

A Brief Biography of Jeffrey D. Beish: Engineer and Astronomer

Growing up in the 1940's was fun. That was before TV and computers became popular and took over our minds. We had only what as our forefathers left us; and that was little or not much in material things, and what their forefathers had left them and so on. Technology has always been part of the human experience and by studying past developments in technology we are amazed at such greatness our forefathers seemed to possess. They did much to build our country with so little help from other nations. Freedom and the yearning for knowledge may have been the secret of our success. What may not be obvious is that we possess the same values. Those values they had with an added benefit of the history of their accomplishments.

Before WWII whenever we were not outside playing our entertainment consisted of radio and movies. Radio programs the 1930's and 1940's, such as Buck Rogers and Flash Gordon, were made into movie series by Hollywood and were featured at theaters in the Saturday matinees and even ran into the 1950's. Starring Buster Crabbe, [Buck Rogers](#) and [Flash Gordon](#) were just a few. One of the greatest and scariest was: [Rocketship X-M \(1950\)](#). Just hearing the noise from those rocket ships sent shivers up our spine! In the 1940's one could even read novels. My first books were Mickey Spillane mysteries, Ray Bradbury and Edger Rice Burroughs science fiction novels.

Radio programs such as, "Dimension-X," "Escape," "X-Minus-One," and more that featured great programs written by Bradbury; one in particular was really good, "[Mars is Heaven](#)." In the early 1950's it was Isaac Asimov with a few pulp magazines: *Galaxy magazine* and *The Magazine of Fantasy & Science Fiction*.

To us youngsters an astronomer was an old bearded nerd, with white hair, in a three-piece suit, and who babbled about all kinds of out of the world things. Things that we had no idea about. I remember the 1951 movie, "[The Day the Earth Stood Still!](#)". Goose bumps came up on my arms -- even affected my Dad! In the movie a flying saucer landed in Washington, DC and a spaceman came out to talk, but was met by the Army and bullets. He was wounded and they took him to a nearby hospital where he later escaped and took up residence in a rooming house. Of course, there was a widow with a young boy who befriended the alien and helped him to meet a prominent astronomer or "professor" type person. He wanted to speak with some one with political power, who in turn would give the message to whole world. It was a warning to change our ways -- or be doomed. The old gent in the movie really impressed us kids. So, from our perspective to aspire to become an astronomer was to grow old and have white hair - and be a highly educated Einstein-like character. It was an impression that would stay with me.

Several years after my father returned from WWII he used his GI Bill, along with his spinster grandmother paying his way, to a photo engraver school in St. Louis, MO and another in Milwaukee, WI. A war buddy of his who lived north of Milwaukee was to also attend the school and wrote my Dad with plans to meet him there. Because my mother was left with me and my younger brother during the war they decided that Dad would take me with him. So, in the summer of 1948 we set out riding stream trains to the various places -- that seemed to take an eternity -- and when the school was over my Dad's friend drove us to his home in Kenosha, Wisconsin. We attended a tour at the Yerkes Observatory where the world's largest refractor (40" aperture) is located and actually looked through it! At Mars!!! The trip back seemed even longer. Those memories would stay with me the rest of my life -- probably reinforced by conversations with my father during his lifetime -- but still faintly in my mind. So, my first Mars observation was in the summer of 1948 and I continue observing the Red Planet today.

After that my parents would occasionally take me to Chapel Hill, NC to visit one of the largest planetariums in the United States. That was a great thrill for me and also local amateur astronomers would set up telescopes nearby so we could observe. I always requested to see Mars, if it was up, and they would do so. After that I saw Mars in a telescope occasionally wherever a telescope was available. After growing up the feeling that astronomy was unattainable slowly began to wane and it became obvious that Hollywood's movies are not always truthful. So some of us would seek knowledge in the science of astronomy the old fashion way - we would take the plunge and follow our instincts.

In early 1960 I joined the U.S. Air Force then went off visiting the world and enjoying my other interests. After technical school and into On-the-Job Training (OJT) I enrolled in several college courses and attained an Associates Degree in Electronics Engineering and some years later a Bachelors Degree in Electronics Engineering. It took a few years because I was on the road most of the time and that limited my available classroom time. By the end of my second enlistment I had gone to work for Link Aviation Simulator Company and was a real engineer.

I would occasionally observe Mars while stationed at Naha Air Base, Okinawa whenever the spirit moved me and the amateur group would set up - right there on base where the sky was velvet black. I was there for nearly two years (late 1960 - mid-1962) would see Mars during the 1962 apparition. The club there used giant telescopes, 3" and one 6-inch!!!!!! Wow, that was big time.

While not a seasoned telescopic observer in the early 1960's I was stationed on Naha Air Base, Okinawa and some airmen who would set up telescopes behind an old Japanese cannon to observe (see photo below). The sky was very dark considering all the lights on the runway and ramp. One had a 6" Newtonian, maybe home made but not sure; he was peering at Mars so I joined him. It must have been sometime 1961, but not sure. It was a pleasure to see the Red Planet in a nice telescope and it must have been well made because I could actually see stuff on Mars.



Old Japanese cannon on Naha Air Base, Okinawa

Up until I was in the Air Force my observing experience was mostly from lying out in the yard, in the 1940's, when the sky must have been so dark; I really can't remember it now. After so many recent years with the recent LP it is hard to remember when the sky was that dark. A couple of times my family visited Chapel Hill planetarium and amateur observers would have telescopes set up for public viewing. Lots of fun. I think I actually used binoculars once.

After that during my stay at Naha AB I would see them up there and always go up to join in the fun. The sky appeared very stable there and many years later some Japanese astronomers I knew would travel down to the Rock to observe Mars because of the great seeing.

MY AMATEUR ASTRONOMY BEGINS

So, from my first telescopic viewing of the Mars in 1948 and occasionally thereafter, observing when the opportunity presented itself -- I have been steady at it. In 1973 my wife gave me a 60mm Tasco refractor for Christmas to observe comet Kohoutek and that was enough to renew my interest in astronomy and telescopes. At least the hobby would lead me to meet friendly people and eventually this would help when a job change was imminent. My first amateur telescope making project, with the help of our mid-night foreman at work, enabled me build a small Newtonian from a kit. After a couple more attempts making telescopes the local club encouraged me build a larger instrument and so on. While working night shift we would go up on the roof of our 8-story building during breaks or lunch time to observe. The roof had high walls and was secure, so three of us put telescopes up there to stay. Over those years, until hurricane Andrew nearly blew us off the map, we made a lot of telescopes and I still have three of them.

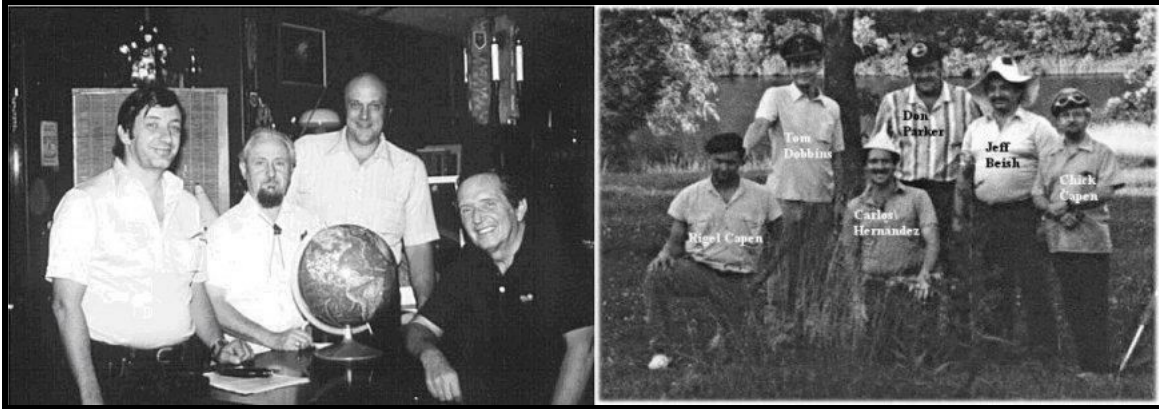
After moving to Miami in early 1973 we visited the museum and met [Southern Cross Astronomical Society \(S.C.A.S.\)](#) folks. They invited me to their monthly meeting and use their observatory on the roof of the museum. I returned occasionally and began to attend the monthly meetings and met the president of the Society, Bill Douglass. Bill, Bobby Rifer, Ron Simpson, Art Smith, George Hamsey and other SCAS notables were at the museum one Saturday or Sunday back in February or March 1973 when I ventured in to see what was going on. I was given a tour of the roof observatory and talked with Bill and Bobby for a while. During the next couple of years I would drop in on a weekend day or evening so check on things and Bill would usually be there with friendly talk and prodding me to join. He was always good for conversation. Bobby was not more than 10 years old maybe!

Bill encouraged me to join the SCAS in 1975 and to especially come to an upcoming meeting where [Dr. Donald C. Parker](#) was to give a talk on Mars. I had previously hinted to Bill that Mars was a fascination and I had observed it during the 1973 apparition and had begun to observe it again in 1975. So, we have been friends and observing partners ever since then. I attended meeting at the Miami Museum of Science until 1986 when we moved to the Florida International University.

In 1975 I met internationally known Mars expert, [Charles F. \("Chick"\) Capen](#), when he was talking about Mars at the S.C.A.S. monthly meeting. Capen was the Mars Recorder for Association of Lunar and Planetary Observers (A.L.P.O.) . Bill, Don, Chick and I became friends after that and I began observing Mars more often and by 1977 my Mars observing was in full swing. Chick Capen gave a second talk on Mars at the S.C.A.S. meeting in February 1979 and urged both Parker and me to help him with the A.L.P.O. Mars Section. We had been contributing observations to him for a few years and soon thereafter we both became assistant Mars Recorders.

After talking with Chick about his life I suddenly remembered his name in an old book that I had from my Jr. high school days back in the early 1950's, [Men, Rockets, and Space Rats](#), [Lloyd Mallan, (C)1955, Pub. Julian Messner, Inc., pp50, 51-54] and [[Secrets of Space Flight](#), Lloyd Mallan, (C)1956, pp45, 94]. These books had a great influence on me and may have changed my life.

Occasionally Don, Bill and I would fly out to Flagstaff to visit with Chick and observe on Mars Hill with the Lowell 24-inch Clark. As a result of several sessions of partaking in adult beverages Chick began to call our small group of four "the Black Hole Gang." He confessed to us that while being with the three of us it was like stepping into a black hole! So the title for the group was appropriate and remains even with us today.



LEFT: The Infamous "Black Hole Gang," Left to Right: Me, Chick Capen, Don Parker and Bill Douglass in 1980 at the Capen house in Flagstaff, Arizona. RIGHT: L2R: Rigel Capen, Tom Dobbins, Carlos Hernandez, Don Parker, me, and Chick Capen.

COMPUTING THE PHYSICAL EPHEMERIDES FOR ALPO

In the early 1980's the A.L.P.O. Senior Mars Recorder, Charles F. ("Chick") Capen, suggested to the Mars Section that we should generate computer programs to assist in the Section's observing programs and our ongoing meteorological survey of Mars. He also urged us to find a way to replace the physical Ephemeris for Mars published in the expensive Astronomical Almanac. He knew that my engineering background included computer programming and heavy-duty aerodynamics, so he thought my training might possibly help in this endeavor. Little did he know that the required mathematics necessary in computing an ephemeris is not usually taught in engineering colleges and it was nowhere to be found in my past experience. We first worked on computer programs for the meteorology survey of Mars and then for our polar cap measurement projects.

Having worked in the flight simulator business for over 30 years this author was no stranger to electronics, high technology and computer hardware and software, so applying my education and experience to Capen's requests should not present a huge problem for me. Well, the new adventure opened up a new horizon for me that keeps me busy even today.

The first computer code for the "International Mars Patrol Astronomical Calculator (IMPAC)" I used a FORTRAN IV compiler at my workplace. Also, a very rudimentary form of BASIC used by our Digital Equipment Corporation (DEC) computers introduced me to a simple computer language, similar to FORTRAN, to continue learning to code astronomical equations. However, using my workplace equipment during those short coffee and lunch breaks was not very productive, so I followed up on a suggestion from a coworker to either build a home computer in kit form or purchase a home computer from a local dealer.

The first project was building an Altair-8800 computer kit at work; however, that proved unsatisfactory for the author's purpose because it had no input/output communicating devices such as a keyboard, storage device or screen. Then I found a small electronics store that sold

home computers and bought an Osborne-I. This PC had two 5.25" floppy disk drives, but no hard drive for massive storage. It did come with several floppy disks with elementary utility programs, MSBASIC and a CP/M compiler program that proved too labor intensive for such a project. So I used MSBASIC or GWBASIC to begin that process to create programs just for the ephemeris of Mars.



Altair 8800 PC and Osborne-I PC

The limitations of the Osborne-I quickly became obvious, so sometimes during the late 1970's Don Parker and I bought faster and higher capacity 286 PC's from a local dealer. This PC had everything one could ask for; hard drive, floppy disk drives, keyboard, RS232 I/O devices and CRT screen. This PC had several program disks and an updated GWBASIC that worked well until I bought a copy of Microsoft Quick Basic that proved to be much easier to use.

To help me understand astronomical computing our ALPO Mars Recorder and mentor, Chick Capen, suggested that I consult with John Westfall, Professor of Geography and with Walter Haas, ALPO founder and Professor of Mathematics, since they had been active in several high level analytical projects for ALPO and had the expertise necessary to steer me down the right path to accomplish this task. With the aid of several books on the subject and encouragement from John and Walter, this author set out to learn a new form of majestic mathematics; spherical trigonometry. Then I began to write programs for the physical Ephemeris of Mars. Eventually the International Mars Patrol Astronomical Calculator ("IMPAC") was born. As time passed, other Solar System objects were added to the package, e.g., the Sun and Moon, Mercury, Venus, Jupiter, Saturn, Uranus and Neptune.

Eventually these programs were rewritten, re-coded and compiled using Microsoft Visual Basic Pro 5.0 and "IMPAC" evolved into "WIMP" -- the Windows version of IMPAC. I also wrote it in "C" but did not have a C-compiler program and ditched that idea. A more detailed explanation of WIMP can be found at: <https://alpo-astronomy.org/jbeish/WIMP.pdf>

MY AMATEUR ASTRONOMY GETS COMPLICATED

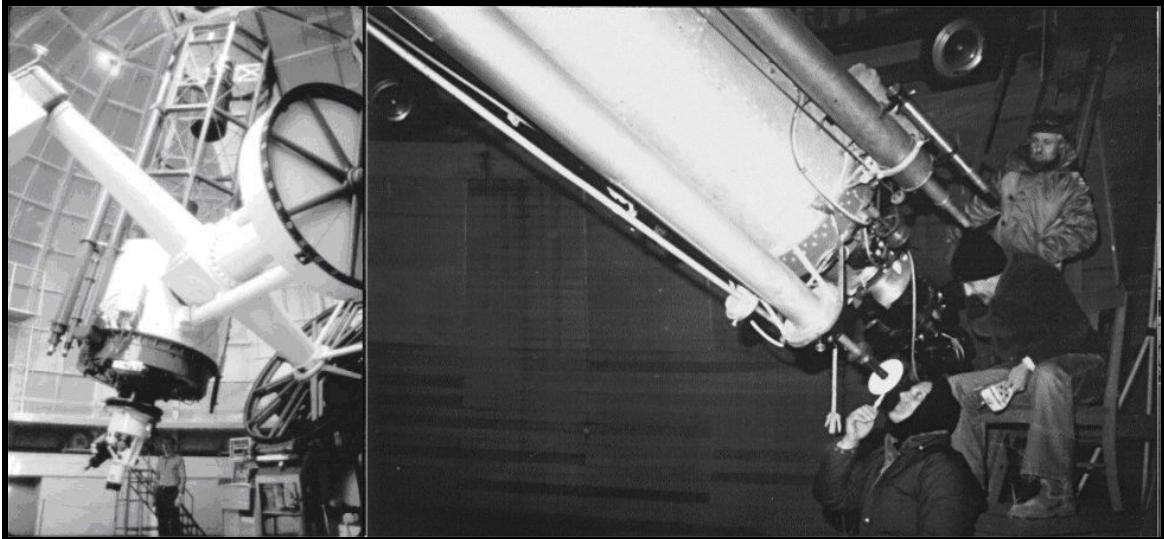
During that time I became a Member of the Board of Fellows of the S.C.A.S. were invited to join the British Astronomical Association (B.A.A.), and several others that slip my mind. In 1980 I became a Senior Mars Recorder for the Association of Lunar and Planetary Observers (ALPO) and was an invited to join the British Astronomical Association (BAA). We were invited to join the Oriental Astronomical Association (OAA), Conseiller for the Planet Mars for the Groupement International d'Observateurs De Surfaces Planetaires (G.I.O.S.P.) I was the Executive Director for the Institute for Planetary Research Observatories (IPRO), a non-profit foundation [501 (c) 3].

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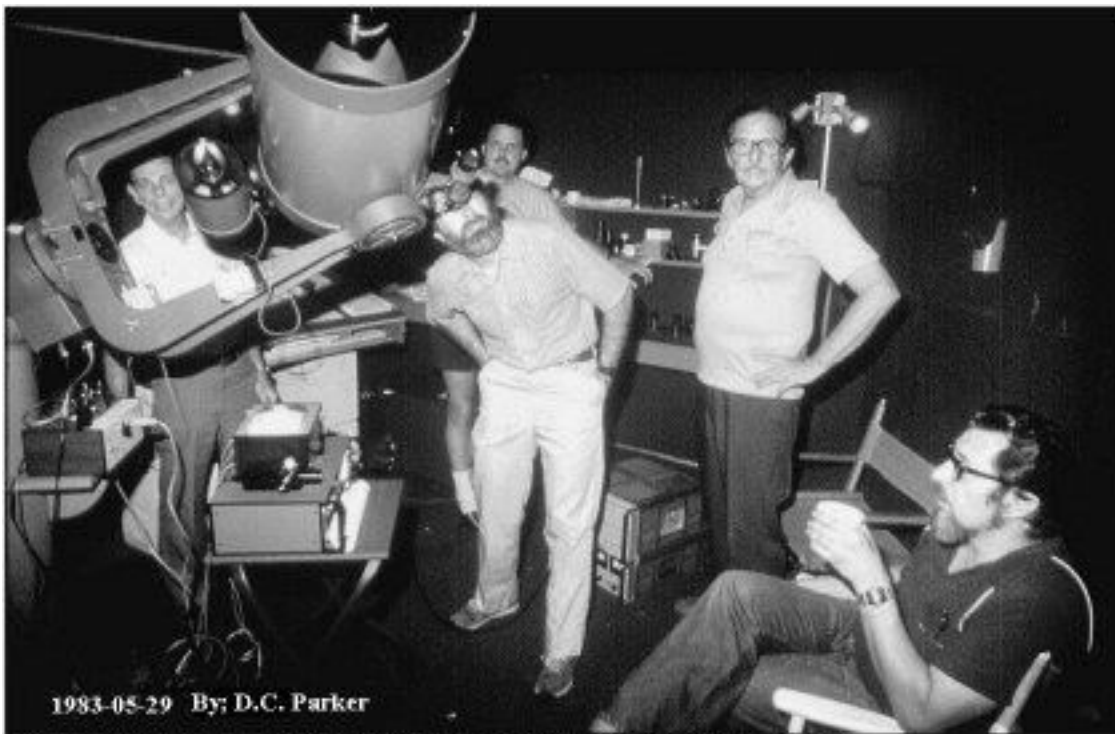
August 1982: Institute for Planetary Research (IPRO), a non-profit foundation [501 (c) 3].



LEFT: Leonard Martin under the Lowell 72-inch at Anderson Mesa, AZ. RIGHT: Don Parker, me and Chick Capen in 1980 using the Lowell 24-inch Clark refractor at Mars Hill, Lowell Observatory, Flagstaff, Arizona



Photo of some Association of Lunar and Planetary Observers (ALPO) members at the 1981 ALPO meeting in Kutztown, PA.



The Occultation of 1 Vulpeculae by the Minor Planet Pallas (1983-May-29)
L2R: Don Monger, Jim Martin, Doug Gegan, Bill Douglass and Jeff Beish: Photo by Don Parker

One of many observing sessions at the Douglass Observatory with local SCAS members and USNO astronomers. This was to observe and record the Occultation of 1 Vulpeculae by the Minor Planet Pallas. L2R: Don Monger, Doug Gegan, Jim Martin, Bill Douglass and Jeff Beish (me). (Don Parker present but not in photo)..

During our association with Capen we became close friends with [Tom Cave](#) and the host of telescope makers he knew. By attending a lot of meetings around the country we met with many of the most notable ATM'ers and would sit around shooting the breeze; a lot about telescope design and such. One advantage of going to astronomy meeting and star parties is meeting all sorts of people and discovering ideas that we normally can't find in magazines or books. Discussing issues about observing and telescope building with the most well known astronomers and telescope makers has been a great pleasure and learning experience.

Losing count of the many meetings I have attended over the years a few stick out that should be regular event for anyone interested in telescopes and observing: A.L.P.O. Annual Conventions where they usually meet with Astronomical League National and Astronomical Society of the Pacific or the Western Amateur Astronomers. I especially liked Riverside Telescope Makers Conference out in southern California where many of the most notable ATM'ers congregate. Of course, the Winter Star Party is just one of many great star parties that you can find a wide variety of home built telescopes and equipment. S.C.A.S. had a great Amateur Telescope Making (ATM) group so we set out in the 1970's to build some moderate telescopes.

The four of us remained close friends until Capen passed away in May of 1986. In June 1986 June, Bill Douglass, Dave Raden and me from Miami attended Chick's Funeral in Cuba, MO. We continued to visit with Chick's widow, Gina, in Missouri and attend [ALPO](#) meetings together with the founder of ALPO, [Walter Haas](#), [Dave Raden](#) and others all around the country to honor Chick's work.



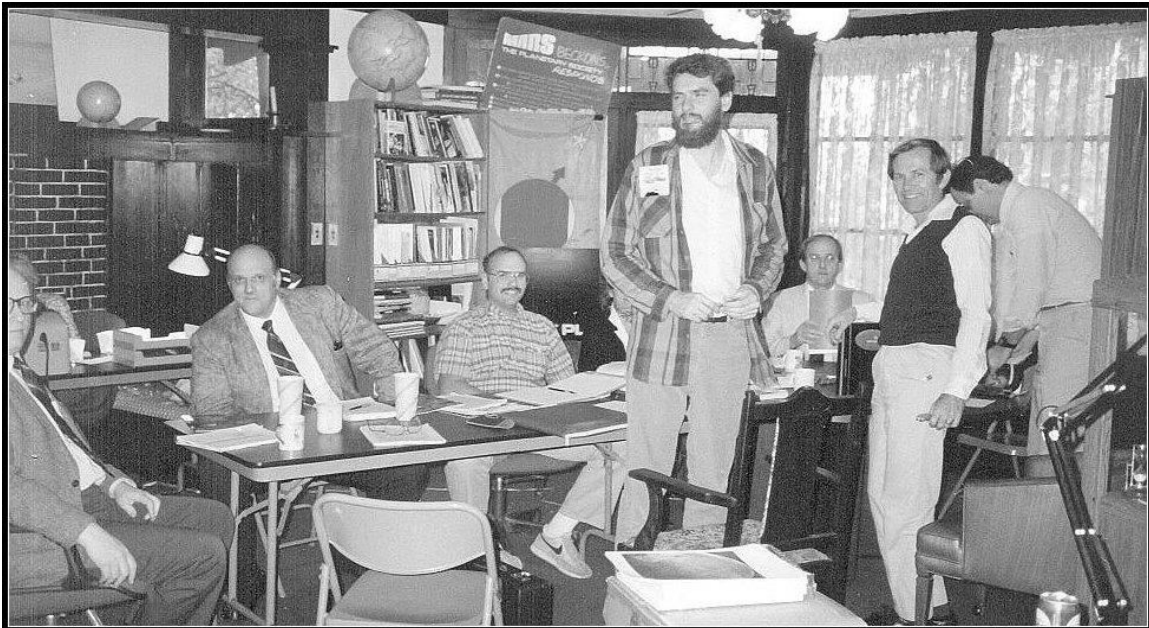
Sitting on the Capen Back Deck after Chick's Funeral.

During those times Don and I have attained considerable international attention and our research work on Mars is recognized the world over. Between the three of us, Bill, Don and me, we have published close to 500 papers in both amateur and professional journals and magazines - and lectured all over the world. Of course, our appreciation for all this has been gratifying for many personal reasons, not the least of which is the years of friendship and working together with Don, Bill and Chick.



A friendly get-together at the Capen Home in Cuba, Missouri while attending the St. Louis, MO ALPO Meeting.
L2R: Dave Raden, Bill Douglass, Jeff Beish, Rex Capen, Donna and Steve O'Meara (1990)

In a twisted sort of way Bill was responsible for much of the interest and successes we achieved during all the years hence. Bill will be missed by many people and most of all by his friends who stuck with him throughout all his tormented years of ill health and confusion about growing older. He, like the rest of us, wanted to always remain young. He remains our friend even in death and remembered for his youthful interest in astronomy. In 1987 we served on the Mars Watch '88 Science Advisory Council of The Planetary Society, member of the American Geophysical Union (AGU), and member of the Division of Planetary Sciences (DPS) of the American Astronomical Society (AAS).



Meeting of members of the Planetary Society Marswatch '88 Science Advisory Council. Left2Right: [Phil James](#) (U. of Toledo), [Don Parker](#) (ALPO), [Steve Edberg](#) (JPL), [Chris McKay](#) (NASA-AMES), [Mike Mumma](#) (Goddard), [Terry Martin](#) (JPL), and [Louis D. Friedman](#) (The Planetary Society).

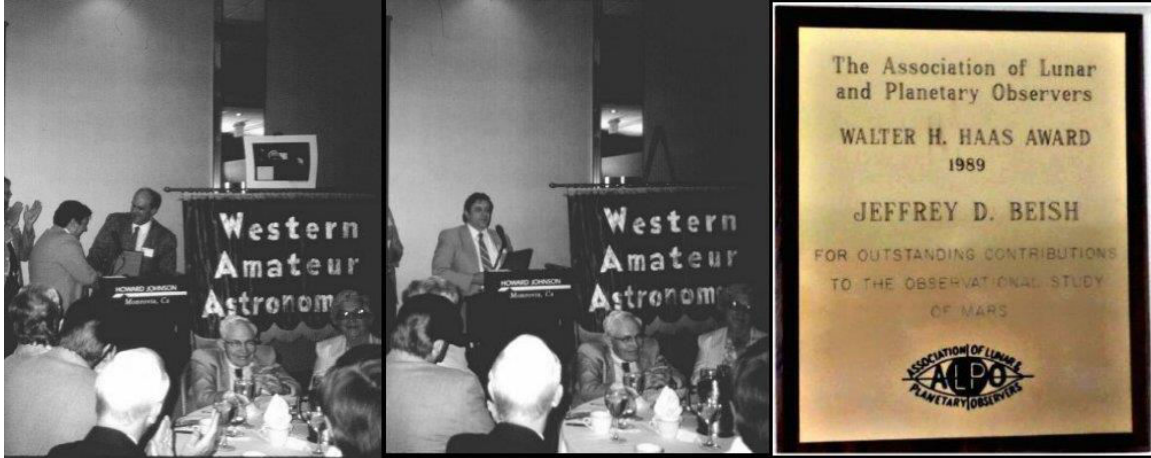
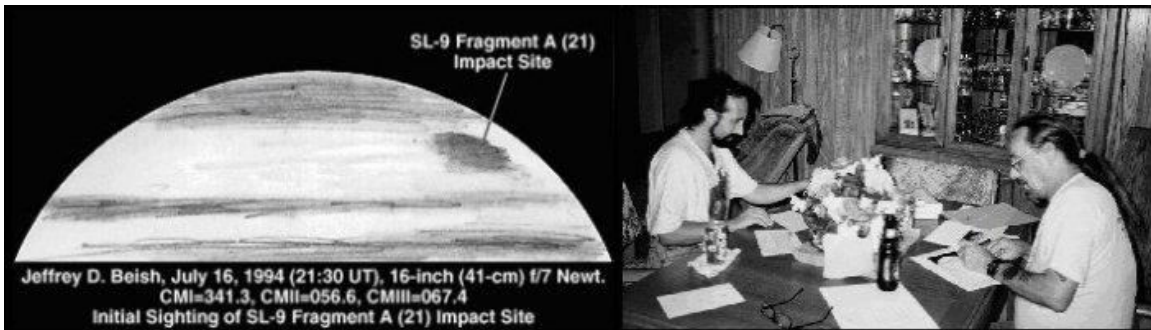


Photo of the 1989 Walter Haas Award at the WAA/ALPO meeting in Pasadena, CA . Don Parker presents me with the award. Clyde Tombaugh, discoverer of the planet Pluto, sitting center right in photo.

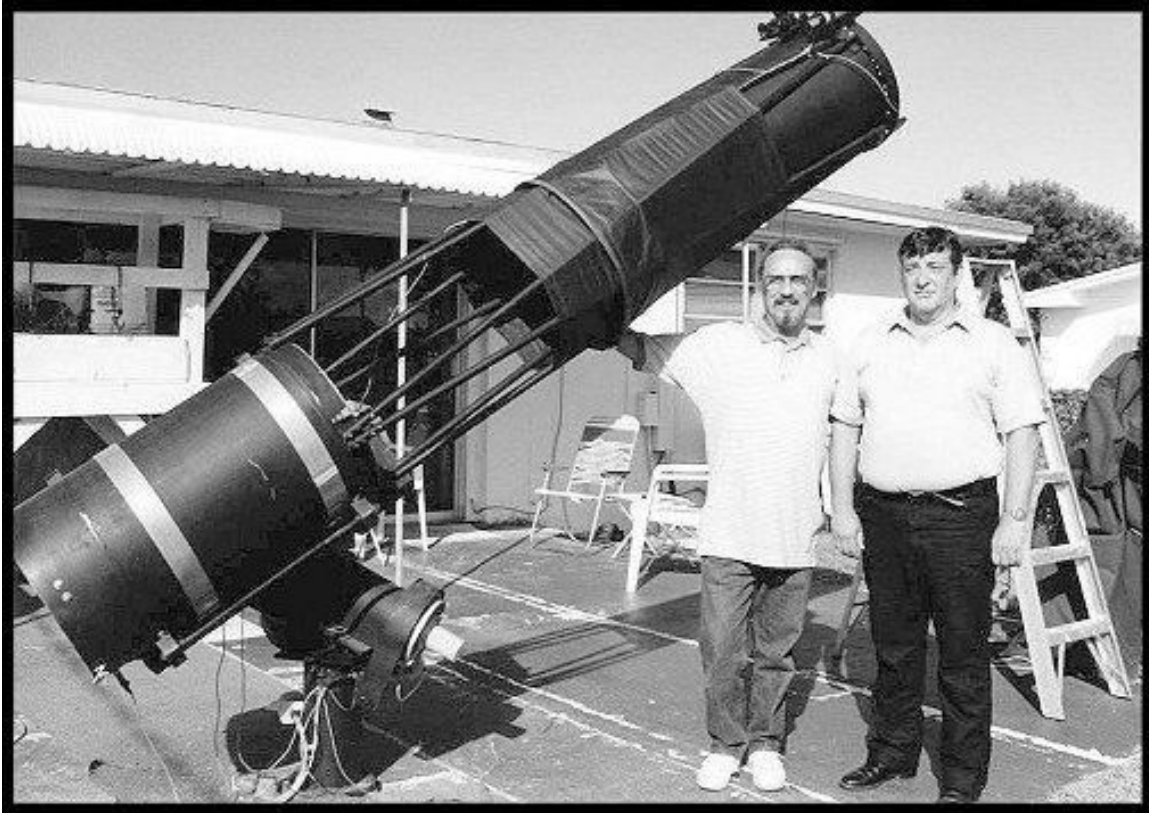
During a two-week period, in late October and November 1990, my assignment was to travel to the Mauna Kea Observatory to photograph Mars for the [International Planetary Patrol](#) Leonard Martin was the primary Mars researcher at the Lowell Planetary Research Lab, so from time to time he would call upon several of us to observe for the International Planetary Patrol at various observatories around the world.

In early 1980 I became friends with [Tippy](#) and Patty D'Auria, who founded and managed the famous Winter Star Party in south Florida, and remain close today -- as Tippy has also retired to yard work and casual observing the heavens with his telescopes.

Event: July 16-22, 1994: Impact of the Comet Shoemaker-Levy 9 with the Planet Jupiter.
 Observed with June and Natalie Beish, Carlos Hernandez, Steve O'Meara and Tippy D'Auria using my 16" telescope. Central Bureau for Astronomical Telegrams, Circular No. 6023 naming me to be first to see impact.



LEFT: Southern half of Jupiter as drawn by Jeff Beish on 16 July 1994 at 2130 UT using 16-inch f/6.9 Newtonian telescope. Chart shows dark, diffuse feature in South Tropical Zone of Jupiter that turned out to be the first visual observation of the impact site of comet Shoemaker-Levy 9 (1993e) on Jupiter. "Astronomical seeing" poor due to daylight observation and light cirrus clouds. RIGHT: Steve O'Meara (S&T Magazine) and Tippy D'Auria (SCAS) during [1994 Comet/Jupiter Encounter](#)



Tippy D'Auria and me in July 1994 with my 16" telescope at my home in Cutler Ridge, Florida

During the last weeks of 1988 my job at Eastern Airlines became less desirable and less secure. My intention was to seek a new job and fortunately I ran into the director of the [U.S. Naval Observatory \(USNO\)](#) in south Florida who asked me to consider working at the USNO. So, in June 1989, after a 30-year career in the flight simulator field I joined the USNO and Federal Government. A new journey in life had begun in what may have seemed like an amateur astronomer's dream -- that turned out to be a lot of work. The ultimate decision to leave my job was taken out of my hands when the union went on strike -- leaving us out on the street!

At the USNO our mission was to participate in the worldwide network with Very Long Based Interferometry (VLBI) and provide data using an 18-meter radio telescope. This dish was literally found in a junkyard near another radio observatory in Massachusetts. In August 1992, hurricane Andrew quickly mashed that one to the ground, so the Navy replaced it with a brand new 20-meter dish. The Navy closed the station in October 1996 and I as transferred to Washington, DC.

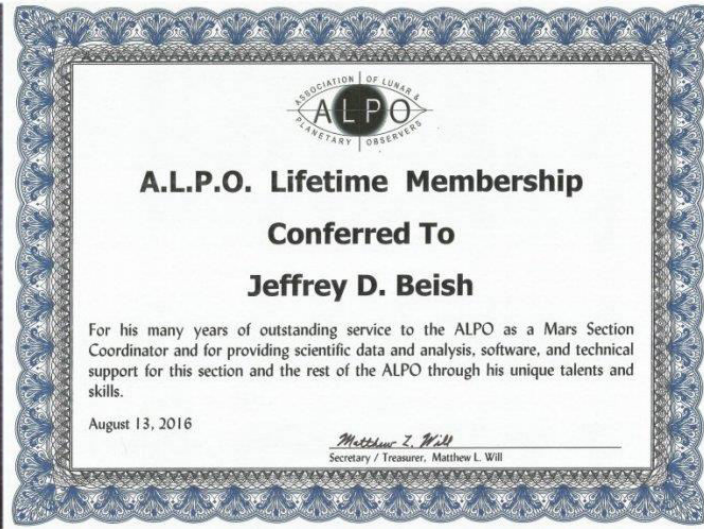


LEFT: Walter Haas, founder of the ALPO, with his 12.5" f/9 Newtonian in Las Cruces, NM. RIGHT: L2R: Don Parker, Jeff Beish (me), Walter Haas, and Cecil Post enjoying a beer at a local restaurant during the 1998 ALPO meeting in Decatur, GA.

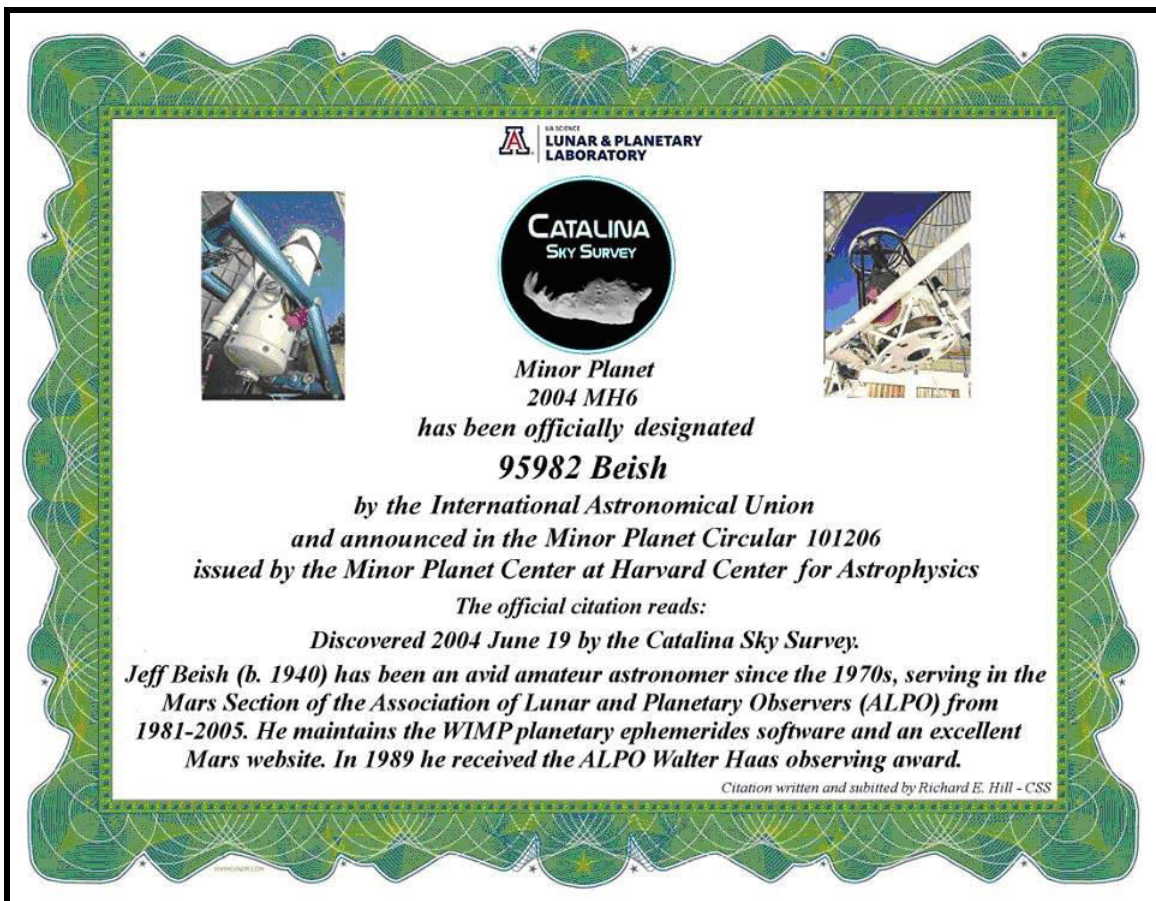
My duties required me to design and assemble satellite antenna systems and software for automated control of precise time transfer and calculations between the U.S. Naval Observatory Time Station in Washington, D.C. and several other time service stations around the world. Also, my duties include maintenance and service of the geosynchronous orbit satellite antenna transmitter and receiver systems and Global Positioning Satellite (GPS) systems working in conjunction with satellite time transfer systems. I have been assigned additional duties for collecting and analysis of ground water level measuring and local meteorological conditions including software and hardware development.



USNO Time Service Retirement Plaque and Model of the 26-inch Dome Presented to me on May 18, 2001, and retirement certificate.



2016 Peggy Haas Service Award and ALPO Lifetime Membership



Minor Planet 95982 Beish (2004 MH6, June 19, 2004) Jeff Beish (b. 1940) has been an avid amateur astronomer since the 1970s, serving in the Mars Section of the Association of Lunar and Planetary Observers (ALPO) from 1981-2005. He maintains the WIMP planetary ephemerides software and an excellent Mars website. In 1989 he received the ALPO Walter Haas observing award:

http://www.minorplanetcenter.net/db_search/show_object?utf8=%E2%9C%93&object_id=95982

The rest is history. I have published many professional engineering articles, 235 amateur and professional papers on Mars or other astronomy subjects, The Mars Observer's Handbook, by me and Chick Capen -- Mars, Martin, L.J., P.B. James, A. Dollfus, K. Iwasaki, and J.D. Beish, "Telescopic Observation: Visual, Photographic, Polarimetric," University of Arizona Press, Mars, Chapter 1.2. 1992 -- The Best of Amateur Telescope Making Journal (ATMJ), "Buried Gold in an old D8," Chapter 3.6, Willmann-Bell, Inc. -- The Best of ATMJ, "Telescope for Observing Planets," Chapter 6.3, Willmann-Bell, Inc. and Mars; An Observing Guide, By: J.D. Beish.

ASTRONOMICAL PUBLICATIONS

LECTURES / PRESENTATIONS

1. Douglass, W.T., Parker, D.C., and Beish, J.D., "Report on the ALCON'80 Meeting" ("Our Trip to Tucson"), *Southern Cross Astronomical Society (S.C.A.S). General Meeting* at Miami, FL, September 1980.
2. Capen, C.F. and Beish, J.D., "Computer Program for Martian Environmental Climatic Studies," *Astronomical League National Convention (ASTROCON) '81-A.L.P.O.*, at Kutztown, Pa., August 1981.
3. Beish, J.D., Parker, D.C., and Capen, C.F., "Advanced Methods of Research for the Amateur Astronomer," *ALCON '82-A.L.P.O.*, ALNC at Peoria, IL, July 1982.
4. Parker, D.C., Beish, J.D., and Capen, C.F., "Exploring the Martian Atmosphere - The 1981-82 Apparition," *ALCON '82-A.L.P.O.*, ALNC at Peoria, IL, July 1982.
5. Capen, C.F., "International Mars Observation Computer Program Studies of Seasonal Meteorological Phenomena," An invited paper based data obtained on computer programs and analysis of Martian meteorology by J.D. Beish, D.C. Parker, and C.F. Capen. *Commission 16 of the 18th General Assembly of the International Astronomical Union (IAU)*. 19 August 1982.
6. Capen, C.F., "Current Changes in the Martian Arctic," An invited paper based data obtained on computer programs analysis of Martian meteorology by J.D. Beish, D.C. Parker, and C.F. Capen. *Commission 16 of the 18th General Assembly of the International Astronomical Union (IAU)*. 19 August 1982.
7. Beish, J.D., "Observing Mars," *S.C.A.S. General Meeting* at Miami, FL, February 1983.
8. Beish, J.D., Capen, C.F., and Parker, D.C., "Dust Storms of the Martian Equatorial Zone," *ALCON '83-A.L.P.O.*, ALNC at Jacksonville, FL, July 1983.
9. Beish, J.D., Parker, D.C., and Capen, C.F., "Computer Program for Martian Environmental Climatic Survey," *ALCON '83-A.L.P.O.*, ALNC at Jacksonville, FL, July 1983.
10. Parker, D.C., Capen, C.F., and Beish, J.D., "Measuring Planetary Surface Features with a Filar Micrometer," *ALCON '83-A.L.P.O.*, ALNC at Jacksonville, FL, July 1983.
11. Capen, C.F., Parker, D.C., and Beish, J.D., "The 1981-82 Aphelic Martian Apparition - A.L.P.O. Report," *ALCON '83-A.L.P.O.*, ALNC at Jacksonville, FL, July 1983.
12. Douglass, W.T., Parker, D.C., Beish, J.D., Martin, J., and Monger, D., "The Occultation of 1 Vulpeculae by the Minor Planet Pallas," *ALCON '83-A.L.P.O.*, ALNC at Jacksonville, FL, July 1983.
13. Parker, D.C., Beish, J.D., and Douglass, W.T., "Report on ALCON '83," *S.C.A.S. General Meeting* at Miami, FL, August 1983.
14. Beish, J.D., Parker, D.C., and Capen, C.F., "The Great Martian Dust Storm of 1984," *ALCON '84-A.L.P.O.*, ALNC at Waukesha, WI, August 1984.
15. Parker, D.C., Beish, J.D., and Capen, C.F., "The Third Martian Arctic Expedition...1984," *ALCON '84-A.L.P.O.*, ALNC at Waukesha, WI, August 1984.
16. Beish, J.D. and Parker, D.C., "Observing Mars-1986," *S.C.A.S. General Meeting* at Miami, FL, July 1986.
17. Parker, D.C., Beish, J.D., and Capen, C.F., "A Simple Technique for Obtaining Violet Light Photos of Mars," *ASTROCON '86-A.L.P.O.*, at Baltimore, Md., August 1986.
18. Beish, J.D., "Meteorological Survey of Mars," *ASTROCON '86 -A.L.P.O.* at Baltimore, Md., August 1986.
19. James, Philip B., Klaus M. Malolepszy and Leonard J. Martin, (1987), "Interannual Variability of Mars' South Polar Cap," NASA, January 1, 1987

- 20 Parker, D.C. and Beish, J.D., "The 1986 Mars Apparition: A Challenge Accepted," *Astronomical Society of the Pacific (UNIVERSE) '87-A.L.P.O.*, ASP at Claremont, Ca. 13 July 1987.
21. Beish, J.D., "The 1988 Perihelic Apparition of Mars," *UNIVERSE '87-A.L.P.O.*, ALNC at Claremont, Ca. 13 July 1987.
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2. **Mars** , Martin,L.J., P.B. James, A. Dollfus, K. Iwasaki, and J.D. Beish, "Telescopic Observation: Visual, Photographic, Polarimetric," University of Arizona Press, Mars, Chapter 1.2. 1992.
3. **The Best of Amateur Telescope Making Journal (ATMJ)** , "Buried Gold in an old D8," Chapter 3.6, Willmann-Bell, Inc.
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2. "Stargazers Poised for Halley's Comet," Article including J.D. Beish and D.C. Parker, By: Stephen K. Doig, *The Miami Herald* , (July 29, 1985).
3. "Astronomers Track Storms Among the Stars," Article about D.C. Parker and J.D. Beish, By: Stephen K. Doig, *The Miami Herald* , (August 19, 1985)
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5. "Halley's Comet is Gone? So, What? Red Planet is Ripe for the Viewing," Article about Jeff Beish and Don Parker , By: Steve Doig, *The Miami Herald*, (May 21, 1986)
6. "Stargazers Await Close Encounter with Mars," Article about Jeff Beish and Don Parker, By: Bea Moss *The Miami Herald* , (July 17, 1986)
7. 'Close Brush With Mars When Red Planet Is Nearby, It Unveils Its Many Mysteries,' July 10, 1988 | By Wayne Blankenbeckler: http://articles.orlandosentinel.com/1988-07-10/news/0050260187_1_planet-mars-sun
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8. "A Close Encounter Of The Red Kind: Mars Watch '88," By: Lee Siegel, Technical Advisers: J.D. Beish and D.C. Parker, *Associated Press*, Press release. (August 15, 1988), *Houston Chronicle*, and other major newspapers.
10. "Viewing Mysterious Mars," By: David Gregorio Technical Advisers: J.D. Beish and D.C. Parker *Bridgepost Telegram* (August 22, 1988)
11. "A Close Encounter With Mars," By: Nancy Ross-Flanigan, Technical Advisers: J.D. Beish and June Beish, *Detroit Free Press* (August 30, 1988)
12. "Mars Watch '88," By: Victoria Dausen, Technical Adviser: J.D. Beish, *New Orleans Times Picayuen* (August 30, 1988)
13. "Mars Watchers Study Red Planet During Closest Approach Since 1971," By: Lee Siegel, Technical Advisers: J.D. Beish and D.C. Parker, *Associated Press*, Press release. (September 20, 1988), *Houston Chronicle*, and other major newspapers.
14. "Mars, Earth In Close Encounter," By: Stephen K. Doig, Information supplied by J.D. Beish and D.C. Parker, *The Miami Herald*, (September 21, 1988)
15. "The Eyes of Mars, All Eyes Focusing Toward the 'Red Planet'," By: Michelle Slocum, Technical Advisers: J.D. Beish and D.C. Parker, *Alexandria Daily Town Talk*, (September 25, 1988)
16. "Celestial Firworks: Comet chunk smashes into Jupiter, creating huge plume," *The Miami Herald*, (July 17, 1994)
17. "Outer Limits: Thousands of South Floridians are turning out to see celectial show," *Sun-Sentinel*, (July 20, 1994)
18. "Comet Pummels Jupiter, revealing Details," *The New York Times*, (July 18, 1994)
19. "Amateur astronomer first to see Jupiter's heavenly firworks," *South Dade News Leader*, (July 22, 1994)
20. "Comet impact sighting wasn't heavenly for finder," *Sun-Sentinel*, (July 15, 1995), *Associated Press*, Press release.
21. "Though a Glass Darkly; Comet a Dazzling Sight," by: Donna Gehrke, mentioned as participant at star party to observe comet Hyakutake, *The Miami Herald*, (March 25, 1996)
22. "County to consider lighting ordinance," by: ED BALDRIDGE, The News Sun, March 12, 2009: <http://www.newssun.com/0313-eb-county-lights>
23. "County Commissioners Looking Into Regulating Lighting," by: JIM KONKOLY, Highlands Today, March 11, 2009: <http://www2.highlandstoday.com/content/2009/mar/11/la-county-commissioners-looking-into-regulating-li/>
24. "Let there be dark," by: CHRISTOPHER TUFFLEY, The News Sun, Friday, July 03, 2009: <http://www.newssun.com/0701-ct-lighting-safety>
25. Science Goes to the Moon and Planets: Celebrating 50 years since the IGY, Wesley T. Huntress, Jr. <https://www.nap.edu/read/12675/chapter/8>

Radio and T.V. Interviews

1. Channel 10 News, May 11, 1983, Garret Glazier, Comet IRAS-Araki-Alcock.
2. Channel 7 TV News, 1986, Rick Sanchez, Halley's Comet.
3. Channel 10 TV News, Susan Cantionite, Halley's Comet.
4. Channel 10 TV News and ABC Nightline, Ted Kopple, Halley's Comet-Demonstration at local school.
5. Channel ? TV News, Comet Flyby.
6. NOVA interview at Roper Mountain Science Center in 1988.
7. Channel 4 TV Saturday Morning News (live), Gil Beach and David Damien, July 17, 1994, with Carlos Hernandez, Don Parker, and Jack Horkheimer.
8. Channel 4 TV Evening News, July 17 1994
9. Channel 4 TV late night news, interview at house with Michael Williams.
10. TV Show: "An Announcement About Mars You Won't Believe!" STAR GAZER Episode # 01-45 (1248th Show aired Monday 11/05/2001 through Sunday 11/11/2001), StarGazing with Jack Horkheimer,

Astronomical Organization Memberships

1. **Southern Cross Astronomical Society, (S.C.A.S.)**, Position: Former Member of Board of Directors (Aug 1980-1993).
2. **Association of Lunar and Planetary Observers, (A.L.P.O.)**, Position: Former Senior Mars Recorder (1981-

1995).

3. **Institute for Planetary Research Observatories (I.P.R.O.)**, Position: Director (1982 - 1996).
4. **British Astronomical Association, (B.A.A.)**, Position: Advisor and Observer.
5. **Oriental Astronomical Association, (O.A.A.)**, Position: Consultant for the Planet Mars.
6. **The Planetary Society**, Position: Member, Mars Watch '88 Science Advisory Council.
7. **Groupement International d'Observateurs De Surfaces Planetaires (G.I.O.S.P.)**, Position: Conseiller for the Planet Mars.
8. **Division of Planetary Sciences of the AAS (DPS)**.
9. **American Geophysical Union (AGU)**

Awards

1. In Appreciation, Astronomy lecture at **Kendall Kiwanis** (Miami, FL)
2. Men of Achievement, **International Biographical Society**.
3. Certificate of Appreciation Awarded at the S.C.A.S. **Winter Star Party**, February 1989.
4. **The 1989 Walter H. Haas Award**
5. **2016 Peggy Haas Service Award**.
6. Minor Planet 95982 Beish (2004 MH6, June 19, 2004) Jeff Beish (b. 1940) has been an avid amateur astronomer since the 1970s, serving in the Mars Section of the Association of Lunar and Planetary Observers (ALPO) from 1981-2005. He maintains the WIMP planetary ephemerides software and an excellent Mars website. In 1989 he received the ALPO Walter Haas observing award:
(http://www.minorplanetcenter.net/db_search/show_object?utf8=%E2%9C%93&object_id=95982)

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1. **Astronomy 80** (WAA, ASP, and ALPO), Tucson, Az, July 7-12, 1980.
2. **AstroCon 81** (Astronomical League and ALPO), Kutztown, Pa, August 10-16, 1981.
3. **Alcon 83**, (Astronomical League and ALPO), Jacksonville, FL., July 26-30, 1983.
4. **1985 Winter Star Party**, February - Mahogany Hammock
5. **1986 Winter Star Party**, February - Mahogany Hammock
6. **AstroCon 86**, (Astronomical League and ALPO), Baltimore, MD, August 5-10, 1986.
7. **1987 Winter Star Party**, February - Mahogany Hammock
8. **Universe 87**, (ASP, WAA, Astronomical League and ALPO), Clearmont, Ca, June 11-16, 1987.
9. **1988 Winter Star Party**, February - Boy Scout Camp
10. **1989 Winter Star Party**, February - Boy Scout Camp
11. **1990 Winter Star Party**, February - Boy Scout Camp
12. **Alcon 90**, (Astronomical League and ALPO), Saint Louis, Mo, July 31 - August 4, 1990.
13. **1991 Winter Star Party**, February - Boy Scout Camp
14. **1992 Winter Star Party**, February - Boy Scout Camp
15. **1993 Winter Star Party**, February - Boy Scout Camp
16. **ALPO 94**, (ALPO), Greenville, SC, June 15-18, 1994.
17. **ALPO 98**, (ALPO), Atlanta, Ga, July 9-11, 1998.