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:

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.

9 The End of an Era
With sadness WG members noted the passing of the following pioneering radio astronomers: Semion Braunel, Robert Hanbury Brown, Bob Duncan, Frank Gardner, Victor Hughes, Vladimir Kotelnikov, John D. Kraus, Harry Minnett, Christian 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.

10 Further Information
For further details of Working Group activities during 2003-2005 see:


Wayne Orchiston, Chair (Australia)
Rod Davies (United Kingdom)
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.”
   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:

3 Activities in the 2004-2005
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, 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:
*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)
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)