

## Kenneth Castle, PhD, 1985



Ken Castle, OSC Saguaro Race, 1978

### **What influenced your decision to attend graduate school at OSC?**

In 1977 I graduated from the University of Massachusetts, Amherst, with a B.S. in Physics. That spring I tried to line up a job, but was not able to, so I sent out letters to grad school as a last resort. The University of Arizona was the only one to accept me for the fall semester, and I had five days to leave Amherst, pack up my stuff, take it home to be washed, re-pack and fly to Tucson (my first airplane flight!). I spent that first year in the physics department, wandered to the east end of campus in the spring, and saw the wonderful glass sculpture in front of OSC. Having built a telescope as a teenager, I was intrigued, so I went in and met Jack Gaskill, who arranged for a grad student to give me a tour. By the end of the tour, I was hooked and knew I had found my new academic home. Jack said all I had to do was fill out a transfer

form, have reasonable grades, and I should be able to transfer for the fall, which is what I did.

### **What do you wish you would have known your first day of graduate school? Was there anything you wish you had done to prepare more for graduate school?**

I was fairly well prepared for grad school, with a minor deficiency in math, but I was not as prepared for living in Tucson. When I first arrived on that plane, there were not any jet ways at the airport yet, so we had to exit down the stairs at the front of the plane. I still remember turning left to exit the plane and hitting a wall of heat at the door, as if I had walked into an oven set to “High.” There was shimmering in the distance and everything was brown. Having traveled from a very green Massachusetts, I wondered what I had just gotten myself into.

### **Which classes did you find most enjoyable? Which ones did you find most difficult?**

I found all of the classes enjoyable, but especially those taught by Jack Gaskill and Roland Shack. The most challenging was Roy Frieden’s class on statistics, largely due to its 2 pm start time, which required copious amounts of coffee or soda to overcome the after-lunch drowsy period.

### **Was there an individual (professor, advisor, staff, friend, family member) who played a particularly important role in your education?**

There was a teacher in middle school, Bruce Campbell, who encouraged my interest in science. He later became the principal but would still say “Hi” to me and ask how I was doing in school, even after I had transitioned into high school. Also, as a grad student at OSC, I was impressed with how accessible the faculty were and their willingness to answer questions about almost anything, more as an equal than as the usual teacher-student dictum.

### **What was your research while attending OSC?**

My dissertation was titled “Absolute Radiometric Calibration of a Spectropolarimeter,” an instrument that I had designed and built for gathering remotely sensed data of the sky and the ground. We (Phil Slater’s group) were using it to try and calibrate remote sensing satellites after they had been launched, as they passed overhead at a few selected sites of more constant reflectivity. One site we often went to was White Sands, NM.

### **What was the cost of rent in Tucson while you were in school?**

I do not really remember, but I would estimate \$180 per month.

### **If you owned a car during graduate school, what year and model was it?**

A light blue 1977 Subaru with a rear hatch door.

**What was your favorite restaurant/student hangout near campus?**

The Student Union Mexican restaurant had very good, inexpensive and enjoyable food.

**What did you do for fun during your time in graduate school?**

I had gotten into running a few years before starting at OSC, and then found out about the OSC annual race at Saguaro National Monument (now a national park) on the east side of town. It was an 8.3-mile race, and I finished first the first time I ran in it. I then went on to win it every year after that while a student, with my best time being on the order of 47 minutes (a 5:40/mile pace!). One year a group of eight students formed a relay team intent on staying with me, each person running a mile, and I was still able to finish ahead of them. Phil Slater was one of the best faculty runners, and he had hoped to win the race when I first ran it. To show there were no hard feelings, I ended up with him and James Palmer as my PhD advisors!

**What was most memorable about your commencement ceremony?**

That it was in December in 1985, and my parents were able to come for a visit and see the ceremony.

**At the time of your graduation, what were the most sought-after jobs/most popular industries/most popular companies?**

I think that aerospace optical engineering, for companies like Boeing, Raytheon, Lockheed, Martin-Marietta, and Loral-Fairchild, seemed to offer the most jobs, but both smaller and larger companies seemed to compete for the graduates out of OSC.

**What was your first job after graduation?**

I was hired by Mitch Ruda (OSC PhD 1979) as part of the Tucson office of a small aerospace company called Talandic Research Corporation. I worked for him until his passing in 2013, first with Talandic, then Ruda & Associates, Inc., and finally with Ruda-Cardinal, Inc. Tilman Stuhlinger (OSC PhD 1984) has also worked there all this time, so we have been working together for 35 years now!

**What was the most significant world event during your time in graduate school. How were you affected by this event?**

I think the thawing of U.S./Soviet relations with the first meetings of Mikhail Gorbachev and Ronald Reagan. I was impressed that reasonable people on both sides of the table could meet and come to agreement on various topics, even when both sides did not trust the other initially.

**Was there a campus or community event in Tucson that was especially important to you?**

The most important event to me was meeting my wife, Sabra. We have now been married for 37 years!

**What advice would you give to this year's graduating class?**

I have worked in optical engineering for 35 years, and I have had tremendous fun and satisfaction working in this field. My advice to the new class would be to enjoy the ride, learn as much as you can from on-the-job mentors, and as you grow older, pay it back by mentoring others. Try to learn new things, either new advances in optics, new optical phenomena you have not noticed before, or new ways to do the usual things. Go to conferences, present papers, listen to papers, and enjoy the camaraderie of those in this industry. Most importantly, enjoy yourselves!