring that all who seek a career in chemistry have the opportunity to achieve success."* — Cynthia J. Burrows, Distinguished Professor and Thatcher Presidential Endowed Chair of Biological Chemistry, The University of Utah

[Geraldine \(Geri\) Richmond](#) is the Presidential Chair in Science and professor of chemistry at the University of Oregon. Her research using laser spectroscopy and computational methods studies the environmentally and technologically important processes that occur at liquid surfaces.

Richmond is a member of the U.S. National Academy of Sciences and a fellow of the American Academy of Arts and Sciences. She is the founding director of [COACH](#), a grass-roots organization formed in 1998 that has helped over 20,000 women scientists and engineers in career advancement in the U.S. and developing countries in Asia, Africa and Latin America.

Awards for her scientific accomplishments include the 2018 Priestley Medal from the American Chemical Society (ACS), the Linus Pauling Medal Award, the National Medal of Science, the American Physical Society Davison-Germer Prize, the ACS Joel H. Hildebrand Award in the Theoretical and Experimental Studies of Liquids, the Speirs Medal from the Royal Society of Chemistry, and the ACS Garvan-Olin Medal. Awards for her education, outreach and science capacity building efforts include the ACS Charles L. Parsons Award for Outstanding Public Service, the ACS Award for Encouraging Women in the Chemical Sciences, and the Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring.

**WATER AND ENVIRONMENTAL PROCESSES**

In [her TedxSalem lecture](#), Richmond overviews her use of lasers to study how the properties of water molecules vary depending on their position to the surface. She posits that understanding the surface tension of water is vital to understanding atmospheric chemistry as it relates to climate and weather issues. [In this lecture](#), Richmond further explores what occurs at the molecular level to inform oil spill cleanup efforts by improving the methods currently used in this effort.

**ADVOCACY AND EDUCATION**

Richmond's research and advocacy focuses on gender and racial diversity within the field of chemistry. In an [op-ed in Live Science](#), she discusses the implications of unconscious biases related to gender and race in peer review and their negative effects on the advancement of scientific inquiry. In a [National Science & Technology Medals Foundation discussion](#), Richmond reflects on her inspiration for COACH and gender challenges in STEM. Richmond and colleagues [replicated and extended upon a 2010 study](#) on the hostile, gender-related climate present in academic chemistry. They found that, despite the positive contributions of COACH workshops in developing skills for women to negotiate the unwelcoming environment of academia, hostility remains.