



C-John Buccini

October 12, 1924 - May 16, 2017

C. John Buccini, Pioneer of Laser Interferometry

Columbus John Buccini, 92, passed gently from his earthly life on May 16, 2017 at Lower Cape Fear Hospice in Wilmington, North Carolina after a brief illness.

John is predeceased by his wife, Mary. He is survived by his daughter Susan Buccini and her husband Randy Olson; his amazing sisters, Dora D'Amario, Elena Torrisi and Elvira Pazienza; and best friends Ron and Ann Pannesi.

John was born in Providence, Rhode Island on Columbus Day, October 12, 1924. A veteran of WWII, he was drafted into the army as a medic and was amongst the group that went into the Buchenwald concentration camp to liberate the sick and wounded at the end of the war. He received his physics degree from the University of Rhode Island in 1952. He and Mary made their homes in Connecticut and Massachusetts for many years before moving to Wilmington in 1994.

A man of great creative talent, John became a national and world recognized mechanical and optical designer, and created a number of state-of-the-art inventions for several industries including manufacturing, the space program, defense weapons development, and advanced nuclear fusion.

He began his career in 1952 at Olin Mathieson's nuclear fuel division, where he created numerous designs including an ultrasonic tester for nuclear fuel elements, and received his first patent for a fatigue tester control device. He moved from there to Perkin Elmer, where he used his unique talents to design a periscope simulator for submarines. He was also heavily involved in creating test instrumentation for manufacturing and testing the most critical optical components of the Stratoscope II 36" telescope.

A master engineer, he contributed significantly and uniquely to the field of opto-mechanics during his 65 year career. He was a key member of the three person team that produced the Laser Unequal Path Interferometer (LUPI) which revolutionized optical testing. At Itek Corporation in Lexington, MA, in 1964, Joe Houston invented the first LUPI and selected John as the lead opto-mechanical engineer and Pat O'Neill as the lead lens designer to productize his initial designs. John evaluated the large variety of mechanical design options available and built a series of instruments, some with highly original O'Neill null lenses, that were integrated into Houston's massive optics projects for testing precision optics in large, vibration isolated, vacuum systems. These LUPIs set the stage for basic surface mapping methods which led to computer assisted optical surfacing. The original design included a number of elegant features for ease of operation in optical laboratories, shops or fielded (in situ) environments world-wide. Later, these features would provide a platform for unique accessories such as phase shifters and computer generated holograms. The first production LUPI was delivered to Dr. Aden Meinel, director of the Optical Sciences Center at the University of Arizona, shortly after a patent was awarded in 1968 to Houston, Buccini and O'Neill. LUPIs were critical to supporting the classified space surveillance activities of the United States during the Cold War period of 1964 through 1989, eventually leading to the manufacturing methods used in producing today's massive astronomical instruments, such as the Keck, twin 10 meter, and Subaru, 8.2

meter, telescopes on the summit of Maunakea, Hawaii. The LUPI also made possible the family of Shuttle and classified launch mission large tracking telescopes still employed on the national ranges which include Vandenberg, Cape Kennedy and White Sands.

Between 1975-79, John served as a consultant to the University of Rochester Laboratory for Laser Energetics, and provided optical-mechanical designs for equipment used in the Omega 24 Nuclear Fusion System.

In 1983, John formed Buccini Instrument Co. and produced the MIC-1 Laser Interferometer, a miniaturized version of the first LUPIs. The MIC-1 is the most compact and cost-effective of shop-proven and fielded LUPIs and has become the gold standard for quantitative optical evaluation of components and systems. The MIC-1 is both smaller and lighter weight while continuing to incorporate all of the LUPI's original features. Over the years, the MIC-1 design has been copied and modified by several companies to incorporate unique features that have contributed to the significant expansion of modern optical testing and manufacturing capabilities. John also designed and produced blue wavelength and null lens interferometers.

At 92, he was still working and had boundless energy. He was a life long astronomer with a passion for chasing solar eclipses around the world with his family, and a long time member of the ATMs of Boston, Cape Fear Astronomical Society, and the Fringe of Coronado.

He loved working in his machine shop, and photographing nature and the microscopic world. John approached life with joy, a sense of wonder, and optimism, always up for any adventure that came his way. He and Mary were a remarkable team together, making friends everywhere and traveling the world. For those who knew them well, know that since his passing they have

performed a series of "complicated antics," saying goodbye in true Buccini fashion.

Thank you to Joe Houston for contributing to this article.

Family and friends held a private ceremony of life in his honor. In lieu of flowers or gifts, please share favorite stories of him with a friend, while gazing up and enjoying the evening stars and moon. He would have wanted that.

Tribute Wall

SB

“ 8 files added to the album New Album Name



Susan Buccini - August 07, 2017 at 12:55 PM