Glenn Young entered the University of Tennessee in the fall of 1969 with a National Merit Scholarship and great potential. He went on to win a National Science Foundation pre-Doctoral Fellowship and earn a Ph.D. at the Massachusetts Institute of Technology. He is now in charge of the Oak Ridge National Laboratory Physics Division. And he may very well owe Lee Riedinger cash for a plane ticket he bought in 1973.

Dr. Young was a double major in physics and math during his undergraduate days at UT.

"I took just about every physics course they offered to undergraduates," he said. Dr. Paul Huray was his freshman professor and Dr. Ed Deeds taught his sophomore honors course. With only about 10 students, Dr. Young said the honors route was helpful in preparation for MIT.

"The classes at UT were a whole lot smaller so you got a lot of individual attention," he said.

Dr. Ollie Thompson, who taught his junior physics lab, was also influential on the development of the young scientist.

"He made a pretty big impression on everybody," Dr. Young said.

He explained that Dr. Thompson gave the students a great deal of freedom in the lab. Once course requirements were out of the way, students could tackle projects of their own, designing their own experiments. Dr. Young and a partner took on a project in X-ray diffraction and ended up in Dr. Thompson and Dr. Huray's lab putting crystals through phase transitions.

"What really put me on the road to where I am now was that somewhere in my junior year I took an experimental nuclear physics course with Bob Lide," Dr. Young said.

The students used to joke that by the time Dr. Lide returned their lab reports he had written more in them than they had, but Dr. Young said the feedback was helpful, as was all the cast-off ORNL equipment Dr. Lide kept in his sixth floor lab.

"He literally kept a museum up there. You could see nearly the complete development of ADCs, for example. And all of it was working, too," he said.

During his senior year Dr. Young worked in Lee Riedinger's lab with an early PDP computer that had live CRT display. The nuclear physics group hooked up its Ge(Li) counters for gamma-ray counting, and the computer was shared with the infra-red spectroscopy group started by Dr. Alvin Nielsen.
"It was crude by today's standards," Dr. Young said. "But it was the latest toy back in '72."

Beyond its impressive scientific capabilities for analyzing Dr. Riedinger's data, Dr. Young said "Leigh Harwood (BS '74) had programmed an early version of 'Space Wars' on it."

By his final year at UT, Dr. Young taught freshman math and also earned coveted status in the physics department.

"I worked as an assistant my senior year," he said. "This was a huge perk because it meant I got a key to the elevator."

Juggling lab work downstairs for Dr. Riedinger and upstairs for Dr. Lide, the key came in fairly handy. But the experience also provided some insight into Dr. Young's future.

"That's when I figured out I wanted to do experimental physics, not theory," he said.

He also had to settle on a graduate program. The only question was where. As it turns out, Dr. Riedinger had a lot to do with the choice, and he may yet be owed money because of it.

Dr. Young had been accepted to physics graduate programs at Stanford, Caltech, MIT and Rochester. He even visited Rochester during a tour for potential graduate students, but the school wasn't willing to foot the bill for the trip.

"I borrowed the money from Lee," he said. "I wonder if I ever paid him back."

The determining factor turned out to be a letter from MIT Physics Professor David H. Frisch, who was coordinating their recruiting program at the time. Knowing Dr. Young was interested in nuclear physics, he had taken the time to list all the nuclear physicists at MIT to provide a glimpse into the possibilities their program offered.

"I showed the letter to Lee and he said, 'Good grief, why would you go anywhere else?''' Dr. Young said.

After graduating with his bachelor's degree in 1973, Dr. Young went to Rochester after all, but only for a summer position at Eastman Kodak. The son of an Eastman employee, he had undertaken various other summer positions with the company, from working in research labs to serving time on the production line.

"I deliberately took an analytical chemistry course to better my chances of getting in a research lab," he said laughing.

After 15 weeks in a solid state laboratory he headed off to MIT, where he worked with Dr. Eric Cosman's nuclear physics group. After finishing his Ph.D. in 1977 under Dr. Stephen Steadman, he worked for one-year as a Chaim Weizmann post-doc in Cambridge before accepting a Wigner Fellowship to join Oak Ridge National Laboratory. He was leader of ORNL's High Energy Reactions Group from 1986 to 2002 and became Director of the Physics Division this past July.

"I've been in the division since '78, so this is really just more of a shift," he said. "I have to spend my time now thinking about all the groups. It's a good way to continue your education."

The ORNL Physics Division has seven groups with 72 people, including four adjunct
members from UT (Witek Nazarewicz, Carrol Bingham, Mike Guidry and Soren Sorensen) and four UT-ORNL joint faculty (Ken Read, Ted Barnes, Geoff Greene and Yuri Efremenko). Over the years Dr. Young's work at ORNL has intersected with UT in a number of ways. (In fact, he was originally hired by Dr. Paul Stelson, an adjunct professor of physics at UT.) He has also collaborated with Dr. Sorensen on nuclear physics experiments at CERN and at the Relativistic Heavy Ion Collider (RHIC) at Brookhaven National Laboratory, with Drs. Read and Efremenko also working on the RHIC experiment.

"The physics division at the lab here mostly does nuclear and atomic physics," he explained.

Another role he acquired this summer is that of Board of Visitors member for the physics department. A key issue for him in that position is strengthening the physics endowments.

"I'd really like to see the scholarship fund built up," he said. He recalled how, upon arrival at MIT for graduate school, he was struck by the amount of scholarship money and other financial assistance available to the students there.

"MIT is persistent and organized in their fundraising," Dr. Young said. He went on to say that there's no reason UT's alumni base could not compete with a private school like MIT when it comes to raising scholarship funds.

"UT turns out bankers and doctors and lawyers," he said. "MIT turns out engineers. UT also has many more alumni. We really need to organize campaigns to build UT's endowment."

He does acknowledge, however, that the situation is better than it was when he was an undergraduate. His oldest daughter was recruited for UT's Bicentennial Scholars program, which offers awards based on academic excellence that cover in-state tuition for four years. Dr. Young said programs such as this could help Tennessee hold on to its best students.

"The brain drain is real, and it's unnecessary," he said. "I'm happy that UT is actively going after very good students."

Dr. Young is also offering enthusiastic support to the UT Society of Physics Students in their quest to build cosmic ray detectors and place them at area high schools. His division is loaning detectors, phototubes, electronics and power supplies to the group in support of their proposal to the national SPS organization requesting funding for the project. He said it's a great way for these students to get some research experience.

"It's the same thing that happened to me," he said. "Here's some research equipment. Learn how to use it."

He said helping SPS with the detector project is also beneficial to ORNL because it gives the national lab a connection to local schools.

"We'd like to help out if there are any summer workshops for high school students," he said. "I would like to see this go somewhere."

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