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Positions:

Associate Dean for Faculty Affairs and Graduate Education, College of Computer, Mathematical, and Natural Sciences, University of Maryland (1/23-present)

Millard Alexander Professor of Chemistry, Department of Chemistry and Biochemistry, University of Maryland (6/05-present)

Full Professor, Department of Chemistry, Boston College (9/01-6/05)

Associate Professor, Department of Chemistry, Boston College (9/00-9/01)

Assistant Professor, Department of Chemistry, Boston College (9/94-9/00)

Education:

California Institute of Technology, Pasadena, CA, BS in chemistry with honors, 6/86.

California Institute of Technology, Pasadena, CA, MS in chemistry, 6/86.
Advisors: Sunney I. Chan, William P. Schaefer, Dennis Dougherty.
Thesis: "Polycyclic Peroxides and Planar Nitrogens"

Stanford University, Stanford, CA, PhD in physical chemistry, 1/92.
Advisor: Michael D. Fayer.
Thesis: "Time-Domain Nonlinear Optics in Flames and Low-Pressure Gases: Experiments and Theory"

University of Texas, Austin, TX, Postdoctoral Fellow, 10/91-2/93.
Advisor: Mark Berg.

Massachusetts Institute of Technology, Cambridge, MA, Postdoctoral Fellow, 2/93-8/94.
Advisor: Keith A. Nelson.

Awards and Honors:

1. ***Green Memorial Prize*** for original research, 1985
2. ***Schuster Memorial Prize*** for excellence in chemistry, 1986
3. ***National Science Foundation Graduate Fellow***, 1987-1990
4. ***National Science Foundation Postdoctoral Fellow***, 1992-1994
5. ***Camille and Henry Dreyfus New Faculty Award***, 1994
6. ***National Science Foundation CAREER Award***, 1995
7. ***Boston College Distinguished Junior Faculty Award***, 1996
8. ***Beckman Young Investigator Award***, 1997
9. ***Research Corporation Cottrell Scholar Award***, 1997
10. ***Alfred P. Sloan Research Fellow***, 1998
11. ***National Science Foundation Award Extension for Special Creativity***, 1998
12. ***Camille Dreyfus Teacher-Scholar Award***, 1999
13. ***Boston College Junior Distinguished Research Award***, 2000
14. ***Visiting Fellow of the Joint Institute for Laboratory Astrophysics***, 2001-02
15. ***Fellow of the American Physical Society***, 2002
16. ***Fellow of the American Association for the Advancement of Science,*** 2005
17. ***Fellow of the Optical Society of America***, 2007.
18. ***Regents Faculty Award for Research, Scholarship and Creative Activity,*** 2012.
19. ***Senior Member of SPIE,*** 2020.
20. ***UMD College of Computer, Mathematical, and Natural Sciences Dean's Award for Excellence in Teaching,*** 2023.
21. ***Fellow of SPIE,*** 2025.

Research Experience:

***California Institute of Technology*:** Synthesized novel, highly-strained polycyclic peroxide molecules with nearly planar bridgehead nitrogen atoms. Determined the structure and conformational dynamics of these new molecules using x-ray crystallography and NMR.

***Stanford University*:** Developed phase-locking techniques for laser pulses to perform new multiple-pulse spectroscopies. Used polarization-sensitive transient gratings to study dynamics in flames. Developed techniques for understanding polarization effects in four-wave mixing spectroscopies.

***University of Texas at Austin*:** Used transient hole burning, permanent hole burning, and time-resolved fluorescence to perform the first detailed study of the time- and temperature-dependent dynamics of completely nonpolar solvation.

***Massachusetts Institute of Technology*:** Developed new techniques for obtaining, in a single laser shot, pump/probe data with femtosecond time resolution and a time range of several picoseconds. Employed these techniques to study irreversible, ultrafast dynamics in condensed phases.

***Boston College, University of Maryland*:** Research subjects include photochemistry and photophysics, triplet–triplet annihilation, polymer chemistry and physics, the dynamics of nanoconfined, stretched and supercooled liquids, the behavior of water near hydrophobic and hydrophilic interfaces, multiphoton microscopy, development of new contrast mechanisms for biological and materials microscopy, development of techniques for superresolution in microscopy and microfabrication, single-molecule orientational dynamics, DNA conductivity and sensing, development of nanotopgraphic surfaces that control cell behavior, optical data storage, patterning and observation of polymer supports for combinatorial chemistry, use of noble-metal nanoparticles as biological probes, magnetic resonance force microscopy, 3-D microfabrication, theory of light-matter interactions, and simulations of liquids.

Professional Affiliations:

1. ***American Association for the Advancement of Science***
2. ***American Chemical Society***
3. ***American Physical Society***
4. ***Materials Research Society***
5. ***National Organization for the Professional Advancement of Black Chemists and Chemical Engineers***
6. ***Optical Society of America***
7. ***Sigma Xi***
8. ***SPIE***

Selected career highlights:

- Reviewer for 96 different scientific journals, plus numerous funding agencies and foundations
- Organizer of 11 international scientific meetings
- 3 books edited
- 15 book chapters
- 176 peer-reviewed journal articles
- 11 professional publications
- 48 published conference proceedings
- 304 presentations
- 15 patents granted
- Journal editor for over 20 years
- Numerous leadership roles in the American Physical Society