

## THOMAS L. WEATHERLY PHYSICS

Dr. Thomas L. Weatherly came to Georgia Tech as a part of a programmed development and enlargement of the graduate program in the School of Physics. Following this enhancement of the faculty the School was granted permission to offer the PhD.

Although Professor Weatherly contributed significantly to the graduate program, he was a gifted teacher at all levels. Ask an undergraduate student which professor should I get for introductory physics and the answer would be get one whose last name starts with a "W." Tom Weatherly was one of the "W" teachers. His lectures were well prepared and well organized. He took pride in his teaching and it showed.



TOM WEATHERLY  
DEMONSTRATES ANGULAR  
MOMENTUM

Grading his own examinations, a student who didn't show his work on the test could expect to see a "red pencil" note: "Where did you get this?"

At the undergraduate level he made frequent use of lecture demonstrations to illustrate the fundamental principles of physics. Tom had a sincere interest in his students and he gained their respect.

Although Tom was very good at demonstrating physics, one of his demonstrations was by accident and he had no interest in repeating it. While in flight training in Florida during World War II, Tom's instructor demonstrated the technique for doing a roll. Tom responded to a well known gravitational principle and began free fall from his cockpit. He opened his parachute and landed in an orange tree. No injury was sustained and he was back in flight training the next day but with seat belt fastened. Tom had enlisted in the Army Air Force during World War II and was sent to Italy. He flew wounded soldiers from the front lines to hospitals.

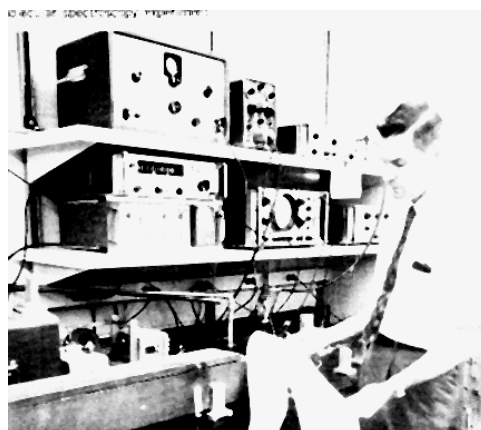
The research work of Tom with his collaborator Joel Q. Williams was very productive. The PhD program in physics at Georgia Tech granted their first PhD in 1957. For the next ten years the experimental program in microwave spectroscopy along with the experimental program in nuclear physics were the basis for most PhD's in physics

The Engineering Experiment Station (now GTRI) was heavily concentrated in radar and antenna design. The research of Weatherly and Williams gave a good foundation in experimental techniques associated with microwave propagation and a theoretical understanding of electromagnetic radiation and its propagation. A number of employees

of EES completed their PhD's in physics in this research area of microwave spectroscopy. While candidates for the PhD, the employees continued their professional careers at EES. These students were frequently in senior positions and had a greater amount of support personnel working for them than did their major professors.

Many of the molecules worked on by the molecular spectroscopy group were not the most pleasant-such as hydrogen cyanide. These molecules were shipped as gases in glass containers. Many faculty could envision the day when one of these containers would slip from Tom's hands and crash to the concrete laboratory floor. The other fear was a vacuum failure in the microwave cavity. Although a lot of kidding went on between the faculty, Tom's colleagues were not really concerned as they were well aware of Tom's background and his meticulous attention to detail. Science marched on without incident.

Research results were not only published in scientific journals but also delivered in talks at scientific meetings. Meetings were chosen primarily for the opportunity to have informal discussions with other experts. Cost of transportation was a major consideration in the early '60s and a meeting within reasonable driving distance of Atlanta was a positive incentive.



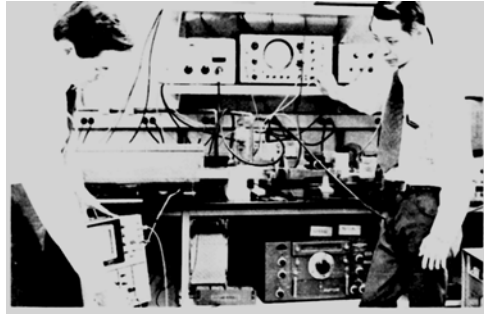
#### PROFESSOR WEATHERLY STUDIES DATA ON MICROWAVE ABSORPTION

The Spring meeting of the American Physical Society in Washington, D.C. was popular for both microwave spectroscopy and for nuclear physics. As his students progressed in their research program, Tom encouraged them to attend the APS meetings. By driving to meetings Tom was able to provide free transportation to his more advanced students. The students had the opportunity to present their research results in front of experts in the field as well as hear of new advances in their field. Both Walter Gordy of Duke University and Dudley Williams of Ohio State and later the University of Kansas would bring sizable groups in microwave spectroscopy to this meeting. As Tom was a PhD student of Dudley Williams and Tom's colleague, J.Q. Williams, was a PhD student of Walter Gordy, it was an added attraction for Tom and J.Q. to attend this meeting.

The Georgia Tech contingent usually got together for one evening of dining and entertainment. A favorite place was an unusual restaurant in Baltimore. The restaurant had a rather extensive collection of classical paintings hanging on the walls. In addition the menu had lots of opportunities for the more venturesome to order unusual dishes such as wild boar. Tom was conservative in his choice of food and drink but he did enjoy the ambiance. He also enjoyed a chuckle when a colleague found the wild boar rather tough.

During the transition of Georgia Tech from an undergraduate institution to a university environment, Tom was one of the first in the physics department recognized in Who's Who in America.

In the late 50's and early 60's, the physics curriculum was undergoing a major transformation. The approval of the PhD program and the increasing interest of undergraduates for a major in physics drove the changes. During one faculty meeting the need for an undergraduate course in experimental physics was discussed. The course proposed to teach statistical analysis of data as well as to present some basic techniques such as glass blowing. Tom was one of the few faculty with a knowledge of basic glassblowing. He agreed that the course was needed but he made it quite clear that he had no desire to teach the course. The course was approved by Georgia Tech. The first time it was taught the professor assigned was Tom Weatherly!



DR. WEATHERLY  
DISCUSSES EXPERIMENT  
WITH A GRADUATE  
STUDENT

Among Tom's avocations were tennis and photography. Tom was left-handed and he used it to an advantage in his tennis playing. He had excellent athletic ability and enjoyed competition. His priorities were always academic and family. Although he enjoyed playing tennis, other priorities cut short this aspect of campus life.

Photography was different. Photography bridged a gap between physics and family. Tom had studied optics and more importantly had an avid interest in photography. At a faculty meeting he suggested an elective course in photography. It was approved and he and Prof. Charles Braden developed the syllabus and alternated teaching the course. The course proved very popular and continued as long as someone was available to teach it.

Thomas Levi Weatherly was the son of Joseph E. Weatherly and Grace L. Weatherly.

Tom was born on January 14, 1924 in Greenville, Mississippi. He was a student at the University of Tennessee, Knoxville during 1941-42.

After World War II he graduated with a BS in physics from Ohio State University in 1947.

He received his PhD in physics from Ohio State University in 1951.

During the summer of 1949 he was a physicist at the Los Alamos Laboratory in New Mexico.

He was employed as an associate professor of physics at Georgia Tech in 1951.

He was promoted to professor in 1962.

Tom was married to Ellen Merwine in 1952.

They had three children, Suzanne, Linda and Thomas.

Professor Weatherly died March 10, 1982.