



Orange County Section April Dinner Meeting
College Awards Dinner Meeting
Wednesday April 26, 2017

Concordia University, Irvine
1530 Concordia West, Irvine, CA 92612
Grimm Hall Conference Center (Grimm Hall, the Third Floor)

**Listening and Dancing
with Life's Molecular Machines**

Professor Gregory A. Weiss, Ph.D.

**Department of Chemistry
Department of Molecular Biology and Biochemistry
University of California, Irvine**

Registration & Social:	6:00pm	Dinner:	6:15pm
Presentation:	7:15pm	Awards Program:	8:00pm

Abstract: Your cells rely on tiny machines to relay information, repair damage, and tackle the many other challenges required for life. A decade-long collaboration between Professor Weiss and Professor Collins (UCI) has produced a new type of biology-electronic device, which reveals the otherwise hidden noises made by these machines at work. These nanometer-scale microphones (aka, “nanophones”) allow highly detailed observation of the steps and speeds required for crucial events taking place in cells and living things. The motions and operations of life’s molecular machines surprise us with their clever abilities to harness tiny amounts of energy only significant at these infinitesimally small sizes. Having observed the machines in motion, our laboratory aims to accelerate their dancing, and drive the catalysis of important chemical transformations. At a practical level, this research offers new tools for examining DNA, diagnosing diseases, discovering new therapeutic drugs and other applications. At the level of fundamental science, the approach uncovers new insights into the dynamics and energetics of processes required for life.

Biography: Dr. Gregory Weiss is a Professor of Chemical Biology in the Departments of Chemistry and also Molecular Biology and Biochemistry at UCI. He earned a BS from UC Berkeley and a PhD from Harvard. His undergraduate and graduate research focused on the development of heterocyclic mimics of peptides. Awarded a NIH Ruth Kirschstein National Research Service Award, he returned the funding to pursue post-doctoral studies with Dr. Jim Wells, then at Genentech. In 2000, he joined the faculty at UCI where his laboratory focuses on the interface between chemistry and biology, including the study of membrane proteins and bioelectronics. Tenured in 2006, he is a full Professor and former Vice Chair. His awards include Outstanding Professor in the School of Physical Sciences at UCI (elected by the graduating students), Beckman Foundation Young Investigator, and election to Fellow of the American Association for the Advancement of Science. He Co-Founded, and was twice elected to be Co-Chair of the Global Young Academy, which includes 200 top young scientists from >55 countries. The textbook Dr. Weiss co-authored with Dr. David Van Vranken, *Introduction to Bioorganic Chemistry and Chemical Biology*, was short-listed for the best undergraduate textbook award by the Society of Biology. In 2015, he was awarded the Ig Nobel Prize in Chemistry for leading the team that partially unboiled a hard-boiled egg.

Reservations: Please visit www.OCACS.org and make your reservation no later than April 17, 2017 (Mon) 1pm PST.