

# Biophysical Society

9650 Rockville Pike  
Bethesda, Maryland 20814-3998  
Tel: 301-634-7114; Fax: 301-634-7133  
E-mail: [society@biophysics.org](mailto:society@biophysics.org)  
<http://www.biophysics.org/>

## Officers

### President

Yale Goldman

### President-Elect

Stephen Harvey

### Past-President

Wilma K. Olson

### Secretary

Ruth Altschuld

### Treasurer

Mordecai Blaustein

## Council

Stephen M. Baylor

Christopher L. Berger

Robert M. Clegg

Julio M. Fernandez

Clara Franzini-Armstrong

Sharona E. Gordon

Susan L. Hamilton

James M. Hogle

Linda J. Kenney

Elizabeth A. Komives

James C. Lee

Barry R. Lentz

David H. MacLennan

Justin E. Molloy

Eva Nogales

Carol B. Post

Eduardo Rios

Frederick Sachs

Lukas K. Tamm

Ligia G. Toro de Stefani

## Biophysical Journal

### Editor-in-Chief

Robert Callender

## Executive Director

Ro Kampman

## Publications Manager

Dianne McGavin

## Newsletter Production

Andrea Frazier

## Profiles

Jennifer Meredith

## 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 © 2003 by the Biophysical Society. Printed in the United States of America. All rights reserved.

## Biophysicist in Profile



Michael F. Summers

From second grade through high school, Michael F. Summers spent every summer working on his relatives' dairy farm with aspirations of becoming a dairy farmer himself when he grew up.

Today, Summers is Professor of Chemistry and Biochemistry at the University of Maryland, Baltimore County as well as a Howard Hughes Medical Institute Investigator. His journey into the world of science was a gradual process, guided by key people who had a profound influence on him. Like those who provided guidance in his early years, Summers has now dedicated himself not only to scientific discovery but to the development of fertile, young minds interested in chemistry and in the diversification of the sciences.

Summers was born in Milwaukee, Wisconsin, in 1958. When he was just four, his parents Tom and Ruth relocated to St. Petersburg, Florida. Each summer, he returned to Wisconsin, providing an extra set of hands on the family dairy farm. "There is something about being physically tired at the end of the day rather than mentally

drained," says Summers. The idea of working with his hands and body appealed to him. Even the early morning hours of milking and feeding cows did not dampen the attraction of that lifestyle.

His mother was a nurse, and his father an electrical engineer for Honeywell Aerospace Division. Summers recalls that his father, who spent a much of his time in an office, would often say, "Mike when you grow up, I hope that you can have your own business and be your own boss." On the other hand, Summers' dairy farmer uncle would advise him to get an office job so he could punch a clock and be done by a certain time each day and have free weekends. From these seemingly opposing viewpoints, Summers decided that his ideal career would be an occupation that would allow him to make his own choices and follow his own inspirations, but at the same time allow him to balance other important aspects of his life. "The career I took offered the best of both worlds," Summers explains, "There are freedoms that come with an academic position and the ability to pursue your own ideas." Scientific research has allowed him to test the limits of his mind, and teaching has allowed him to make his own choices based on his personal teaching style.

His first interest in science began in a chemistry class during middle school where his teacher, Mr. Cummings, showed him how fascinating science could be. Later, after two years at the local Junior College, Summers decided to pursue a degree in chemistry. One teacher in particular, Nina Milton, played a key role in his decision. Because of her dedication to fostering her students' interests, she drove his class several hours away to the

University of West Florida for a field trip that lasted all weekend.

He soon transferred to the University of West Florida and earned his BS in chemistry in 1980. Surprisingly, Summers says he did not start to become serious about academics until he started his graduate training at Emory University in 1980. His advisor at the time, Luigi Marzilli, helped him to realize his potential. Summers candidly remarks that, "up until that point I don't think I had worked hard academically, but Marzilli taught me to write." Four short years later, Summers completed his PhD at Emory in Bioinorganic Chemistry and won the Emory Excellence in Graduate Research Award.

From 1984 to 1987 Summers was a Junior Staff Fellow at the Center for Drugs and Biologics, Food and Drug Administration at the National Institutes of Health, which he describes as a "great environment." The lab chief at the time, Bill Egan, managed the lab so those working there would have exposure to a wide variety of scientists and scientific fields, which allowed Summers to participate in early research stages of nuclear magnetic resonance to study coenzymes and nucleic acids. He learned what their structures are like in solution and how they behave. During that time, Summers worked with people like Ad Bax, now Senior Investigator at NIH. Summers feels very privileged to have worked with Bax, whom he says "is considered by most people in the field to be the leading expert in the development of these methodologies and their application to bimolecular structure determination." Summers co-authored several papers with Bax on the development of NMR method.

When his appointment with NIH came to a close, he joined the

Department of Chemistry and Biochemistry at the University of Maryland Baltimore County (UMBC). At the time, he saw the position as a stepping-stone, but his research quickly blossomed and he became ever more involved in the University itself. It was, however, a big adjustment, he admits, "learning to teach, being prepared for students, writing grants, starting research." He has high praise for the people he works with. "I have a really supportive faculty," Summers explains, and "even in the leanest times they have had great funding and strong research."

His involvement in student mentoring quickly grew as well, and has become very important to him. He now has no desire to move to another institution. "There are things here that nobody else is doing, especially regarding minority mentoring," he says proudly. Summers became involved with minority affairs through UMBC's president Freeman Hrabowski. "He [Hrabowski] opened my eyes to the problem," says Summers. In 1988, Hrabowski implemented the Meyerhoff Scholarship Program, funded by a grant from The Robert and Jane Meyerhoff Foundation. The program is designed to recruit students from all ethnic backgrounds who have demonstrated academic ability in mathematics, computer science, and engineering, and who are committed to accelerating

diversity in the sciences. Each year 50 slots are open to any US student that meets those criteria. "It is not true that there isn't interest in science among minority students," Summers states. "Each year, for a program that has 50 open slots, we get over 1500 applicants,

mostly from Maryland. Imagine the national potential." The goal is to help freshmen students do well in their required college courses and, ultimately, getting those interested in the sciences into the lab.

In 1994, in conjunction with his position at UMBC, Summers began working for Howard Hughes Medical Institute as an Associate Investigator and was then promoted to Investigator in 1999. When students began to ask Summers for permission to do research in his lab, Howard Hughes made it possible. The Institute rents his lab facilities from UMBC, which provides Summers and his students with ample space to do research. The lab uses NMR to look at the structure and function of different components of retroviruses, such as HIV. "We have solved the structures of several of the key proteins that make up the virus," Summers explains. "More recently we've looked at how those proteins interact not only with each other but with the nucleic acids that have to be incorporated into the virus when begins assembling inside an infected cell."

The support from Howard Hughes has had a profound impact on UMBC, because the students have been able to

receive a paycheck for their work, creating more incentive. "It is a great synergistic relationship," says Summers, "When Hughes does something nice for me,

UMBC feels compelled to do something nice for me also. So growth has been tremendous!" More than 25 undergrads and five high school students were able to use his lab this summer because of the support.

*(Continued on page 9.)*

---

**"There is something about being physically tired at the end of the day rather than mentally drained."**

---

(Continued from page 3.)

Summers' success has not gone unnoticed. "It's amazing to see what he can get done with a group consisting primarily of minority undergraduate students, and how he's able not only to teach these kids the secrets of the technologically challenging bio-NMR trade, but also to get them enthusiastic about science," Bax says.

In 2000 Summers received the U.S. White House Presidential Award for Science, Engineering and Mathematic Mentoring. He also received the 2002 William A. Hinton Research Training Award from the American Society for Microbiology for his fostering of research training of underrepresented minorities, and in 2003 he was awarded the Emily M. Gray award for mentoring from the Biophysical Society.

Although the awards are nice, Summers says that the greatest reward has been seeing his students succeed. "What gets me up in the morning are questions like what did we accomplish? What did the students find last night? Or, what are the results of the experiment we talked about? [Although,] when I look back over the years I think the thing that brings me the greatest happiness is seeing where these students have gone and how they are doing.... the excitement they now have for science."

Summers has also been involved in professional activities, including the Biophysical Society, which he joined in 2000. He recently served on the Society's Minority Affairs Committee. He credits the Society with understanding how important it is that students get involved. He stresses the importance of students and faculty attending the annual meetings because they allow scientists to interact in an informal setting, to view science across a variety of disciplines, and "the meetings create an environment that

could stimulate ideas for your own research," he adds. "The meetings are held in great locations where people can go out, relax, and talk about science. I think that this is a very important function of the Biophysical Society."

While his career is a significant part of his life, he has been able to maintain



Mike Summers (top left) with students (l to r) Jing Zhou, Anwasha Dey, and Isaac Kinde.

a balance between work and personal life. Married to Holly Summers, who is a dentist, Summers also has a daughter Samantha. He claims there have been no serious challenges to being "Dad" and "Dr. Summers." "My wife and I split things up as much as possible between us," he explains. Every Saturday when Samantha was a baby, he would take her to the lab with him. Now that she is 12 and no longer needs to come to work with him, he makes sure that he is there for her in other ways. The practice of waking before the sun on the dairy farm prepared him for his now habitual custom of being in the lab by 6:00 am. This means that he is the first one up in the morning at home,

so he makes sure he is home in time every evening to make dinner. "I only have one daughter," he explains, "I can't say 'Oh, I'll spend time with the next one'." He would encourage women not to feel as if they have to choose between a career in science and a family. He feels it is possible and important to have both.

In addition to spending time with Holly and Samantha, he loves to ride his mountain bike several times a week and on weekends. He loves a challenge and is not afraid to test his physical limits. "Mike reacts faster than any one to an opportunity," says Bax, "and rarely will lose out if a project turns out to be competitive. He displays the same fighter characteristics in sports, and challenges his group members and colleagues to mind-

numbing bike rides, followed by 50 push-ups, if any manage to stay with him. If, after too many late nights in the lab and insufficient time to practice

he does not feel strong enough to take me on in an honest uphill bike ride, he'll challenge me to a downhill race instead, preferably on a narrow trail through the woods!"

Though far from his parents who have retired in Florida, he is still gets to see them for several months each year. Tom and Ruth have a recreational vehicle and now visit regularly. In fact, the family is so close that Summers has installed an RV hook up so his parents can feed directly into his house's electric and sewer lines.

---

**"Each year, for a program that has 50 open slots, we get over 1500 applicants, mostly from Maryland. Imagine the national potential."**

---

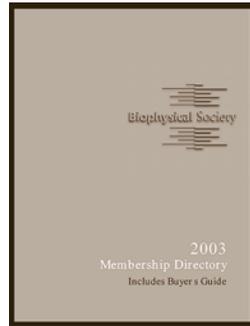
(Continued on page 10.)

(Continued from page 9.)

Summers' career has taken off in directions he could not have imagined, while his personal life has helped him maintain balance. As a scientist and educator he has made immeasurable contributions and has followed in the footsteps of his mentors who thought it important to inspire him. Harbowski says, "It is rare to find someone like Michael Summers, who combines the achievements of an exceptional research scientist with equal dedication to students, both undergraduate and graduate, especially those from minority backgrounds. It is no exaggeration to say that he has become a hero to many of his students."

### Additional 2003 Biophysical Society Members

The members listed below renewed their 2003 membership or joined after the publication of the 2003 Directory of Members.



- Thomas O. Baldwin*, University of Arizona
- Hermann Bibler*, University of Karlsruhe
- Jonathan W. Essex*, University of Southamton
- LeRoy Hood*, Institute for Systems Biology
- Reinhard A.F. Reithmeier*, University of Toronto
- Bernat Soria Escoms*, University of Miguel Hernandez
- Hidetada Yoshida*, New York University School of Medicine
- Miriam M. Ziegler*, University of Arizona

## Opportunities

### Burroughs Welcome Fund, Career Awards Program in the Biomedical Sciences

Up to 12 fellowships support postdoctoral researchers in the biomedical sciences. Designed to bridge advanced postdoctoral training and early years of faculty service. During the postdoctoral period, award recipients may train at institutions in the United States, Canada or the United Kingdom. Deadline for applications are October 1, 2003.

For more information, please visit [www.bwfund.org](http://www.bwfund.org).

### British Council, Marshall Sherfield Fellowships

Up to two postdoctoral fellowships are awarded for science or engineering research at any British university or research institute. Awards are for one to two academic years. Application deadline is October 10, 2003.

For more information, please visit [www.marshallscholarship.org/](http://www.marshallscholarship.org/).

### National Human Genome Research Institute (NHGRI), Individual Mentored Research Scientist Development Awards

This 3-5 year award includes a basic science component and intensive research experience. Open to scientists at all career levels. Applicants must demonstrate a commitment to pursue a career in genomic research. Deadlines to submit an application for this award are October 1, 2003, February 1, 2004, and June 1, 2004.

For more information, please visit [www.genome.gov/](http://www.genome.gov/).