

## Report from the Working Group on Historical Radio Astronomy

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### Purpose of the WG

The WG was first established in 2003 as an IAU WG, but since the URSI GASS in Beijing in 2014 it is a joint WG of the IAU and URSI. Its aims are to i) maintain an ongoing bibliography of publications relevant to the history of radio astronomy, ii) document and preserve surviving historically-significant radio telescopes and associated instrumentation, and iii) document the careers of deceased radio astronomers in biographical memoirs.

The WG has 41 members at the moment, amongst whom are 14 “national reporters” responsible for keeping track of developments of relevance to the WG in their respective countries or regions.

### Publications and research

Eight books dealing with the history of radio astronomy have been published in the 2015-2017 period including

Orchiston	<i>Exploring the History of New Zealand Astronomy: Trials, Tribulations, Telescopes and Transits</i>
Elbers	<i>The Rise of Radio Astronomy in the Netherlands</i>
Goss, Morris, Sheshadri	<i>Radio Astronomers at Sea</i>
Robertson	<i>John Bolton &amp; a New Window on the Universe</i>
Baars & Kärcher	<i>Radio Telescope Reflectors – Historical Development of Design and Construction</i>
Nakamura & Orchiston	<i>The Emergence of Astrophysics in Asia: Opening a New Window on the Universe</i>
Frater, Goss, & Wendt	<i>Four Pillars of Radio Astronomy: Mills, Christiansen, Wild, Bracewell</i>
V.M. Berezanskaya, M.A. Lukichev, and N.M. Shaul'skaya	<i>A book-album celebrating the 100<sup>th</sup> anniversary of the birth of Vitalii Lazarevich Ginzburg (in Russian)</i>

More than 25 papers have been published in the period from 2015 to 2018 in the Journal of Astronomical History and Heritage, Bulletin of the Astronomical Society of India, Nancius Hambugenisis, Bibliographical Encyclopedia of Astronomers, the URSI Bulletin, and various Conference Proceedings.

Presentations on historical topics were given in eighteen conferences in the 2015-2017 period including

2015	JIVE-ERIC Inaugural Symposium, The Netherlands
	Frontiers in Radio Astronomy and FAST Early Sciences Symposium, China
	The Golden Years of Radio Astronomy, IAU GA, USA
2016	A Workshop on the History of Canadian Radio Astronomy, Canada
	All-Wave Astronomy, Shklovsky-100, Russia
	Problems of Modern Astronomy – I.S. Shklovsky Centennial Conference, Russia

	International Conference on Oriental Astronomy, India
	Huug90 - Symposium in honour of Hugo van Woerden's 90 <sup>th</sup> birthday, The Netherlands
	EUCARA (European Conference of Amateur Radio Astronomers), The Netherlands
	Innovation & Discovery in Radio Astronomy - A Celebration of the Career of Ron Ekers, New Zealand
	Sleefest - Celebrating Bruce Slee's Seventy Years in Radio Astronomy, Australia
	1 <sup>st</sup> Pietro Barachi - Conference on Italy-Australia Radio Astronomy, Australia
	VanderLaan80 - Conference in honour of Harry van der Laan's 80 <sup>th</sup> birthday, The Netherlands
2017	Black Hole Astrophysics with VLBI: Past, Present and Future – Celebration of the Scientific Career of Makoto Inoue, Japan
	Ginzburg Centennial Conference on Physics, Russia
	Looking Back and Ahead - a Mini-Symposium in honour of Wim Brouw's 77 <sup>th</sup> birthday, The Netherlands
	Fred Lo Science Symposium, USA
	Radio Interferometry: History and Lessons Learnt, URSI GASS, Canada

### **Preservation of historical radio-astronomical equipment**

In 2006, ASTRON in the Netherlands made the Dwingeloo 25-meter dish available to the Foundation CAMRAS for use by radio amateurs. CAMRAS amateurs upgraded the telescope and brought it back into regular operation; they also used it for regular demonstrations to the general public. In 2009, the telescope was recognized by a Government office as an item of "National Cultural Inheritance". In 2012-14 the telescope was thoroughly renovated and is now in regular use by radio amateurs and amateur astronomers. It is also used to demonstrate radio astronomy to high-school students, and to interest them in science as a possible career. The telescope has been successfully used by groups of young amateur astronomers to map atomic hydrogen in our Galaxy.

### **WGHRA Website**

The WG website <http://rahist.nrao.edu/> is a repository of a considerable amount of historical material including contributions to the IAU Triennial Reports for 2006, 2009, 2012, and 2015; the presentations on the history of radio interferometers at URSI GASS 2017; the report on WG activities at the Commission J business session at URSI GASS 2017; a list of Grote Reber Medalists; biographical memoirs of deceased radio astronomers; related resources; and access to the NRAO/AUI archives (<http://jump2.nrao.edu/dbtw-wpd/textbase/archivesearch.htm>). Sadly, twenty-one of our colleagues have passed away since the General Assembly in 2015.

### **Future activities**

A 3-hour session on Historical Radio Astronomy is planned on 27 August 2018 during the Division B days at IAU GA in Vienna. The topic will be Large single dishes: history and lessons learnt. A session will be requested at the next URSI General Assembly in Rome in 2020 on a topic to be determined.

Activity will continue on the Jansky site restoration and historical landmark.

The website will be kept up to date and will include, for the first time, a compilation of papers published in the field of historical radio astronomy.

A number of books are in preparation including

Orchiston, Sullivan and Robertson	<i>The Foundations of Australian Radio Astronomy (to be published in 2018)</i>
Goss, Ekers, Hooker	<i>From the Sun to the Cosmos, J. L. Pawsey</i>
Kellermann, Bouton, Brandt	<i>Open Skies</i>
Jarrell, Wall, Griffin, Robishaw	<i>The History of Canadian Radio Astronomy</i>
Schwartz, Zensus	<i>The History of MPIfR (English translation)</i>
Schilizzi, Ekers, Hall	<i>The History of the Square Kilometre Array 1993-2012</i>
Dickman, Vanden Bout	<i>Construction of the Atacama Large Millimeter - Submillimeter Array</i>
Van der Kruit	<i>Jan Oort</i>