

IAU HISTORIC RADIO ASTRONOMY WORKING GROUP. TRIENNIAL REPORT (2003–2006)

1 Introduction

This WG was formed at the 2003 General Assembly of the IAU as a joint initiative of Commissions 40 (Radio Astronomy) and 41 (History of Astronomy), in order to:

- assemble a master list of surviving historically-significant radio telescopes and associated instrumentation found worldwide;
- document the technical specifications and scientific achievements of these instruments;
- maintain an on-going bibliography of publications on the history of radio astronomy; and
- monitor other developments relating to the history of radio astronomy (including the deaths of pioneering radio astronomers).

The membership list of the WG contains the names of about one hundred astronomers who are active in the history of radio astronomy field or sympathetic to it.

2 Progress Reports of the Working Group

Annual Progress Reports were prepared in 2004 and 2005 and were published in the newsletter of Commission 41 and in the June 2004 and 2005 issues of the *Journal of Astronomical History and Heritage*. Copies also were submitted to Commission 40 and to the Presidents of Divisions X and XII.

3 National Masterlists of Surviving Historically Significant Radio Telescopes

WG members actively worked on national masterlists for Australia, Germany, the Netherlands, the United Kingdom and the USA, and a number of research papers were prepared documenting individual instruments or instruments and research associated with specific radio astronomy field stations.

4 The Preservation and Destruction of Historically-Significant Radio Telescopes

WG members lobbied Stanford University to rescind its decision to demolish the array of five 60-ft antennas at the field station off Highway 280 (California), and reported—with some dismay—the demolition of the twelve surviving Chris Cross dishes from the solar grating array at Fleurs, near Sydney.

5 Research Projects by Working Group Members

WG members who actively researched aspects of radio astronomical history during the triennium included *Bruce Balick* (USA), *Ron Bracewell* (USA), *Jessica Chapman* (Australia), *Marshall Cohen* (USA), *Rod Davies* (United Kingdom), *Bob Duncan* (Australia), *Dave Green* (United Kingdom), *Miller Goss* (USA), *Alastair Gunn* (United Kingdom), *Richard Jarrell* (Canada), *Dave Jauncey* (Australia), *Ken Kellermann* (USA), *Bruce McAdam* (Australia), *Dick McGee* (Australia), *Doug Milne* (Australia), *Masaki Morimoto* (Japan), *Wayne Orchiston* (Australia), *Brian Robinson* (Australia), *Bruce Slee* (Australia), *Slava Slysh* (Russia), *Richard Strom* (The Netherlands) *Woody Sullivan* (USA), *Govind Swarup* (India), *Hugo Van*

Woerden (The Netherlands), *John Whiteoak* (Australia), and *Richard Wielebinski* (Germany).

6 Bibliography of Publications on the History of Radio Astronomy

An on-going list of publications in the history of astronomy field was maintained (and included in the WG Annual Reports). Arrangements were made to publish a succession of history of astronomy papers in 2005 and 2006 issues of the *Journal of Astronomical History and Heritage*.

7 Conferences

Since the 2003 General Assembly sessions on historic radio astronomy, the following conferences have featured sessions on the history of radio astronomy:

- (1) “The New Astronomy: Opening the Electromagnetic Window and Expanding our View of Planet Earth. A Meeting to Honor Woody Sullivan on His 60th Birthday” (Seattle, June 2004).
- (2) “Radio Astronomy at 70: From Karl Jansky to Microjansky” (Budapest, August 2004).
- (3) Fifth International Conference on Oriental Astronomy (Chiang Mai, Thailand, October 2004).
- (4) AAS Historical Astronomy Division Meeting (Cambridge, UK, September 2005).

Members of the WG were instrumental in organizing all but the second of these.

8 Planning for the Prague General Assembly

The WG Committee has applied to hold four quarter-day meetings, so that members can discuss their latest research, with emphasis on the development of radio astronomy in Europe, and the status of radio astronomy worldwide fifty years ago when ‘big science’ first began to impact on radio astronomy.

10 The End of an Era

With sadness WG members noted the passing of the following pioneering radio astronomers: *Semion Braude*, *Robert Hanbury Brown*, *Bob Duncan*, *Frank Gardner*, *Victor Hughes*, *Vladimir Kotelnikov*, *John D. Kraus*, *Harry Minnett*, *Christiaan Alexander (Lex) Muller*, *Grote Reber*, *Brian Robinson*, *Gordon Stanley*, *Hendrik Christoffel (Henk) van de Hulst*, *Kevin Westfold* and *Don Yabsley*. Where these existed, relevant obituaries were included in the WG Annual Reports, and biographical details were provided for several of these individuals.

11 Further Information

For further details of Working Group activities during 2003–2005 see:

- Orchiston, W. et al., 2004. The IAU Historic Radio Astronomy Working Group. 1. Progress Report. *Journal of Astronomical History and Heritage*, 7, 53–56.
- Orchiston, W. et al., 2005. The IAU Historic Radio Astronomy Working Group. 2. Progress Report. *Journal of Astronomical History and Heritage*, 8, 65–69.

Wayne Orchiston, Chair (Australia)
Rod Davies (United Kingdom)

Ken Kellermann (USA)
Alain Lecacheux (France)
Masaki Morimoto (Japan)
Slava Slysh (Russia)

Govind Swarup (India)
Hugo Van Woerden (The Netherlands)
Jasper Wall (Canada)
Richard Wielebinski (Germany)

IAU HISTORICAL INSTRUMENTS WORKING GROUP. TRIENNIAL REPORT (2003–2006)

1 Introduction

The Organizing Committee of the Working Group for 2003–2006 comprised: Nha Il-Seong (Korea, Chair), Juergen Hamel (Germany), Kevin Johnson (UK), Tsuko Nakamura (Japan), Wayne Orchiston (Australia) and Sara Schechner (USA).

Activities of this WG can be summarized in yearly base as below.

2 Activities in the 2003–2004

1. At the IAU General Assembly in Sydney, the following papers were presented and some of them have been published in the issues of the *Journal of the Antique Telescope Society*:

- Johnson, K. "A glimpse at the astronomy heritage of the Science Museum, London."
 Kaptueg, V.B., Chubey, M.S., Vereshchagin, S.A., and Sokolov, Y.A. "On recovery and research work at the Russian Struve station in Gogland."
 Lomb, N. "Historically significant astronomical instruments at Sydney Observatory."
 Orchiston, W. "History of the 'Catts Telescope': a nineteenth century 20-inch Grubb reflector."
 Pigatto, L., Tomasella, L., and Zanini, V. "Telescopes at the Astronomical Observatory of Padova, Italy. From the last refractor to the first reflector."
 Shankland, P.D., and Orchiston, W. "Lost and found: saga of the historic Clark refractor at the U.S. Naval Academy."
 Watson, F. "James Gregory and the invention of the Cassegrain telescope."

2. The following ten papers have been published in *Astronomical Instruments and Archives from the Asia-Pacific Region*. Orchiston, W., Stephenson, R., Débarbat, S., and Nha, I.-S. (eds.). Seoul, Yonsei University Press and IAU C41, 2004:

- Nha, I.-S. "King Sejong's sundial, Anbu Ilgui." Pp. 21–26.
 Nha, Sarah L. "A progress report on the C41/ICHA Historical Instruments Working Group web site." Pp. 29–34.
 Debarbat, S. "Korean instruments preserved in the Paris Observatory collections." Pp. 121–124.
 Ohashi, Y. "Medieval Indian astronomical instruments and archives." Pp. 125–128.
 Bandyopadhyay, A. "The famous sun-temple of Konarak and Maharaja Jai Singh's Observatory at Jaipur: outstanding historic astronomical instruments in India." Pp. 129–133.
 Setyanto, H. "Rubu al-MUJAYYAB: concept and practice in Indonesia." Pp. 135–140.
 Fountain, J., and Abt, H.A. "Chinese jade serrated Bi discs as astronomical instruments." Pp. 141–144.
 Allen, C. "The Frisius-Arsenius astrolabe in the National History Museum, Mexico." Pp. 145–148.

- Batten, A.H. "The 72-inch Plaskett Telescope in Victoria, B.C." Pp. 151–156.
 Orchiston, W. "The rise and fall of the Chris Cross: a pioneering Australian radio telescope." Pp. 157–162.

3 Activities in the 2004–2005

1. A list of references dealing with historic astronomical instruments was published in the *Journal of Astronomical History and Heritage*, Volume 7, pp. 57–58, 2004.

2. For four days in October, 2004, the Fifth International Conference on Oriental Astronomy was held in Chiang Mai, Thailand. The following three papers about instruments were presented:

- Guan, Z. "The historical and cultural value of Dengfeng Observatory."
 Nha, S.L. "Progress report on the IAU Historical Instruments Working Group web site: the classification of Korean and Chinese sundials."
 Nha, I.-S., Oh, G., and Chen, K. "Xin'an Xiuyu, a city of Chinese sundials and compasses."

4 Activities in the 2005–2006

Three conference proceedings of the International Conference on Oriental Astronomy are currently in press:

- Highlights of Oriental Astronomy*, Proceedings of the Second International Conference on Oriental Astronomy (eds. Chen, Kwan-Yu, Bo Shuren and Sun, Xiaochun).
 Proceedings of the Fourth International Conference on Oriental Astronomy (eds. Strom, Richard and Liu, Yongping).
 Proceedings of the Fifth International Conference on Oriental Astronomy (eds. Chen, K.-Y., Orchiston, W., Soonthornthum, B., and Strom, R.).

5 Overall in the 2003–2006

In addition to lists of publications in each year-term above, there is one other major achievement relating to our WG. This is the web site set up by Sarah Nha to inventory historically-significant astronomical instruments world-wide. As is reported in the *Journal of Astronomical History and Heritage*, the URL is: <http://www.nhamuseum.org/WG> However, this web site is still being developed and the final classification of instruments it will contain has yet to be finalized. One of those working on a suitable thesaurus for this is WG Committee member, Juergen Hamel.

Nha Il-Seong (Chairman)

IAU TRANSITS OF VENUS WORKING GROUP. TRIENNIAL REPORT (2003–2006)

Since the last General Assembly the Transit of Venus Working Group has published Progress Reports # 3 and # 4 in the *Journal of Astronomical History and Heritage*, Volume 7 (June, 2004), pp. 50-52, and Volume 8 (June, 2005), pp. 70-71. Reports # 1 and # 2 were published in the same journal, Volume 5 (December, 2002), pp. 185-188 and Volume 6 (June, 2003), p. 64. Readers are referred to these publications for details of the activities of the Working Group.

The most important event since the last General Assembly was the occurrence of the transit itself on 8 June 2004. Gordon Bromage and D.W. Kurtz organized IAU Colloquium 196 centered around this event. The meeting was held at the University of Central Lancashire, Preston, UK, near the site where Jeremiah Horrocks first observed a transit of Venus in 1639. To the delight of all present, on the day of the rare event almost the entire transit was observed from the tiny Lancashire village of Much Hoole, where Horrocks lived, and several other locations. Members of Commission 41 who presented historical papers

included Allan Chapman, Suzanne Débarbat, Wayne Orchiston, Luisa Pigatto, Steven Dick, Brian Warner and Mary T. Brück. There was also an excellent set of scientific papers. The Proceedings were published as *Transits of Venus: New Views of the Solar System and Galaxy*, ed. D W. Kurtz (Cambridge University Press, 2005).

Historical markers continue to be erected to commemorate sites where transit of Venus observations were made. In addition to those listed in WG Report # 3, among the latest are two markers in San Antonio, Texas, one at Bullis House Inn commemorating the Belgian transit expedition, and another at Fort Sam Houston commemorating the American transit of Venus expedition, both in 1882.

The Transit of Venus Working Group is organizing reports on the transit of Venus observations at the Prague General Assembly in 2006.

Steven J. Dick (Chairman)