

Who's Who on the OSA Board of Directors

Kim Douglass

Where are you from?

I grew up just north of Minneapolis, Minn. My grandfather came from Norway. If you do a "Yahoo People" search, you'll find very few Alfernesses in the United States. They basically all came from either my family or from a fellow who came over with my grandfather. They came from a small parish in Norway and they took on the name of their farm, which was typical.

I was one of five boys. We were dairy farmers until my father died when I was relatively young, and then we moved into town.

When did you first become interested in science?

I think I was in the sixth or seventh grade. It was around the time of Sputnik—an era when there was real excitement about science. We moved to a larger town when I was in the ninth grade, and that was a community in which it was more typical for kids to go to college. School always came relatively easy for me, so I just kept going. In high school, when I decided to go to college, I thought, "Oh, I'll go to a teachers' college and become a teacher. Then in my senior year, people were willing to give me scholarships, so I thought, "Maybe I should look a little more broadly."

Why optics?

I graduated from college in 1968, right in the midst of the Vietnam War. I had been working part-time and during the summers for a computer company called Univac, and I knew they could get me a [military] deferment. So here I was working for one of the early computer companies; I remember programming a computer to control missile systems. And I had a decision to make. People were saying, "Stay here, computers are the future." I remember thinking that from a programming perspective, there are only a certain number of programs you could want, and they'll all be written within a couple of years and it'll be done. Of course it didn't work out that way, but it could have.

I took my chances on the lottery, and I got a terrible number. I was drafted into the Army in 1970. Fortunately I had a master's degree by then, and I learned that you could get into what was called a scien-



Rod Alferness (right) and family in Malibu, Calif.

Rod C. Alferness, Director-at-large

Lives: Holmdel, N.J.

Works: Senior vice president of optical networking research at Bell Laboratories/Lucent Technologies.

Education: Bachelor's degree in physics from Hamline University; master's and doctoral degrees in physics from the University of Michigan.

tific advisor group. I was assigned to Fort Monmouth, N.J., which is about five miles from where I am right now. I worked in the atmospheric sciences lab. They looked at the role of lasers in weapons systems. That's where I got interested in optics.

Whom do you most admire?

My primary thesis advisor at Michigan was Emmett Leith, one of the pioneers in the field of holography. My department was physics, but my thesis work was actually in the electrical engineering department under Emmett. He had a most profound effect on my early career. He was my advisor, but he also just has a quality about him in terms of how he understands and teaches optics that's just incredible. He has a gut understanding of this field and he's able to convey that. In addition, he's just a wonderful human being. The other person I would like to acknowledge is Herwig Kogelnik. He hired me at Bell Labs and was my direct boss and mentor for much of my career. He is an important visionary and leader in the field and also a great guy.

Where is your favorite place?

The North Shore of Lake Superior in Minnesota. It's the combination of the lake, the beaches, the hills, the quieter, slower pace of life. We go there often as a family.

What are you proud of?

When I first came to Bell Labs, that was a real challenge because it is a great place with very good people. I was coming from Michigan, which made me a little bit of an unusual hire. It turned out that many of

the ideas that you could do in holography could be applied to integrated optics. So that's what I did. It was a wonderful environment to invent new devices. I invented and demonstrated a family of integrated optics devices in lithium niobate, including some of the first tunable wavelength filters and optical switches, which at that time were just neat stuff and now they're at the heart of things like WDM networks. Those devices I invented early in my career, with a lot of help from colleagues, were important for me. We really demonstrated a wide range of functionality using waveguide devices.

There is my work with lithium niobate modulators, which are really used in all lightwave transmission systems. And then there's the drive to optical wavelength routed networks and the DARPA-funded MONET program, which demonstrated the feasibility of optical networks with optical cross-connects and add/drops.

When you're not working, what do you enjoy doing?

I do yard work. I play some guitar. And I travel. We have roots in Minnesota and our kids are in California, so we travel often.

What does the bursting of the telecom bubble mean to you?

The bubble was driven by unrealistic expectations, hype in the industry and a huge influx of capital. We saw the natural consequence of that. But communications will continue to be absolutely critical, as will its ongoing evolution and improvement. Optics is absolutely at the heart of communications systems, and its role in communications will continue to increase, both in terms of the functionality of the network, but also in that optics and fiber will get closer and closer to the end customer.

What should the Society be focusing on in the 21st century?

It needs to continue focusing on new members and the dissemination of information through good journals and good conferences. It also needs to be the bond for people in the industry. Increasingly, people are not going to be working for one company for their whole career. I think the boom and bust has quite frankly increased the potential significance of the Optical Society. It becomes the body of the industry, the community that people look to for direction, help in finding jobs and help in developing new skills.