

EUCARA 2025 – Conference Report

The **European Conference for Amateur Radio Astronomy** took place at the Rutherford Appleton Laboratory in Harwell in Oxfordshire from 5th - 7th September 2025. It was the first time the conference had taken place in the UK, with previous conferences dating back to 2014 held in Germany and the Netherlands. The Conference was hosted by the BAA Radio Astronomy section and RAL Space and over 80 participants from the UK, Germany, Netherlands, Italy and Croatia attended.

The conference provided a fascinating mix of enthusiastic and knowledgeable amateur radio astronomers alongside professionals from RAL Space and Jodrell Bank. The keynote speaker was **Prof Jocelyn Bell Burnell**, who made one of the most important astronomical discoveries of the 20th century when she identified the first pulsar in 1967. As well as highlighting the technical aspects of pulsars, she gave some personal observations of the obstacles she had to overcome in her career. Despite not winning a Nobel Prize for her discovery, she has won numerous awards since including the 2018 Special Breakthrough Prize in Fundamental Physics awarded “*for fundamental contributions to the discovery of pulsars, and a lifetime of inspiring leadership in the scientific community*”. She donated the \$3m prize to set up a fund to support women and minority candidates complete their PhDs.



Jocelyn Bell Burnell talking about pulsars

Pulsars was also the subject of several other talks, including **Peter East**, a retired defence electronics engineer who gave a spoke about “*How to Catch a Pulsar*” using backyard radio telescopes and freely available software, something until only recently considered the domain of professionals. **Dr Tammo Jan Dijkema** gave a fascinating insight into timing pulsars using the historic 25 metre Dwingeloo telescope. When built in the Netherlands in 1956 it was briefly the world’s largest radio telescope. After some years of neglect was restored in 2012 by a group of volunteers who now use it for public outreach, tracking space craft and amateur radio astronomy.

On an historical note **Stephen Mullaly** gave a talk on “*Radar and the Birth of Radio Astronomy*” which examined the role of radar technology developed during WWII in the development of radio astronomy. He highlighted the role of British and Australian wartime scientists who led the world in developing radio astronomy as a legitimate tool of astronomy – people such as Bernard Lovell (Jodrell Bank), Martin Ryle (Cambridge), Joe Pawsey (CSIRO Sydney) and Ruby Payne-Scott, the world’s first female astronomer. In 1946 Payne-Scott first outlined the principles of aperture synthesis, for which Martin Ryle later won a Nobel Prize.



Jocelyn Bell Burnell with Stephen Mullaly in front of a poster about Ruby Payne-Scott

Alongside the amateur speakers were several professionals. **Dr Chris Pearson** from RAL Space gave an update on the SKA project, which when completed in 2029 will be the largest scientific facility in the history of humankind, with thousands of telescopes in West Australia and South Africa fuelling astronomical research for decades to come. As part of a community outreach programme **Dr Asayama Shinichiro** from Jodrell Bank highlighted several hands-on examples of DIY-style radio telescopes built out of everyday items including cat tunnels, bird feeders, BBQ grill nets and paper craft! Appropriately, the final talk of the conference by **Barbara Cabrales** from Manchester University looked at the search for extra-terrestrial intelligence (SETI) using radio telescopes, a quest which one day might open up the secrets of life in the universe to humanity.



Dr Asayama Shinichiro describing a Cat Tunnel Radio Telescope!

As well as the presentations there were several demonstrations and posters which generated much interest. All in all it was a great chance for amateurs and professionals to share ideas and many of us hope to meet again for the next EUCARA conference to be held in Dwingeloo in the Netherlands in 2027. For a full rundown of speakers and presentations visit <https://eucara.org/>

Stephen Mullaly