

Heather C. Allen

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Academic Background

1997 Ph.D. Physical Chemistry; University of California, Irvine
 Ph.D. 1997; M.S. 1995
 Advisor John C. Hemminger & coAdvisor Barbara J. Finlayson-Pitts

1993 B.S. Chemistry; University of California, Irvine
 UG Research Advisors: Nobel Laureate F. Sherwood Rowland & Don Blake

Professional Appointments

2015 - present Ohio State Distinguished Scholar, The Ohio State University, Columbus, OH
 2008 - present Professor of Chemistry, The Ohio State University, Columbus, OH
 2020 - 2024 Dow Professor of Chemistry, The Ohio State University, Columbus, OH
 2015 - 2024 Alexander von Humboldt Fellow, Germany
 2012 - 2013 Faculty Fellow, OSU VP Strategic Planning office, Discovery Themes
 2011 Visiting Scholar, OSU Wexner Medical School, Department of Surgery, James Cancer Center
 2011 Professor of Pathology, Courtesy Appointment, The Ohio State University, Columbus, OH
 2009 - 2010 Chair – Ohio State University Senate Steering Committee
 2007 - 2010 Ohio State University Senator, College of Math and Physical Sciences
 2005 - 2008 Associate Professor of Chemistry, The Ohio State University, Columbus, OH
 2005 Chair – National Science Foundation: Workshop on Chemistry & Sustainability
 2000 - 2005 Assistant Professor of Chemistry, The Ohio State University, Columbus, OH
 1997 - 1999 NOAA/UCAR Postdoctoral Program in Climate and Global Change, Fellow
 University of Oregon, Advisor: Geraldine L. Richmond

Honors, Awards and Fellowships

2022 Irving Langmuir Award in Chemical Physics, ACS National/International Award
 2022 Biogeochemical processes and Air–sea exchange in the Sea-Surface microlayer,
 BASS Advisory Board, Germany

2018 Tohoku Forum for Creativity Scholar, Sendai, Japan
 2017 Alumna of the Year Award, Saddleback Community College, California
 2015 Ohio State Distinguished Scholar Award
 2015 Alexander von Humboldt Research Award, Germany
 2013 - present RESOLV German Center of Excellence Advisory Board, Ruhr University, Germany
 2013 American Chemical Society National Award for
 Encouraging Women into Careers in the Chemical Sciences

2012 - 2013 CIC Academic Leadership Program Fellow
 2012 American Association for the Advancement of Science (AAAS) Fellow
 2010-2011 Visiting Scholar, Wexner Medical School @ Ohio State James Cancer Center,
 Pathology and Surgery/Surgical Oncology Departments/Divisions

2007 Distinguished Diversity Enhancement Award – Ohio State University
 2006 Camille Dreyfus Teacher – Scholar Award
 2006 Columbus Public Schools Service Award - *An Empowered Woman Award*
 2005 Alfred P. Sloan Research Award, Fellow
 2003 Beckman Young Investigator Award
 2002 NSF CAREER Award (2002 – 2007)
 2002 Research Innovation Award, Research Corporation
 2001 Ohio State OMA Distinguished Professional Mentor Award 2000-2001
 1997 - 1999 NOAA Postdoctoral Fellowship in Climate and Global Change
 1996 - 1997 Fannie and John Hertz Foundation Graduate Student Fellowship

1996 - 1997	Environmental Protection Agency (EPA) Graduate Student Fellowship (awarded but declined due to Hertz Fellowship offer)
1996	Joan Rowland Nobel Award, UCI
1994 - 1995	National Science Foundation Traineeship Fellowship, UCI
1993 - 1994	Department of Education Fellowship, UCI
1993	Outstanding Senior in Chemistry, UCI; Magna Cum Laude
1992 - 1993	Science Scholarship Foundation Fellowship - Saddleback
1990 - 1991	ACS Outstanding Chemistry Student, Saddleback Community College, Mission Viejo, CA

Google Scholar Citations

<https://scholar.google.com/citations?user=xtke6AcAAAAJ>

H-index of 55

10831 total citations as of 01.27.25

	All	Since 2020
Citations	10831	3806
h-index	55	32
i10-index	133	95

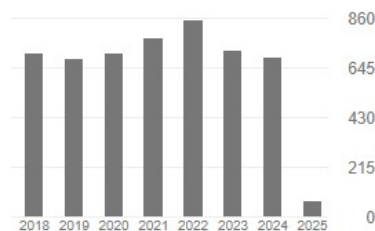
Editorial Boards

2010 – 2013 Journal of Physical Chemistry Editorial Board Member

2018 – 2021 Chemical Physics Letters Editorial Board Member

Professional Affiliations

- American Chemical Society
- American Physical Society
- American Geophysical Society
- American Association for the Advancement of Science
- OSU Chemical Physics Program
- OSU Environmental Science Graduate Program
- OSU Biophysics Program
- OSU Comprehensive Cancer Center



Summary of Presentations and Publications

- > 260 Invited talks at Professional Meetings (~130) & Invited Seminars at Universities and Colleges (~130)
 - ✓ 17 Gordon Research Conference (GRC) Speaker Invitations
 - 25+ Includes Plenary and Keynote Invitations at Conferences, National and International
 - ✓ 37+ Named Lecture Invitations and Departmental Colloquia from Universities
 - ✓ Additional 270+ Contributed talks by Allen lab members
- 157 Peer-Reviewed Journal Publications
- 4 U.S. Patents

Research Funding Record Summary

- DOE-BES, DoD, Secretary of Defense, NSF-CHE, NSF-ATM, NASA, NIH, ACS PRF, Sloan, Hoover, Beckman, Dreyfus

Research Summary

Dr. Allen's research focus is the study of molecular organization and structure at liquid interfaces. Understanding water, hydration, ion pairing, and complexation including solvation structure at the surface and in the liquid solution phase is an area of strong expertise. Research is ongoing to understand ion solvation, interfacial electric fields and surface potentials, and how ions perturb the hydrogen bonding network of water in the interfacial region. Applying electric fields across the air – aqueous interface is Dr. Allen's newest research endeavor to understand and ultimately control interfacial chemistry at liquid surfaces. Understanding lipid and surfactant organization in monolayers for both atmospheric aerosol and biological applications with focus on ocean surfaces, and on understanding lung surfactant and function, and cellular membrane biophysics inclusive of understanding the molecular organization of skin is also of great interest. In addition to structure studies at the air-water interface, Dr. Allen is also conducting studies for understanding charge separation for molecules such as N_2O_5 at various dielectric liquid surfaces such as propylene carbonate, glycerol, and diethyl sebacate. Instrumentation development in several areas, broad band sum frequency generation, ionizing surface potential, Brewster angle microscopy, and polarized Raman spectroscopy coupled with machine learning is ongoing. Dr. Allen also works to develop molecular level methods to evaluate normal versus cancerous tissues and is currently a consultant for IR Medtek LLC, an Ohio start-up company in which she is a co-Inventor of the founding technology.