

Profile: Robert M. Burton



Robert Main Burton, self-described as "a very quiet person," is an organizer and soft-spoken leader. Since joining AOCS in 1964, he has been active behind the scenes to help make things happen for the society. In recognition of this service, he received an AOCS Award of Merit at the 1983 annual meeting in Chicago.

In the 1960s, Burton was among those who convinced the governing board to publish a new journal devoted to the field of lipids. Once *Lipids* took form, he organized the *Lipids* index and kept it in order for the first five years. He also has served as an associate editor for *Lipids* since its inception.

It was Burton who organized AOCS' first European short course—a course on fundamentals of lipid chemistry held in Portugal in 1972.

He also served as general chairman for the 1978 annual meeting in St. Louis.

If you ask him for details about his career, he can provide you with a computer printout—a sign of his organizational skills.

Burton, a native of Oklahoma, was attracted to chemistry at an early age. "As long as I can remember, I wanted to be a chemist," he says. Burton chose chemistry for two reasons: "I like working with my hands, and also I like the intellectual concept of putting things together and predicting or seeing an outcome." Burton's father, a pharmacist, worked out of tents in frontier towns and served not only as a druggist but as the only doctor-type in town. Burton's grandfather was the first physician licensed in Oklahoma when it became a state in 1907.

Life in frontier Oklahoma was rugged. Before Burton was born, his mother one night almost shot his dad when she mistook him for an intruder. Burton, at age five, was taught how to shoot a pistol by an uncle.

Burton can vividly recall dust storms, a grasshopper plague and the hoboes of the Depression. "We had to put wet sheets and towels around the doors to keep the dust out of the house," he says. During the grasshopper plague, "grasshoppers could clean out a field in a day. You could hear the crunching." Hoboes, he says, "wouldn't take handouts but wanted to do something—chop wood, move things—to earn food."

Burton's dad died when he was a teenager. His mother took the family back to Maryland where her family originated, and it was there, at the University of Maryland, that he attended college.

Burton was the youngest of four children. Oldest brother Lucius graduated from Oklahoma State University, served as a navy pilot, and went on to become airport director at Orlando, San Juan and Washington National. His second

brother, Jack, attended the Naval Academy, served as a navy pilot and then as a Boeing engineer. His third brother, John, went to the University of Pennsylvania and became a bank auditor after naval duty.

Burton enrolled at the University of Maryland in September 1944, but interrupted his studies in January to enlist in the Navy to serve during World War II. Here he learned electronics, a skill that he has applied to his chemistry work.

"It's a skill I feel every scientist should be trained in. It gives you a better understanding of how your instruments work. It also means you can do your own repairs and maintenance when you need to," he says.

In the fall of 1946, he returned to the University of Maryland where he met his future wife, Maurine, also a chemistry student. Maurine interrupted her studies to marry Burton in 1947 and start a family, then later earned a degree in mathematics and English.

Burton received his B.S. in chemistry from Maryland in 1950 and his master's at Georgetown University in 1952. Three of the Burton children—Robert Jr., Jim and Bill—were born during his undergraduate and graduate years. Burton worked full-time in the lipid chemistry section at the National Heart Institute in Bethesda and attended class at night. He worked under the supervision of Earl Stadtman, a circumstance he credits for his becoming a lipid chemist.

"I worked with Earl on basically a lipid problem for my thesis. There was much interest in the enzymatic mechanisms for the synthesis of fatty acids. I researched the formation of acetyl coenzyme-A, a key intermediate in fatty acid biosynthesis."

Burton completed his course work and thesis for his doctorate at McCollum-Pratt Institute. The Johns Hopkins University, in 1954 but couldn't pass his German exam. "My son Bob had the same problem when he went to get his Ph.D. He couldn't bother with some selected details either," Burton says. Burton credits his doctoral advisor, Dr. Nathan Kaplan, with teaching him that no matter how filled his nonresearch schedule was, he should always make time to do at least one experiment a week.

Burton took a job in the lipid chemistry section at the National Institute of Neurological Diseases and Blindness, National Institute of Health, where he worked on glycolipid research. He soon passed his German exam, thanks to tutoring by Madam Sabarth, described by Burton as "a fascinating Turkish woman."

The Burtons' fourth child, daughter Katie, was born while they lived in Bethesda. In 1957, Burton moved the family to St. Louis, Missouri, where he joined the Department of Pharmacology at Washington University Medical

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School as an assistant professor. Son Fred, now 24, was born in St. Louis.

Burton stayed at Washington University for 21 years. In April 1978, he left to accept another challenge: to set up a pharmacology department at the new Oral Roberts University School of Medicine in Tulsa, Oklahoma, and serve as department chairman and professor.

Burton admits he couldn't resist the chance to return to Oklahoma or the challenge to start from nothing and build a department. He also looked forward to the Christian fellowship at the university.

"Basically I had a suite of empty rooms to begin with," he says, but adds, "I like to build; that's part of chemistry. I also like facilitating, to provide opportunities for others to learn."

Some of Burton's associates wondered at his move to Oral Roberts University. Although the university has made the news because of its policies requiring student growth in body, mind and spirit, Burton feels these policies have been misunderstood by the media and outsiders.

"The university is doing an excellent job. With some evangelists, people often ask what they do with their money. With Oral, you can tell—he's training young people and caring for older people."

Burton adds, "One of the refreshing things at Oral Roberts was to see that the students were highly motivated, fun to teach and interested in learning."

Licensed as a private pilot, Burton frequently rented a small airplane to fly between Tulsa and St. Louis where his wife had remained to teach high-school mathematics. Daughter Katie accompanied her father to Tulsa to assist in the lab.

In August 1979, after the Pharmacology Department had been established and the staff had begun teaching, Burton left Oral Roberts University. Since then, he has devoted his time to Burton International Biomed Ltd., a consulting business he operates out of St. Louis. Working primarily in the field of biomedical sciences, he helps design project protocols and analyze data. For example, Burton designed an epidemiological survey for the University of Porto, Portugal, to determine childhood precursors of atherosclerosis. For this project, he used not only his knowledge in the field of lipids but also his computer skills.

"Computers are a very important part of my work. They're not a hobby," he says, explaining he has taught microcomputer courses at Webster University in St. Louis. It is an interest he shares with his wife, who team-teaches with him.

Burton has been a special consultant for the Center for the Study of Biochemistry at the University of Porto since 1963. This evolved from a friendship with F. Carvalho Guerra, currently director of the university's Center for Experimental Cytology. Dr. Guerra, one of Burton's former students at Washington University, returned to Portugal and sent other students to Burton. It was in collaboration with Dr. Guerra, who became the Portuguese representative to NATO's Science Committee, that Burton has been awarded NATO research grants and study fellowships for projects.

Burton enjoys consulting work because he can share his knowledge to help others. "However, a drawback is you work only on other people's projects," he admits. He also misses student contact. And that is why he "would not be

uninterested in a university position," where he could use his lipids background and organizational skills.

Burton is a registered patent agent, although he holds no patents himself. In addition, he has a commission in the U.S. Public Health Service Reserve, is an American Red Cross first aid instructor (as is his wife), and has served in leadership roles for Boy Scouts of America. He is a Fellow of both the New York Academy of Sciences and the American Institute of Chemists.

He has edited three books and is editing a fourth, and has authored or co-authored over 150 publications. Currently he is chairman of the society's monograph committee. He was the principal co-organizer of a NATO Advanced Study Institute on "Biomembranes: Dynamics and Biology" held June 1983 in Portugal.

Burton cherishes close family ties, with his 88-year-old mother, his two surviving brothers, and his children, and also enjoys a team relationship with his wife, whether it be in bidding for oriental rugs at auctions, giving first aid at Fourth of July fireworks celebrations or teaching computer classes together. He also derives pleasure in sharing similar interests with his children, such as son Bob's academic challenges as associate professor at Oregon State University, or son Jim's flying experiences as a first lieutenant with the Air Force and studies in computer sciences.

He has little patience with anyone who complains about boredom.

"I can't understand being bored. For me, there's too much to do and not enough time," he says, adding, "I've enjoyed everything I've done."

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