

A sample of Bracewell Sundial signatories — brief notes on careers

Ellen Bouton (NRAO Archivist, 2013 updated 2019)

Bok y Bok (Side 4-E1): Bart [1906-1983] and Priscilla [1896-1975] Bok. In the early 1950s Bart Bok was a strong voice in favor of a national radio astronomy facility - what became NRAO. He taught at Harvard where many of the first NRAO astronomers were students. He later headed Mt. Stromlo Observatory in Australia and then Steward Observatory at University of Arizona. Priscilla Bok, also an astronomer, focused on star clusters, stellar magnitudes, and the structure of the Milky Way. Bart and Priscilla collaborated on many academic papers and a textbook on the Milky Way.

E.G. "Taffy" Bowen [1911-1991] (Side 2-E1): One of the inventors of radar. Long-time Director of the Radiophysics Laboratory at CSIRO in Australia; his interest and support made Australia a leader in radio astronomy.

Cecilia Payne Gaposchkin [1900-1979] (Side 4-W1: First woman at Harvard to be a full professor, to be tenured, and also to chair a department. She taught many of the first radio astronomers who came to NRAO .

John Jelley [1918-1997] and Joan Freeman Jelley [1918-1998] (Side 1-E1): John Jelley was a nuclear physicist involved in the first detection of Cerenkov radiation from extensive cosmic ray air showers in 1955. Joan Freeman, also a physicist, first worked on radar at the Radiophysics Lab during World War II, then moved to England and the Cavendish Laboratory. She married John Jelley in 1958, continuing her own career in physics until they both retired.

Virginia Lincoln [1915-2003] (Side 2-E3): An atmospheric scientist working in Boulder CO for the National Bureau of Standards, she was the chief of the Aeronomy and Space Data Center and, for about 10 years beginning in 1968, an active contributor to the IAU Quarterly Bulletin on Solar Activity.

Bernard Lovell [1913-2012] (Side 1-N5): British radio astronomer, built Jodrell Bank Telescope in Manchester; one of the few who dated his signature, 4-18-67

Joseph L. Pawsey [1908-1962] (Side 4-E1): Australian radio astronomer in CSIRO's Radiophysics Laboratory, very early proponent of interferometry who used a sea interferometer in 1945-46 for solar work. Appointed as 2nd Director of NRAO in 1962 but died of a brain tumor before he could begin the job. His vision for NRAO included an interferometer – like the VLA.

Venkataraman Radhakrishnan [1929-2011] (Side 1-W4): Worked at Onsala Observatory in Sweden, at Caltech, and at CSIRO before returning to India in 1972 to head the Raman Research Institute where he established successful programs in radio astronomy and different branches of physics.

Nancy Roman [1925-2018] (Side 3-E1): Astronomer first at Yerkes, then at Naval Research Laboratory. Working at NASA from 1959 to 1979, she became the first chief of astronomy in the Office of Space

Science, and the first female to hold an executive position. She oversaw work for several astronomical satellites, including the Cosmic Background Explorer and the Hubble Space Telescope.

Henrik Cristoffel (“Henk”) Van de Hulst [1918-2000] (Side 2-E4): Predicted the 21 cm hydrogen line in 1944 while still a student at Utrecht. After the line was detected by Ewen and Purcell in 1951, he, along with fellow Dutch astronomers Jan Oort (Side 1-E1) and Alex Muller, used radio astronomy to map out the neutral hydrogen in our galaxy, which first revealed its spiral structure. He taught the first known course in radio astronomy, at Leiden in Fall 1950, then again in Spring semester 1951 as Astronomy 241b at Harvard University, where van de Hulst was a Visiting Professor.

Alan Waterman [1892-1967] (Side 1-E3): First Director of the National Science Foundation, in November 1956 he signed the agreement with Associated Universities, Inc. that brought NRAO into existence, and in October 1958 presided at the dedication of NRAO’s first telescope, the 85 foot Howard E. Tatel Telescope.

Xiang Delin (Side 3-E2): A millimeter astronomer at China’s Purple Mountain Observatory, she spearheaded development of the 13.7m millimeter telescope near the city of Delinha in Qinhai Province on the Tibetan Plateau, the only radio facility working in millimeter waveband in China.

The NRAO signatures:

- Barry Clark [1938-] (Side 2-E4) – came to NRAO in 1964, and led development of digital recording and software for correlators for VLBI, for the VLA, and for the VLBA;
- Frank Drake [1930-] (Side 4-E3) – at NRAO 1958-1962, did galactic center and planetary work and in 1960 initiated Project Ozma, the first search for extraterrestrial intelligent life, using NRAO’s 85 foot Tatel telescope
- Ron Ekers [1941-] (Side 2-N5) – VLA Director from 1980-1987, then Director of CSIRO’s Australia Telescope National Facility, past President of the IAU;
- John Findlay [1915-1994] (Side 4-W1) – joined NRAO in 1956 as employee #5, and led NRAO’s efforts in the design of new antennas, including the 300 foot in Green Bank WV and the 36 foot in Tucson, and led groups investigating design of 65 and 25 meter millimeter telescopes as well as the theoretical work for a Largest Feasible Steerable Telescope;
- Vic Herrero [1941-] (Side 3-N5) – at NRAO in Green Bank in the early 1970s and also at the VLA in its early years;
- Bill Howard [1932-2016] (Side 1-W2) – at NRAO beginning in 1964, where he served as Assistant to the Director and later as Green Bank WV Director, then left in 1977 to head the Division of Astronomical Sciences at NSF until 1982;
- Hein Hvatum [1923-2008] (Side 1-W4) – came to NRAO for a year in 1958, then permanently in 1962, and before retiring in 1987 he guided all technical activities, including the construction of the VLA and early VLBA construction;
- Ken Kellermann [1937-] (Side 1-E1) – at NRAO since 1965, involved in early VLBI, in the VLBA, RadioAstron, and SKA.