

# MOVERS

**Zachary Fisk, distinguished professor of physics, University of California, Irvine**



**2003–2006:** Professor of physics, University of California, Davis

**2002–2003:** Bernd T. Matthias visiting scholar, Los Alamos National Laboratory, New Mexico

**1994–2003:** Professor of physics, Florida State University, Tallahassee, Florida

Zachary Fisk has followed the footsteps of some formidable physicists — and then blazed his own trail. Not only was his father president of Bell Labs in New Jersey, Fisk worked at Los Alamos National Laboratory alongside some of the Manhattan Project crowd while taking a break from his undergraduate study at Harvard University. At Los Alamos his interest in synthesizing chemicals created a bond with his mentor, Bernd Matthias. Fisk helped set up Matthias's lab at the University of California, San Diego, and later, as Matthias's graduate student, Fisk made huge numbers of intermetallic compounds to explore their superconducting and magnetic properties.

After Matthias died, Fisk was offered a job at Los Alamos. He worked out a 'poor man's' technique for growing crystals from molten metals as they cool. The soon-to-become Los Alamos director Siegfried Hecker wanted to study radioactive metals for bomb research, so Fisk grew crystals to help him. His work took on an exploratory nature: "I'm more of a hunter-gatherer," he says of his interest in finding systems where physics plays out simply. Fisk sought to legitimize the military work to the community by promoting its societal applications — in the process establishing Los Alamos as a powerhouse in condensed matter physics.

Later, Fisk followed the National High Magnetic Field lab's move to Florida State University at Tallahassee to take advantage of its magnetic probes. These are useful for experiments with heavy-fermion materials whose properties lie at the boundary of magnetism — his forte.

Indeed, Fisk has met with success working at the boundaries of science. "Bridging the gap between what solid-state chemists and condensed matter physicists are interested in was not easy," he says. "But it was where the interesting science was happening."

Family considerations brought him to the University of California, Davis, two years ago. Eager to get back to the San Diego region, Fisk recently joined the faculty at University of California, Irvine, where he plans to continue his lifelong work on heavy-fermion intermetallics and their superconductive roots. Fisk has never forgotten Matthias's advice to comb the literature for data, not conclusions. Matthias contended that people are much better at measuring things than understanding their significance. Fisk agrees. "Developing a nose for when something doesn't add up allows you to go to new places," he says. **Virginia Gewin**

## MENTORS & PROTÉGÉS

### Thank you, Professor MacDonald

Good mentors are hard to find. As graduate students in Clint MacDonald's laboratory, we recognize the positive effect that expert mentoring can have on a student's career. In the past Clint has won the graduate school's Teacher of the Year award here at Texas Tech University Health Sciences Center, showing that others also know he is a great teacher. He has been described as humble, patient and approachable. However, it is his sincerity that makes him a great mentor.

Professor MacDonald constantly works with us when he is busy. He spent weekends helping Ebtesam Attaya perfect her dissertation defence presentation. He spent an hour introducing Ganesh Shankarling to the lab despite a looming grant-application deadline. He literally has an open-door policy and despite being one of the most productive scientists in our department (he was awarded an Independent Scientist Award from the National Institutes of Health in addition to his ample laboratory funding), he takes time for all students here.

MacDonald is not just available to talk science. All of us have benefited from his countless notes on how to make a better presentation, poster or paper. Andrew Hockert said that MacDonald's long hours and helpful advice allowed him to give his best

seminar ever. MacDonald gives abundant notes on every abstract that leaves the lab, always teaching us how to produce stimulating documents and presentations. His expertise in this area is exemplified in his students: we have won our institution's research-poster competition for the past three years.

However, MacDonald's mentoring is best illustrated in how he develops our careers. He encourages most of us to take extra classes to give us the skills we want to take to our next job, even when such classes require time away from the lab. He also brings us to meetings, introduces us to important researchers and speaks exceedingly highly of each of us during his talks. Even after we leave the lab, he continually writes letters of recommendation, offers career advice and supports us however he can.

MacDonald is a great mentor because he sincerely wants the best for each of us. We are honoured to be able to congratulate and thank Clint for his years of mentoring. We also hope that others too will consider mentoring a key part of their duties as a scientist. ■

**Wyatt McMahon, Ebtesam Attaya, Toni Denison, Andrew Hockert and Ganesh Shankarling are graduate students in Clint MacDonald's laboratory at Texas Tech University Health Sciences Center, Lubbock.**

#### GRADUATE JOURNAL

### The postdoc menu

Some people take one look at a menu and know exactly what they want. But at every table there's one person who looks at the menu and freezes. They make lists of possibilities, including back-ups in case a dish has run out. They come up with formulas that take into account their affinity for each ingredient and when they last ate a similar dish. Invariably they have a few food allergies too.

When you're a grad student, picking a postdoc is like choosing dinner at a particularly huge restaurant. The menu is daunting, and factoring in each ingredient just makes it worse. Should you try the new field you keep reading about (read: Chilean sea bass) or one you've tried before (read: salmon)? Should you choose the lab that addresses interesting questions with novel techniques (read: *sous vide*) or familiar favourites (read: roast)? Is now the time to see whether that allergy to cnidarians was just a phase?

Choosing a postdoc has one notable advantage over restaurant dilemmas: you can apply to more than one place — like taking a taste of all the dishes that intrigue you. Graduate school has made me better at making informed decisions, but deciding on a postdoc isn't going to come down to a magic formula. Still, having sent out application letters for positions this week, I will interact with each lab before committing to my future scientific sustenance. ■

**Milan de Vries is a molecular-biology graduate student at the Massachusetts Institute of Technology.**