# Wyant, from Academia to Industry to Academia

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**Abstract**

After earning his PhD at Rochester in 1968, Wyant moved to Boston and joined Itek Corporation. Six years later he moved from Boston to Tucson and entered into the world of teaching, research, and probably most importantly, students at the University of Arizona. Then, in 1982, he made the partial move back to industry at Wyko Corporation. This section of the program will recall some of the events of his career during that time.

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A fully descriptive title for this paper would be: Jim Wyant…from Academia to industry to academia to industry to academia and industry to retirement. Wyant has demonstrated the capability to participate, survive, and thrive in both worlds successfully, both sequentially and in combination. This paper will, of course, be framed in terms of my personal interaction with Jim during these times in his career.

Jim Wyant and I first met when I was working at Itek Corporation in the 1960's. Jim was close to completing his PhD degree in Rochester at the Institute of Optics on Holography and optical testing. I had the task of going regularly to Rochester in order to recruit students for the company. It was abundantly clear that Jim was a person who was needed at Itek, and we initiated a plan to hire him when he graduated. I found out much later that there was much competition for him at the time, and it was a close decision for Jim. Our plan to hire worked and he joined the company in August of 1968.

After his joining the company, Jim became involved in several of the ongoing space and other optical programs, providing advice and engineering assistance on the testing of the optics at the heart of these programs. Some of the research type projects he initiated at Itek involved Computer Generated Holograms for testing, phase shifting interferometry and wavefront sensors. He also partnered with John Hardy and Julius Feinlieb in the development of active optics systems.

In addition to this work, Jim became involved in many Itek projects as an optical testing consultant. He also became active in professional activities by participating and organizing meetings of OSA and SPIE. Very significantly, Jim also met Louise, and they married in 1971.

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I left Itek a year after Jim joined the company to join the faculty in Arizona at the Optical Sciences Center. Jim was eventually sent out by Itek to recruit students at the Center and during one of these trips we discussed the possibility of him joining the faculty at the Center. He decided immediately that was a good idea.

He visited Tucson to give a talk as part of the usual academic recruitment process. Despite the fact that he loaded in the 2x2 slides backwards for his presentation, he was hired and eventually moved to Arizona. Apparently, his mother in law had been watching a large number of Westerns, and expressed concern about whether homes in Tucson actually had running water and indoor plumbing. Nevertheless, they moved out West.

Jim found lab space and soon had contracts from Los Alamos, the Airforce Weapons Laboratory, Naval Research Laboratory and White Sands Missile Range. He built up his laboratory early on with students Rich Shagam, Poosan Tamura, and Bill Swantner. In his University career he eventually produced 35 PhD and 25 MS students.

The list of his students includes many names now well known in the field of optics. A long list of these students can be found in Jim's resume. Several of these students are on the program in this session. The topics of these student dissertations is very wide. Examples range from Optical Design of Data Processors; Active Interferometry; Phase shift Interferometry; Polarization Aberrations; Birefringent Scatter plate Interferometers; Vibration Insensitive Interferometry; and, remarkably, Water at the Phoenix Landing Site.

In the classroom, Wyant taught courses in diffraction, interferometry, holography, and optical testing for over 40 years. In addition, he has regularly taught courses at SPIE and OSA meetings. The number of students he has influenced probably runs into several thousand.

Wyant has been extremely active in professional society activities. This began in earnest as he joined the annual August migration from Tucson to San Diego for the SPIE meeting. There are many memories of this trek as the Optical Science Center largely emptied out and we (mostly) evaded encounters with the California Highway Patrol for excess enthusiasm in speeding to the scientific nirvana of San Diego.

Jim equaled his interest in participating in the Optical Society of America as well. He has served as President of both Societies as well as member of the Board of Directors of both societies.

He continued his active academic career, while forming and running a company on the side. In 1983 he took a leave of absence from the Optical Science Center to assume a full-time presidency of Wyko Corporation. The success of that venture will certainly be covered in some of the other papers in this session.

After successfully building Wyko and selling it to another company for a significant amount, Jim returned full time to the faculty of the Optical Sciences Center. He accepted the position of Director of the Center in 1999. This was an opportune time for growth of the Center. The optics

undergraduate program received a major boost as it became an ABET Accredited engineering program. The graduate and research programs expanded during this time as well.

The strength of the academic program became evident to the management of the University of Arizona, and in 2005 the Optical Sciences Center became the College of Optical Sciences. Jim became the Founding Dean of the new College. This change established the permanent location of the Optics program in the University organization.

In 2012 Jim decided to retire for the final time from the University. He has retained an interest in the activities of the College. He initiated and sponsored a major fund-raising campaign for the FoTO (Friends of Tucson Optics) scholarship program. The goal was to provide at least two dozen scholarships to provide financial aid to first and second-year graduate students. This was an extremely important basis for the College as finding research contract funding for early year graduate students is extremely difficult. This has resulted in a significant increase in the ability of the College to attract highly qualified graduate students.

While Jim provided the seed money for these scholarships, the full funding was accomplished by matching funds donations from past students, optics community members and industrial organizations. This multiplier greatly extended the range of involvement of the larger optics community in the support of the college.

When this had been accomplished, Jim did not rest, but further donated seed money to fund named Professorships at the College. The purpose has been to enable the recruitment and retention of high-quality faculty for the College. This also has been a very successful contribution to the field.

In 2019, the University of Arizona noted his career long contributions to the optics field by renaming the originally named Optical Sciences Center as the James C. Wyant College of Optical Sciences.

As a result of his lifetime contributions to the field of optics, Jim has garnered many honors and awards including a couple of honorary degrees. His outstanding research contributions to the field of applied optics, his major contributions in building of industrial organizations and his generosity in supporting the development of a new generation of students are a notable lifetime achievement.