

## John J. Turin Memorial Lecture – 2009

Opening remarks by L. J. Curtis

Welcome to the 2009 John J. Turin Memorial Lecture. My name is Larry Curtis and I am chair of the Turin Award Selection Committee. One of my tasks today is to act as the “Ghost of Christmas Past” and tell you a little about the history of our Department of Physics and Astronomy. Why does the University of Toledo possess a world class Department of Physics and Astronomy? The answer can be traced to the vision and actions of one man, John Turin, whose legacy is what you see around you.

Although UT was founded in 1872, its modern era began at the end of World War II. At that time the Federal Government adopted legislation called the “GI Bill of Rights” which guaranteed a College education to every returning WW II veteran who desired it. This was done in a very clever way. Rather than giving money to the Universities (whose administrators might have used it to give performance bonuses to each other), the money was given directly to the veterans, in the form of a chit that they could redeem at the College or University of their choice. After having their lives interrupted by the war, these veterans tended to be mature and strongly goal oriented, and demanded quality in their selection of an institution. Attracting the GI Bill recipients was not only a boon to the University, but also had the possibility of ultimately providing a young educated work force to the community.

The University of Toledo set about to vigorously attract and recruit these GI’s, and hired a number of top guns to build new educational programs. They attracted John Turin in physics (who had been in charge of developing communications equipment to find and rescue downed airman at sea during the war), John Brandeberry in engineering, Nelson Hovey in chemistry, and Wayne Dancer in mathematics. John spearheaded the development of a new program in “Engineering Physics” built on a rigorous technical foundation in engineering to provide hands-on capabilities, but adding a strong background in physics and math that it could be applied to adapting the new technical advances made during the war to peacetime applications. This program attracted national notice, and many major universities used John’s program as a template for the development of their own programs.

The GI bill was still in operation when I entered UT in the 1950’s, and many of the students in my classes were veterans of the Korean War. Their experience, maturity, and diligence raised the level of the courses that I took, and contributed greatly to my professional development. I entered UT with a major in Chemical Engineering, but when I took my first physics course with John Turin I quickly switched to Engineering Physics. Inspired by John’s teaching, I felt that I was not choosing physics, but rather that physics was choosing me. John convinced me that I should go on to Graduate School, and I chose the University of Michigan, where John had also received his PhD.

The US Congress has recently resurrected the GI Bill of Rights for our current returning veterans, and they will be given a chit that they can redeem at any state university to

cover in-state tuition and expenses. Moreover, we have succeeded in persuading the Governor of Ohio to add an additional proviso. He has issued a proclamation that bestows Honorary Ohio State Residency to any veteran (and his or her family) who chooses to attend a state university in the Ohio System. We can therefore look forward to another wave of these students entering our university.

The next big step in the history of the Department occurred in the early 1960's, when UT went from being a Municipal University to becoming a State University. As part of the transition, the Department was charged with extending its MS level graduate program to become a PhD granting department. At the same time a number of interesting events occurred: a significant donation was given to the University by George Ritter to provide a planetarium; the Owens Illinois corporation adjacent to our campus developed a zero coefficient of thermal expansion material called Cervit which was to be used to produce astronomical telescope mirrors; and John was given eight new professorial positions to accommodate the upgrading of our programs to the doctoral level. In a master stroke, John tied these events together. He persuaded Mr. Ritter to alter his plans so that Ritter Astrophysical Research Center became both a public educational facility as a planetarium, but also became a major astrophysical research facility with a 1 meter research telescope. He persuaded Owens Illinois to donate a figured Cervit mirror, so that the Ritter telescope became the first telescope in the world to have zero coefficient of expansion optics throughout. And he hired a world class faculty. John was indeed a very persuasive man.

In making his eight hires (one of which was myself), John chose a set of criteria that differed from the customary. Most of the research universities had two distinct faculties: a research faculty that did little or no teaching at the undergraduate level, and a teaching faculty that did little or no basic research. John instead sought a faculty in which every member was engaged in both aspects. The new hires were chosen with the understanding that everyone would be engaged in original research, and everyone would be involved in teaching at all levels. John felt that a university who was not connected to the discovery of new knowledge would eventually teach the past and not the present. In our department, an undergraduate student is quite likely to encounter a Distinguished University Professor teaching an entry level physics or astronomy course. In addition, John avoided bringing in senior researchers, but instead sought young people who could become senior in the environment that he provided.

There are great pressures today which work against this approach. Grantsmanship has become very time consuming, and it has become difficult to manage a large research project and teach beginning students. Teaching has also become increasingly time consuming, as computer aids have increased class sizes while decreasing faculty manpower. However, John's model could be crucial if we desire to compete for students who may come to us under the new GI bill.

Today's speaker, Karl Gordon epitomizes the model that John Turin adopted. As you will see, Karl is not only engaged in a very research projects, but also conveys an

infectious sense of enthusiasm. To introduce Karl, I would like to turn the meeting over to Karl's thesis advisor, Professor Adolf Witt.