

JOHN PARKER OLIVER (1939-2011)

He led a life of passionate dedication to astronomy and the mission of our department

(~ Rafael Guzman, Chair for Astronomy, University of Florida)

Howard L. Cohen

March 2011 (Revised April 2011)

JPO was his signature but these few letters fail to represent his true legacy. Dr. Oliver, an emeritus professor of astronomy at the University of Florida in Gainesville, passed away Thursday, February 10, 2011 after a courageous and long battle with renal cancer. He leaves behind memories of a life and career to envy. During his forty years of service to his profession and department, this unique astronomer distinguished himself as a research scientist and instrumentalist, creative software designer, gifted teacher and speaker, a vocal advocate of public outreach, and friend to all who knew him (Fig. 1).



Fig. 1. John Parker Oliver. Dr. Oliver was a talented astronomer and professor devoted to his department for forty years.

I first met Dr. Oliver in the fall of 1970 when he was interviewing for a position in the University of Florida's astronomy program (then a combined department with physics). Immediately I felt this young astronomer could bring the department unique skills and knowledge. I was correct. We rapidly bonded and remained good friends and colleagues during his long and dedicated service to his community, university and department.

Born in New Rochelle, New York during late fall 1939 just a few months before the start of World War II, John's birth was a gift in a year that many would like to forget. Twenty-three years later he would graduate with a bachelor of science degree in physics from Rensselaer Polytechnic Institute in Troy, oldest technological university in the English-speaking world. John then moved west to California where he would begin preparing for a long and distinguished career in astronomy. In California Oliver had the good fortune to work with several eminent astronomers. This included Albert E. Whifford director of Lick Observatory and known for his work on interstellar reddening, and Merle F. Walker, an expert in photometry, who also helped establish Pluto's rotation period. His close relation with Lawrence H. Aller, one the 20th century's memorable astronomers, known for ability to combine observation, theory and education, and for his care and kindness, helped bind Oliver and astronomy together for life.

During this period he served as a research assistant at the renown Lick Observatory, joined the technical staff of the Aerospace Corporation, became an acting director of the Pine Mountain Observatory (University of Oregon), and a research assistant at the University of California. Eventually, the University of California in Los Angeles would award him both a master's degree (1968) and Ph.D. (1974) in astronomy.

The brilliant and eminent astronomer, Daniel M. Popper, supervised Dr. Oliver's doctoral dissertation, "An Investigation of Eclipsing Binary Stars Exhibiting Calcium II Emission." This research suggested that many systems Dr. Oliver investigated belonged to a new category of variable eclipsing binary stars. Using Oliver's suggestion for this class, these stars became known as RS Cvn variables. Unique among astronomers, Popper himself was fussy about errors of measurement—uncompromising about accurate, conscientious work and intolerant about careless research. Dr. Oliver was the only student to receive a Ph.D. under this authoritative and honest astronomer, a testament to Dr. Oliver's own talents.

As a University of Florida faculty member and astronomer, Dr. Oliver occupied many roles over the years. I cannot remember all but a list would include service as associate chair, Director of Rosemary Hill Observatory, both undergraduate and graduate coordinators, and coordinator of the astronomy seminar series.

During this time Dr. Oliver played other major roles in department functions. He made significant contributions to both the operation and instrumentation of telescopes at Rosemary Hill Observatory near Bronson, Florida. The establishment of the 18-inch Ritchey-Crétien telescope as a working telescope was a major accomplishment for which he wrote its operational software. For example, this telescope made possible observations of the Beta Cephei variable, BW Vulpeculae, as part of a coordinated international campaign of photoelectric photometry by Dr. Oliver, myself and our students during 1982. (A Beta Cephei or Beta Canis Majoris variable is a type of variable star with low amplitude brightness variations due to short period pulsations of the star's surface.)

Dr. Oliver also wrote software for high speed occultation observations of stars by the Moon or asteroids. I recall many nights spent with him at the 30-inch reflector at Rosemary Hill doing such work. One such experience is memorable because of its aftermath. We had prepared the telescope and its instruments to observe stellar occultations by the Moon and left the observatory for a quick meal at a local restaurant in nearby Bronson. This small, one-light North Florida town had few eateries. In fact, at least back, then, I think only one. Our observing was successful that evening but the next day food poisoning took its toll. Fortunately, its effects were felt after our observations were completed! Subsequently, we always brought our own supper to the observatory.

We also collaborated to produce an unusual photograph of the 30-inch telescope and its observatory building that most people never see. An aerial lift bucket had been left near the observatory for maintenance work on the observatory dome. One evening, I used the lift bucket to make a time lapse photograph of the building while John rotated the dome slit. Since the dome lights were on, the moving slit acted as a shutter to produce a view of the entire interior and telescope. Then we made a second exposure of the observatory's exterior illuminated by our car's headlights. Dr. Alex G. Smith, an expert in astronomical photography, combined our images in the department's darkroom to produce an interesting "X-ray view" of the 30-inch observatory building and its telescope (Fig. 2).

The UF Campus Teaching Observatory was another of John's pet projects. Dr. Oliver was responsible for its operation during the 1970s including its relocation to its present site. Construction of a new campus telephone Centrex exchange required that the astronomy

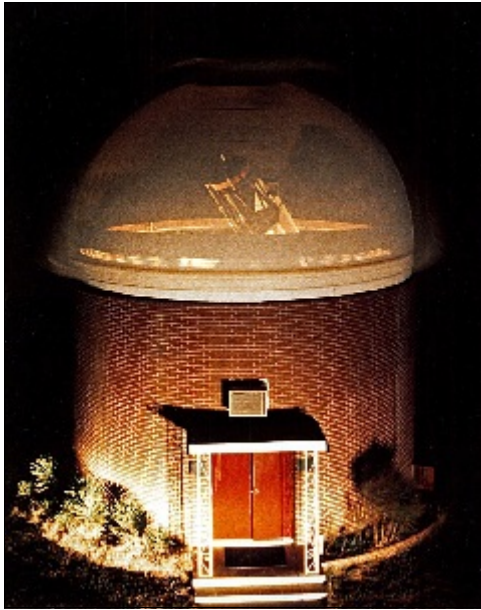


Fig. 2. Rosemary Hill Observatory. This “X-ray view” shows the 30-in. telescope within the building’s dome. See text for how photo was made. (Cred. H.L. Cohen, J.P. Oliver and A.G. Smith.)

department move the observatory from its location behind the campus police station to an area south of the J. Wayne Reitz Union and west of Aerospace Engineering. Have you ever visited this facility and noticed the German equatorial head of the historic 8-inch Clark telescope’s mount is strangely rotated ninety degrees about the telescope pier? When moved to the new site (about 1971), the walls were rebuilt orienting the long axis of the building North-South. (The roof and water hydraulic mechanism that used to open the roof was moved to the new site and placed on the new walls.)

Forgetting that the building orientation had been rotated by 90 degrees, the pier for the 8-inch telescope was installed still pointing toward the short axis of the building, which originally had a North-South orientation. This of course, now made the polar axis point in an East-West direction rather than North-South! Rather than demolish the concrete base on which the metal pier stood, Professor Oliver became creative and decided to cut the metal pier

below the equatorial head. He then rotated the equatorial head 90 degrees and bolted the head onto the lower section of the pier, an ingenious fix to this problem!

Next time you visit this observatory, look carefully at the pier for the 8-inch Clark refractor and notice that the equatorial head is rotated 90 degrees with respect to the rest of the pier. This is both a memorial to Dr. Oliver and testament of his creative skills.

Over the years Professor Oliver taught thousands of students both basic astronomy and advanced topics in undergraduate and graduate courses. Since binary stars were common research interests, we collaborated on teaching a sequence of graduate courses on these significant stars. More important, we were always looking for new techniques to improve teaching. Therefore, Professor Oliver was among the first to adopt new technologies in the classroom including the first in the astronomy department to use PowerPoint in his classes. He also received grants from the UF Center for Information Technology for this purpose. Emulating his techniques, I quickly adopted PowerPoint in my own teaching. Ultimately this enabled me to produce elaborate and sophisticated presentations. My own teaching benefitted enormously from these new techniques. Thank you John.

John’s computer skills with visual basic also allowed him to design several, simple but important programs that both of us thought would help students understand difficult subjects. A favorite of mine is “Oliver’s Orrery” that makes clear how different models of the solar system operate to produce the planetary motions that we observe on the sky (Fig. 3). Subsequently, I often used his novel orrery in my own classes. This program probably still has no equal.

Professor Oliver’s skills and knowledge of computers also enabled him to design and build data acquisition instruments and allowed him to produced volumes of control software. As

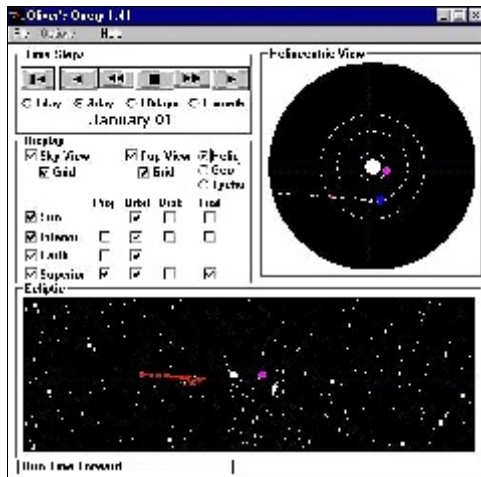


Fig. 3. Oliver's Orrery. This efficient and simple to use program written by Dr. Oliver is unique in its ability to relate planetary motions in various Solar System models to their apparent motions on the sky. (Cred. J.P. Oliver.)

a result he taught several of the department's most important advanced courses for observational work. His long running and popular course about techniques of observational astronomy covered an enormous range of topics including star catalogs, planning observations, telescope basics and optics, detectors, statistics, photometry, spectroscopy and more.

Outside the classroom, Dr. Oliver was equally productive. Research interests involved 3-mm radio astronomy, photometry of eclipsing binary systems, and the design of astronomical instruments and computer controlled telescopes. He was the first visiting astronomer of the Copernicus Institute, Warsaw Poland where he helped participate in its establishment. He also had a joint appointment as Senior Research Scientist at the UF's Institute for Space Science and Technology from 1988 to 1994.

During this time he was a co-investigator on the Long Duration Exposure Facility/Interplanetary Dust Experiment and the Clementine Orbital Meteoroid and Debris Counter (Fig. 4). These experiments obtained data on the impact flux of natural micrometeoroids and provided information on the population of small mass man-made debris in near Earth space. In fact, he was twice a NASA Faculty Research Fellow at the Jet Propulsion Laboratory where he developed models used to predict meteoroid impacts on space probes. He was always excited about discovering orbital debris clouds around the Earth.



Fig. 4. LDEF. JPO was a co-investigator and member of the science team that analyzed data collected by the Long Duration Exposure Facility spacecraft. Launched in 1984, LDEF remained in orbit for almost 6 years. Precise times of impacts were recorded for the first 346 days in orbit. (Cred. NASA Langley Research Center.)

Like many professions astronomy has its share of specialist societies. The International Astronomical Union and the American Astronomical Society are among the most prestigious in astronomy. Dr. Oliver was a member of both. He was also elected to the Sigma Xi scientific honorary society. He published thirty refereed papers including eighteen papers on astronomical instruments and telescopes, was the editor or author of five books, and was author of chapters on astronomical instrumentation in eight books.

Dr. Oliver and I also collaborated on a few unusual meeting presentations and papers for popular astronomy magazines. His knack for the unusual combined with my own interests were a good match. For example, the subject of terrestrial impacts by comets and asteroids is now popular. However, in the late 1970s we speculated about stellar encounters with our Solar System. Using star catalogs and some math, we produced a unique presentation and paper, "Look Who's Moving Into Our Neighborhood: Nearby Stellar Motions on a Geologic Time Scale" (*Astronomy*, 1979 April). In another example, plagued by common misconceptions about star colors held by people

including astronomers, we researched color perception and stellar radiation. This resulted in an unusual meeting presentation and paper, “Star Colors—An Astronomical Myth?” (*Sky and Telescope*, 1981 February).



Fig. 5. SPOT. Dr. Oliver traveled to the South Pole four times as co-investigator in the South Pole Optical Telescope Project. (Cred.. J.P. Oliver.)

After my own retirement from teaching several years ago, John and I would periodically meet for lunch. We not only reminisced but also often commented that young, astronomers today no longer seem to have the broad knowledge base of astronomy that our teachers required us to have. In fact, to Dr. Oliver’s credit, I know of few astronomers who can converse as well as he could on the wide spectrum of information that astronomy covers today.

A favorite and special project from 1984 to 1988 was Dr. Oliver’s involvement as co-investigator on UF’s South Pole Optical Telescope where his knowledge of computer controlled instruments came into play. I was envious that this project enabled him to visit the Amundsen-Scott South Pole station four times during the Antarctic summers! This small, specially built telescope operated for several seasons to evaluate observing conditions at the South Pole in the visible region of the spectrum. This was the first stellar telescope to operate at Earth’s South Pole! (See Fig. 5.) In October 1986 the U.S. State Department and U.S. Navy awarded him the Antarctic Service Medal

for his activities in Antarctica.

Unlike the present UF astronomy department, which now has an active commitment for public outreach, Dr. Oliver and I were among the first few that had an interest in public programming or the public schools. Dr. Oliver became active working with middle school science teachers, was a creator of “Conversations About Science and Mathematics” and was an innovator in large classroom teaching. Both he and I volunteered as judges at science and engineering fairs. However, unlike the few years I served in this capacity, Dr. Oliver selfishly gave his time to judge both local and state fairs for more than twenty years, finally stopping about a year before his death.

Long-time members of the Alachua Astronomy Club, Inc. will favorably remember Dr. Oliver for his interesting, absorbing and clear presentations to the club. For example, in 1996 Dr. Oliver talked about “Calendars and You” and in 1999 gave an exhilarating presentation on “Finding Asteroids for Fun and Profit: Asteroid Astrometry with Amateur Telescopes.” However, his most memorable talk was probably his 2005 presentation, “Reflections of a Retiring Astronomer.” In this talk, Dr. Oliver mused on his more than forty years as an observational astronomer. (Dr. Oliver became an emeritus professor in 2007.) Unfortunately, to his regret, failing health prevented him from making future appearances at club meetings.

In his last two years Dr. Oliver embarked on another noteworthy and very remarkable enterprise. In the northern Irish town of Armagh, home to The Armagh Observatory, a modern astronomical research institute with a rich heritage extending back to 1790, now

stands a large, two-meter (nearly seven foot) diameter globe made from solid polished grey granite. This impressive and beautiful star ball rests on one of four large base stones engraved to depict the story of the development of astronomy through the ages. And on its surface the brightest stars and other features of the sky are etched in gold. The sphere is aligned north with the stars correctly oriented toward the pole star. Entitled “Celestial Sphere” this artwork is the vision of artist Brian Connolly, who created this structure as a tribute to the importance of astronomy and scientific research in Armagh.

Nevertheless, it was Dr. Oliver who helped Connolly by providing the templates used to precisely position the stars and other heavenly features on the sphere (Fig. 6).

The star ball was installed November 2010 and dedicated December 2010. At the end of November Dr. Oliver and I were hoping to have lunch. He also wrote me that he was trying desperately to get well enough to travel to the dedication. Unfortunately neither happened.

John died peacefully eight weeks later. Predeceased by a son, Michael, he left behind his wife Barbara of forty-seven years, three children, Jennifer, Keith and Rebecca, two grandchildren, Elspeth and Moira, and a great granddaughter, Dorothy. . He also left behind dear friends and colleagues and a legacy difficult to match.



Fig. 6. Armagh Celestial Sphere.

This two-meter diameter polished granite star ball was created by artist Brian Connolly. Dr. Oliver provided the templates to locate the positions of stars and other heavenly objects engraved on its surface. (Cred. Armagh Observatory.)

I frequently attend performances in the Phillips Center for the Performing Arts with my wife. John was also often there with Barbara and we would seek each other out at intermissions. We would often speak about the state of our department where he had spent much of his life. Recently I was again at the Phillips Center. I looked for John. Of course he wasn't there and the lobby seemed strangely empty. John did not want a funeral but was cremated. His family held a service in celebration of his life at his home on March 20, 2011 (date of the 2011 Vernal Equinox).

However, John's devotion to his department and the closeness he cherished with his students will not be forgotten. His family has established and will maintain “The John P. Oliver Graduate Award” to be given annually to a graduate student exemplifying the qualities that Dr. Oliver valued. Send donations, if you wish, to the UF Foundation (P.O. Box 14425, Gainesville, FL 32604-2425, attn. Cody

Helmer) with the award's name on the check.

Usually each year, Dr. Oliver would send a reminder on September 15 that approximately on this day in 1979, the Department of Astronomy was formally born. He was proud of this fact. During his long tenure in its astronomy program, he helped shape the department and the operation of its observatories. He was unique among many astronomers due do his abilities and flair as an excellent speaker and teacher, a superb instrumentalist and programmer, as a talented research scientist, and a friend to all who knew him.

After Professor Oliver's death, Dr. Rafael Guzman, chair of the Department of Astronomy, wrote that all who are able, should join John's family at his celebration of life, "as a tribute to both a close friend and a life of passionate dedication to astronomy and the mission of our department." α

Howard L. Cohen is an emeritus professor in the University of Florida's Department of Astronomy and a founding member of the Alachua Astronomy Club, Inc.