Wim Brouw – Personal Reminiscences

A mini-symposium honouring Wim Brouw's achievements and legacy

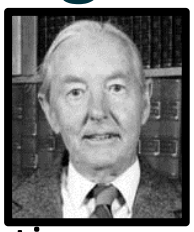
Bob Frater and Ron Ekers

7 July 2017

CSIRO ASTRONOMY AND SPACE
www.csiro.au

CSIRO

Sydney University Electrical Engineering 1971-1973



- On leave from NFRA
  - Offered a job by Chris Christiansen who had met him in the Netherlands – introduce by Jan Oort
- Wrote a software reduction package for the Fleurs Synthesis Telescope (FST)
  - PDP 11/20, 32 k-bytes core, 1 m-byte disk
- This was the resurrection of aperture synthesis imaging in Australia
  - The first Fourier synthesis radio image was Christiansen & Warburton 1955
  - But they used hand calculations of the FT and that was totally impractical
  - The next Fourier synthesis image in Australia was Wim's FST image in 1973
- Offered the position as head of EE (Chris's position) in 1979
  - declined

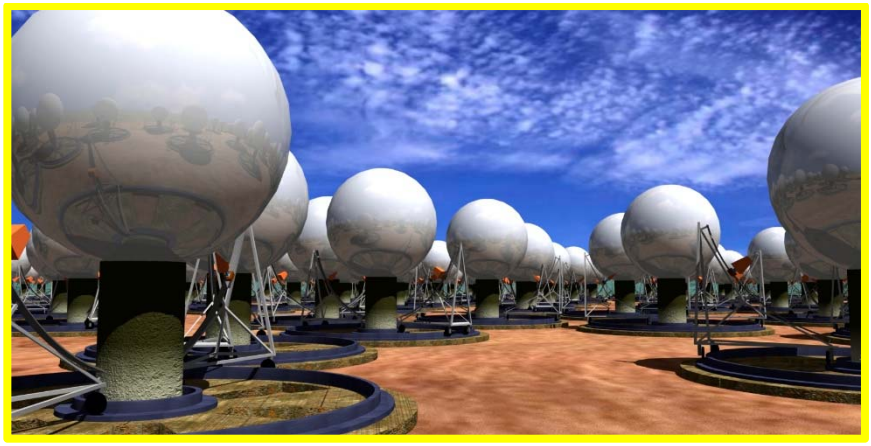
VLA 1981

- On leave from NFRA
- Completed the VLA pipeline reduction package
- A network of PDP-11 computers and array processors
  - Computer capacity required for VLA spectral line imaging
- Architecture designed by Barry Clarke
  - Barry became 100% involved in the VLA on-line system
  - NRAO hired software experts to complete the pipeline but they failed
- Wim brought in to rescue this primary VLA processing system
- Wim succeeded
  - With help from Bob Payne this was used for early VLA spectral line processing
  - By the mid 80's general purpose computers could just handle the processing so the complex hardware dependent pipeline was abandoned

CSIRO-ATNF
1992-2003

- ATNF advisory committee (1985-1988)
- Appointed to CSIRO (CRS1) in 1992
  - Focus on research projects not management
- CSIRO Supercomputing Management Committee (1993-1998)
- Became a key part of the AIPS++ software development group
- IAU Standards of Fundamental Astronomy (1999)
- Australian project coordinator for FARADAY FP5 (2001)

Wim and the SKA 1994-



- Proposed the IAU Future Large Scale Facility Working Group with Harvey Butcher – IAU Den Hague (1994)
- Organized the first Australian SKA (1kT) meeting in 1995
  - Wim wrote the first clear summary of specifications
- Member SKA International Steering Committee (1999-2006)
- Member Australian SKA Consortium (2000-2003)
- Member SKA site selection committee (2003)
- Secretary SKA Steering Committee (2003 - 2006)

Wim commenting on the SKA in 2001

"Compared to some of the next generation optical telescopes the SKA should be an easier instrument to build. It consists only of the equivalent of 120 100-m radio telescopes, 30 years after the first 100-m radio telescope was built. A 100-m optical telescope would be the equivalent of 120 8-m optical telescopes, only a few years after the first monolithic 8-m class telescope was finished."

Wim Brouw, Astrophysics and Space Science **278:** 205–208, 2001

In Summary -
why Wim is so special

- Very smart
  - Easy for Wim to tackle difficult problems such as aperture synthesis
- Stimulated when pushing the boundaries
- A big picture person with a clear vision
  - But with the unusual ability to also handle details accurately.
  - This resulted in a unique programing style in which he first conceived the overall structure in his head and only then coded the entire solution
- Wim valued highly the importance of getting things right
  - Premature releases of AIPS++ with known errors were anathema to Wim
- High integrity
  - sometimes to a degree which could cause difficulty in the real world
- Valued highly the need for clear and accurate communication
  - Very apparent when he became the ISSC secretary