



Biophysical Society

9650 Rockville Pike
Bethesda, Maryland 20814-3998
Tel: 301-530-7114; Fax: 301-530-7133
E-mail: society@biophysics.org
<http://www.biophysics.org/>

Officers

President

Wilma K. Olson

President-Elect

Yale Goldman

Past-President

Mary Dicky Barkley

Secretary

Jill Trehwella

Treasurer

Antonio Scarpa

Council

Dorothy Beckett

Diana J. Bigelow

Mordecai P. Blaustein

Robert Clegg

Franco Conti

Timothy A. Cross

Cristobal G. Dos Remedios

Edward H. Egelman

Julio Fernandez

Jeff Gelles

Susan L. Hamilton

James M. Hogle

Linda Kenney

James C. Lee

Barry Lentz

David H. MacLennan

Justin Molloy

Eva Nogales

Carol B. Post

Ligia Toro de Stefani

Lukas Tamm

Biophysical Journal

Editor-in-Chief

Robert Callender

Executive Director

Ro Kampman

Publications Manager

Dianne McGavin

Newsletter Production

Cheryl Szaro

Profiles

Cheryl Szaro

Public Affairs

Alec Stone

The Biophysical Society Newsletter (ISSN 0006-3495) is published six times per year January/February, March/April, May/June, July/August, September/October, and November/December by the Biophysical Society, 9650 Rockville Pike, Bethesda, Maryland 20814-3998. Distributed to USA customers and other countries at no cost. Canadian GST No. 898477062. Postmaster: Send address changes to Biophysical Society, 9650 Rockville Pike, Bethesda, MD 20814-3998.

Copyright © 2002 by the Biophysical Society. Printed in the United States of America. All rights reserved.

Biophysicist in Profile



Yale Goldman

For *Yale Goldman*, the path to biophysics started in his parents' basement in the Philadelphia area. A self-proclaimed 'tinkerer', Goldman fondly recalls spending a good part of his youth building gadgets in his father's workshop. He also read a lot of amateur science books. His father was a pharmacist, and many of his relatives are physicians, including his older sister, Bonnie, who is a hematologist/oncologist in San

Francisco. In an ironic way, she strongly influenced his career path. Goldman remembers how hard she studied in medical school and decided that perhaps medicine was not for him, opting to major in electrical engineering at Northwestern University.

While at Northwestern, Goldman was influenced by two of his professors, *Franklin Offner* and *J.I. Hubbard*. Although they were in the engineering school, they were "keen on biology" and through them, Goldman became interested in bio-engineering as well. At the time, most

groups were struggling to study physiology quantitatively, and the idea of applying electronics and computers for acquiring data was novel. Goldman helped build instruments to automate measurements of synaptic transmission in Hubbard's lab.

When he graduated with a BS in Electrical Engineering, Goldman went directly into medical school at the University of Pennsylvania. A year into the program he met *Martin Morad*, who became his PhD mentor. Morad was studying the electrophysiology of strips of heart muscle, but getting meaningful signals was difficult. The first reports of patch clamping appeared around that time, but it was not widely used yet. Goldman was recruited into Morad's group because his background in engineering allowed him to help build new instruments and develop new techniques to investigate the currents producing the action potential and excitation-contraction coupling.

When it came time to do postdoctoral work, Goldman switched fields, moving from cardiac electrophysiology to muscle contraction. "Biophysics of the contraction mecha-

nism was a much smaller field," he explains, "and the opportunity to contribute by designing experiments requiring novel instruments seemed more open."

Goldman went to University College

London and worked with *Bob Simmons* in *Andrew F. Huxley's* lab. There they adapted their techniques for high time resolution mechanics on intact muscle fibers to skinned fibers. Goldman has tried to emulate the "thoughtful, systematic and analytical

"A self-proclaimed 'tinkerer', Goldman fondly recalls spending a good part of his youth building gadgets in his father's workshop."

"...an interdisciplinary scientist who rigorously pursues significant biological problems."

approach to experimentation” of this group. *Andrew Somlyo*, of the University of Virginia Health Science Center, points out that Goldman’s training “makes him an ideal example of an interdisciplinary scientist who rigorously pursues significant biological problems.”

While in London, Goldman met *David R. Trentham*, who at that time was at Bristol University. Trentham was interested in seeing if the new technique of photolysis of caged molecules could be applied to muscle contraction. In 1978, Trentham moved to Penn to become Chair of Biochemistry and Biophysics. For Goldman, this presented the perfect opportunity for him to move back to the Physiol-

ogy Department at Penn. According to Goldman, The Pennsylvania Muscle Institute, an inter-departmental research consortium headed by Somlyo at that time, was a “fabulous environment” to develop such a new approach. Activating and perturbing muscle fibers by photolysis of caged ATP and other photolabile precursors led to quite a clear picture of actomyosin biochemistry in working muscle fibers.

Goldman succeeded Somlyo in 1989 to become Director of the

Pennsylvania Muscle Institute at the University of Pennsylvania. Somlyo was pleased to leave the Institute in the hands of “such an internationally recognized leader in biophysics.” In fact, Goldman’s international collaborations with *Malcom Irving*, Kings College London, *John Corrie*, NIMR, Mill Hill

London, *Vincenzo Lombardi*, University of Florence, *Toshio Yanagida*, Osaka University and *Charlotte Knudsen*, Aarhus University, have led to the present research track of fluorescence polarization, single molecular spectroscopy and mechanics on cell motility and protein synthesis by the ribosome.

Goldman’s advice to those starting out in the field of biophysics is to find a broad topic, and stay broad. “Do not focus on the same problems,” he advises, “but look for the new approach.” He also recommends networking with others. “Even if it doesn’t seem like what both of you are working on could possibly be related,” he says, “discuss your results and theirs, because you may be able to collect some useful information to help your own problems after all.”

“The Biophysical Society meeting is the premier annual meeting for muscle contraction and motors...”

Like the majority of Biophysical Society members, Goldman first became acquainted with the Society through its Annual Meeting. “The Biophysical Society meeting is the premier annual meeting for muscle contraction and motors,” he explains. Since joining the Society in 1980, Goldman has been an active member, serving on program committees, Editorial Board of *Biophysical Journal*, Council, Executive Board, and just this year was elected President-elect.

And what does he like to do in his spare time? Stay active in sports—Goldman is an avid squash player at the University of Pennsylvania and enjoys surfing and skiing and spending time with his wife, Laura, and their two children. It seems the apple does not fall far from the tree. His sons, Jason and Roger, who are 25 and 23 respectively, both received BS degrees in engineering and have decided to go to medical school. Goldman, however, credits his wife for their children’s success. It is Laura, a speech and language pathologist, who has fostered and enjoyed the enthusiasm of her family’s dinner table conversations about science, sports and the outdoors.

The Biophysical Society Placement Center



The Biophysical Society provides a free placement service at the Annual Meeting to all its members. Advance registration is advised, however on-site registration at the meeting is available. To register, visit <http://www.biophysics.org/placement/>. For further information contact the Society office at 301-634-7114 or afrazier@biophysics.org.