

MARK CRONIN-GOLOMB

Education

B.Sc. (Physics) University of Sydney 1979

Ph.D. (Physics) California Institute of Technology 1983

Positions Held

Professor of Biomedical Engineering

Tufts University, Sept 2008 – Present

Research in optical tweezers, atomic force microscopy, nonlinear optics of biopolymers.

Associate Professor of Biomedical Engineering

Tufts University, Sept 2002 – Sept 2008

Research in optical tweezers, atomic force microscopy, terahertz source engineering.

Associate Professor of Electrical Engineering and Computer Science

Tufts University, Sept. 1986 – Sept. 2002

Research in photorefractive nonlinear optics. Development theory of nonlinear optical beam coupling and its application to development of devices such as self pumped phase conjugate mirrors, phase conjugate interferometers and phase conjugate external cavity semiconductor lasers. Synchrotron X-ray topography of photorefractive crystals and gratings. Electro-optic waveguide devices. Laser tweezers and confocal microscopy for biotechnology applications. Self-assembling materials based of recombinant phage tail fibers. Atomic force microscopy and near field microscopy.

Staff Scientist, Ortel Corporation, Oct. 1984-Sept. 1986.

Lead optical research lab developing optical limiters and applications of phase conjugation for GaAlAs lasers.

Research Fellow, California Institute of Technology, Jun. 1983-Sept. 1984

Performed research in phase conjugation and nonlinear optics.

Visiting Associate Professor of Electrical Engineering

Stanford University, Aug. 1996 - Aug. 1997

Research in biophysics, atomic force microscopy, laser tweezers, microscopic measurements of fluid properties.

Visiting Scholar, School of Physics University of Sydney, Australia

Jan. 2005 – Dec. 2005

Research in optofluidics and application of optical tweezers to optical switching and sensing

Consulting and other professional activities

Consultant, Digital Optical Technologies.

Reviewer, New York State Office of Science, Technology, and Academic Research

Consultant to NIH funded research project on visual response in Alzheimer's Disease

Member, NSF Review Panels

Associate Editor, Optics Letters 1986-1989.

Topical Editor, Optics Letters 1991-94

Technical Program Committee, Conference on Lasers and Electro-Optics 1992-95
(Subcommittee Chair 1994, 1995)

Technical Program Committee, Conference on Lasers and Electro-Optics, Europe 1996

Co chair, Topical Meeting on Photorefractive Materials, Effects and Devices, Beverly MA
1991

Editorial Advisory Board, Optics Communications 1991-97

Feature Editor, Special Issue on Photorefractive Materials and Applications, Journ. Opt.
Soc. Am. B, 1996

Program committee, SPIE Optofluidics II, SPIE Optics and Photonics, San Diego, CA 2007

Program committee, Controlling light with light, OSA topical meeting, Squaw Valley, CA
2007

Honors & Awards

Sydney University Postgraduate Research Travelling Scholarship

Presidential Young Investigator Award, 1987 (National Science Foundation)

Denison Distinguished Visitorship, 2005, University of Sydney

Senior Member, IEEE

Fellow, Optical Society of America