

## Key Professional Positions Held

- Clorox Services Company, Cleaning Division Product Development, Pleasanton, CA 2005-present  
Research Fellow, Cleaning New Business Department, 2011-present  
Associate Research Fellow, Laundry Product Development and Cleaning New Business Development, 2005-2011
- Unilever Home and Personal Care, North America, Detergents Research and Laundry Product Development 1992-2005  
Senior Project Scientist, 1996-2005  
Senior Product Scientist, 1992-1996

## Research Experience

- Developed or influenced the development of cleaning and conditioning product formulations for 11 national and international brands in liquid, gel, solid, soft-solid, nonwoven, powder, tablet, pod, water-soluble film, and aerosol formats 1992-present
- Expert in formulating surfactants (anionic, cationic, nonionic, and zwitterionic), oxidants (peroxygen and hypochlorite), polymers (for performance and rheology), enzymes, fragrances, chelating agents, propellants, solvents, colorants, preservatives, and stabilizers—tackles challenging formulation projects and consults on many projects within division 1992-present
- Technical consultant on IP development within division; extensive experience at technical review, searching, and analysis of patents for various business objectives 1995-present

## Leadership Experience

- ACS Colloid & Surface Chemistry Division, member of planning committee for industrial colloid science/career exploration symposium proposed for Boston Fall 2018 National Meeting 2017-present
- Consumer Specialty Products Association (CSPA) 2012-2016  
Cleaning Products Division Executive Board Member, 2012-present  
Chair, Education Subcommittee, 2013-2016 (redesigned and implemented Division cleaning products education curriculum)  
Chair, New Horizons 2014 conference
- Senior Associate Technical Editor, Journal of Surfactants and 2015-present

Detergents (Associate Technical Editor 2000-2015)

- Project leader on dozens of formulation and discovery projects 1992-present
- Provided technical influence to Clorox Cleaning Division innovation and intellectual property strategies 2012-present

## Education

Ph.D., Chemical Engineering, University of Texas at Austin, Austin, TX.

Dissertation title: “The Bending Moment in Microemulsions: Curvature Dependence of Interfacial Free Energy”; adviser: Robert S. Schechter.

B.S.Ch.E., University of Washington, Seattle.

Undergraduate research in aerosol particle dynamics in air flow; adviser: James Davis.

## Affiliations/Memberships

- ACS, member of Colloid & Surface Chemistry Division 1985-present
- AOCS, member of Surfactants & Detergents Division 1996-present
- CSPA (company representative to Cleaning Products Division) 2013-2015

## Interests

- Product development, particularly translating consumer needs and desires into technical approaches and strategy. Special interests include colloid and interface science, oxidation chemistry, antimicrobial chemistry, and novel forms and delivery systems.
- Leadership development, continually improving my own and others’ leadership abilities to achieve ever higher goals while keeping an authentic and collaborative style.
- Personal interests include most sports, cooking, art, history, and volunteering for youth organizations (Girl Scouts, Boy Scouts, Little League baseball, youth soccer, Junior Achievement).

## Publications

- Inventor in 19 patent families, representing over 90 patent publications globally. Inventions include product formulations in liquids, solids, nonwovens, detergents, bleaches, fabric softeners, and hard surface cleaners.