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**THE ICHA NEWSLETTER**  
**NEWSLETTER OF THE INTER-UNION COMMISSION FOR**  
**HISTORY OF ASTRONOMY**

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No. 8 - April 2006

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## A. The C41 Triennial Report

In 2003-2006, Commission 41 (History of Astronomy) has played a pivotal role in the development of several cultural heritage initiatives relating to astronomy, namely:

- The initiative to declare 2009 (the 400th anniversary of the birth of telescopic astronomy) as the International Year of Astronomy. In particular, C41 has secured that, in 2009, countries of the European Union will issue common postage stamps with astronomical themes.
- UNESCO's "Astronomy and the World Heritage" initiative, by which "relationship to astronomy" has become one of the criteria by which cultural properties may be proposed for inclusion on the world Heritage List.
- The successful designation of the Struve Arc of the meridian as a World Heritage Site.

Such initiatives are of considerable importance in promoting the broad image of astronomy (and the IAU) internationally.

The Commission has also continued to act as a driving force in promoting and supporting research of international excellence in the history of astronomy, extending from modern times back to its earliest roots.

- Recent publications include the Proceedings of IAU Colloquium 196 (2005; 554 pp.) held in the UK to coincide with the 2004 transit of Venus, and "Astronomical Instruments and Archives from the Asia-Pacific Region" (2004; 204pp. large format), the Proceedings of an International Conference held in Korea in 2002
- Recent scientific meetings under the auspices of the C41 include IAUC 196 (see above); "Sharing the Celestial Sphere", a symposium within the 22<sup>nd</sup> International Congress on History of Science in Beijing (2005); and the SEAC06 European Conference on Archaeoastronomy, in Rhodes, Greece.

During the triennium C41 maintained four active Working Groups: Archives, Astronomical Chronology, Historical Instruments, and Transits of Venus. Each of their fields of activity is of IAU-wide interest.

C41 continues to maintain strong ties with a number of other international bodies, and particularly with the International Union of the History and Philosophy of Science (IUHPS/DHST). In close cooperation with Dr. Efthymios Nicolaidis, the Secretary General of the IUHPS/DHST, who is a member of our Commission, the C41 (and its twin body – the Inter-Union Commission on History of Astronomy) is starting to prepare a broad interdisciplinary meeting that could be entitled the First World Congress on the History of Astronomy.

*Alexander Gurshtein, C41/ICHA President*

## **B. Commission 41 Activities at Prague**

At the XXVIth General Assembly in Prague, Commission 41's Science Meeting and Business Meeting take place on Tuesday August 22, with Working Group meetings on Thu Aug 17, Tue Aug 22 and Wed Aug 23.

**The full schedule is as follows:**

Transits of Venus WG

Thu Aug 17, slots 1 & 2 (i.e. 09:00-10:30 & 11:00-12:30)

Science Meeting

Tue Aug 22, slots 1 & 2 (i.e. 09:00-10:30 & 11:00-12:30)

Business Meeting

Tue Aug 22, slot 3 (i.e. 14:00-15:30)

Astronomical Chronology WG

Tue Aug 22, slot 4 (i.e. 16:00-17:30)

Archives WG

Wed Aug 23, slots 1 & 2 (i.e. 09:00-10:30 & 11:00-12:30)

Historical Instruments WG

Wed Aug 23, slots 3 & 4 (i.e. 14:00-15:30 & 16:00-17:30)

In addition, the inter-divisional WG on Historic Radio Astronomy has the following sessions:

Thu 17, slots 1–4 (i.e. 09:00-10:30, 11:00-12:30, 14:00-15:30 & 16:00-17:30)

Wed 23, slots 3 & 4 (i.e. 14:00-15:30 & 16:00-17:30).

### **The Scientific Meeting**

The Commission's Scientific Sessions in Prague will feature presentations of wide interest. The first of the two sessions focuses on the history of modern astronomy, while the second session turns to ancient astronomy, archaeoastronomy and ethnoastronomy. The programme is as follows:

09:00 Petr Hadrava (Czech Republic): Milestones in the History of Astronomy in Czech lands

09:25 Jean Kovalevsky (France): HIPPARCOS in historic perspective

09:45 Steve Dick (USA): The Venus Transit of 2004

10.00 Tomoko Fujiwara and Masanori Hirai (Japan). Magnitude variation of 19 Piscium in historical records

10.15 Colin Montgomery and Wayne Orchiston (Australia): The Emergence of “Dark Matter” as a Critical Element in Astrophysics

*Break*

11:00 Clive Ruggles (UK): Fundamental Problems of Modern Archaeoastronomy

11.15 John Steele (UK): Ancient and Modern Use of Babylonian Astronomical Records

11.30 James Evans (USA). A Miniature Ivory Sundial and Equinox Indicator from Greek Egypt

11.45 Kim Malville (USA): Recent discoveries at Llactapata, Peru

12.00 Ray Norris (Australia): Australian Aboriginal Astronomy

12.15 Anna Sidorenko (UNESCO): The UNESCO Thematic Initiative “Astronomy and World Heritage”

*Poster papers:*

Wayne Orchiston (Australia), Kim Malville (USA), Richard Stephenson (UK) and Brian Warner (South Africa): History of Astronomy Developments at James Cook University, Australia

Steve Gullberg and Wayne Orchiston (Australia): The Role of the 1869 Total Solar Eclipse in Popularising Astronomy in the USA

Ari Belenkiy (Israel) and Educardo Vila Echagüe (Chile): Groping Toward Linear Regression Analysis: Newton’s Analysis of Hipparchus’ Equinox Observations

Izold Pustõlnik (Estonia): Ernst Öpik’s Scientific Legacy and its Impact on Modern Astrophysics

Mike Zawaski and Kim Malville (USA): Archaeoastronomical Fieldwork in Peru.

### **The Business Meeting**

The Business for the Prague Business Meeting will include the election of new members of the Commission and the election of the Commission’s officers for the coming triennium (see below).

Also on the agenda is the ratification of our new Procedures for Admitting non-IAU Members to the ICHA (see Newsletter no. 6, pp. 19–21)

*Call for Resolutions.* If any C41 member has a Resolution that they would like to bring before the Business Meeting, please inform me of this, attaching the full text of the Resolution, by **Friday, July 7.**

## **Election of the C41/ICHA Organizing Committee for 2006–09**

The following nominations have been received for Organizing Committee members in the forthcoming triennium:

President: Nha Il-Seong (Korea)

Vice-President: Rajesh Kochhar (India)  
Clive Ruggles (UK)

Ordinary Members: David DeVorkin (USA)  
Petr Hadrava (Czech Republic)  
Teide de Jong (Netherlands)  
Alla Korsun (Ukraine)  
Tsuko Nakamura (Japan)  
Wayne Orchiston (Australia)  
Brian Warner (South Africa)  
Antonio A. P. Videira (Brazil)

Nha Il-Seong will therefore be elected unopposed as the Commission's President during 2006–09, but elections will be needed for Vice President (1 vacancy) and Ordinary Committee Members (6 vacancies, plus the unsuccessful candidate for Vice President, who automatically becomes an Ordinary Member of the Organizing Committee).

The scrutineer for the ballot will be Dr Steven Dick.

If you cannot attend the Business Meeting in Prague and would like to cast an absentee vote, please list your preference for Vice President and six Ordinary Members on a blank sheet of paper, place this in an envelope, sign the back of the envelope, and mail it to:

Dr. Steven J. Dick  
NASA Chief Historian  
Director, NASA History Division  
Office of External Relations  
NASA Headquarters, 300 E Street SW  
Washington, D.C. 20546-0001

Absentee votes must be sent by mail rather than by e-mail or fax, and the deadline for their receipt is Friday July 21. Only current C41/ICHA members are eligible to vote.

In order to help you make your decision, brief biographies have been provided by the candidates. These are listed below.

*Clive Ruggles, C41/ICHA Secretary*

## **Brief biographical notes for candidates standing for the C41 Organizing Committee in 2006–2009**

### Candidates for Vice-President

**Rajesh Kochhar (India)** is an astrophysicist by training. He has published extensively in theoretical astrophysics. In addition he has a strong research interest in the advent and growth of modern astronomy and its impact on non-western cultures, with special reference to India. He has also been interested in the world history of astronomy as a cultural continuum. He has published research papers in these areas.

Kochhar has been a Professor at the Indian Institute of Astrophysics, Bangalore, and the Director of National Institute of Science, Technology and Development Studies, New Delhi. He is a member of the Editorial Board of the *Journal of Astronomical History and Heritage*.

He has been a Fulbright scholar and a visiting scholar at the Cambridge University. He has co-authored a book on *Indian Astronomy: A Historical Perspective*. He has been a member of OC since 2000, on whose behalf he organized a symposium on *Sharing the Celestial Sphere*, at the 2005 IUHPS meeting in Beijing.

Kochhar is particularly keen on a two-point agenda. (1) Researches in the History of Astronomy should be carried out with the same rigor that attends “hard science”, so that it is recognized as a legitimate intellectual discipline. (2) Also, in this age of Cultural Copernicanism ( where the world has no cultural, geographical or ethnical benchmarking), historical research should be located in a cross-cultural civilizational perspective. Because of the important role astronomy has played in the world history, sensitivity to various histories is important not only from the point of view of a universal history of astronomy but also for promoting the world-wide development of modern astronomy, and goodwill in general.

**Clive Ruggles (United Kingdom)** is Professor of Archaeoastronomy at the University of Leicester, where he is based in the School of Archaeology and Ancient History. An astrophysicist by training, he has worked in archaeoastronomy and ethnoastronomy (“cultural astronomy”) for over 30 years, and has authored or edited 15 monographs, together with over 130 refereed research papers and articles in a variety of journals and books. The focus of much of this work is how to reconcile and integrate the very different, but all certainly relevant, disciplinary perspectives of astronomers, archaeologists, and historians. During the past three years he has been invited to give keynote and public lectures about cultural astronomy in several western European countries, Poland, the Republic of Georgia, Ghana, and the USA.

Clive has served since 1985 on the Editorial Board of *Journal for the History of Astronomy*, edited its *Archaeoastronomy* supplement for several years, and is now an editor of the US journal *Archaeoastronomy*. In 1993 he was founder member of SEAC, the main European society for cultural astronomy, and in 1995 he helped to create ISAAC, the International Society for Archaeoastronomy and Astronomy in Culture, serving terms as President of both. He became a consultant to C41 in 1997

and has been C41/ICHA Secretary during the current triennium. In the last two years he has been involved in the development of the “Astronomy and World Heritage” thematic initiative within UNESCO, and he plans to continue to play an active role as this initiative develops.

Clive believes that the next triennium will be a key one for our Commission, both in the run-up to 2009 (which, as we hope, will be declared the “Year of Astronomy” by the UN) but also as UNESCO takes forward its “Astronomy and World Heritage” initiative. Taken together, these give us a unique opportunity not only to convince all of our astronomical colleagues of the critical importance of the history of their discipline, but also to make a lasting impact on astronomical heritage issues ranging from ancient sites to the preservation of modern observatories and instruments. From a position of influence within C41/ICHA as well as working with UNESCO, Clive hopes to help optimise this impact for the lasting benefit of future generations.

#### Candidates for Ordinary Membership of the Organizing Committee

**David DeVorkin (USA)** has been curator for the history of astronomy and the space sciences at the National Air and Space Museum, Smithsonian Institution, since 1981. Since 1985 he has held the concurrent position of chairman of the Advisory Committee to the Smithsonian Videohistory Program, and spent the summer and fall of 1991 as a visiting member of the Institute for Advanced Study in Princeton.

DeVorkin’s major research interests are in the origins and development of modern astrophysics during the twentieth century, and the origins of the space sciences. He also specializes in the history of space astronomy and in the government patronage of science in the post-war era, and is responsible for collecting astronomical, geophysical, and related instrumentation for the Smithsonian, concentrating on the twentieth century. He has authored over one hundred scholarly papers and has authored, edited or compiled nine monographs in the history of, and education, in, astronomy.

His primary interest for being involved in Commission 41 is to keep open channels of communication with astronomers, both individually and collectively, concerning the importance of conservation and presentation of modern astronomical instruments and archival sources. At past IAU General Assemblies, specifically those in Montreal, Baltimore and Kyoto, he had the opportunity to meet and interview astronomers from widely separated lands. Continuing access to these far-flung scientists through the IAU venue is something that he believes should be broadly supported in order to ensure that a balanced history is preserved. He sees active participation in the IAU and Commission 41 as essential factors in meeting this goal.

**Petr Hadrava (Czech Republic)** graduated in theoretical physics in Prague in 1974, obtaining his PhD (1980) and DSc (2001) in astrophysics at Ondrejov Observatory, Czech Academy of Sciences. His research concerns relativistic and stellar astrophysics, and in particular the spectroscopy of binary stars, and he also

teaches in his capacity as an associate professor at Prague University (in 1997-2001 he was a visiting professor in Trondheim). He has been a member of the IAU since 1989.

In the field of history of astronomy he has worked since the late 1980s in cooperation with his wife Alena Hadravova, who is classical philologist. They mainly prepare editions with commented translations of medieval and early modern Latin manuscripts and old prints on astronomy (cf. <http://www.asu.cas.cz/~had/urania.html>). Related activities include organizing the Prague Tychoic symposium in 2001 (cf. *Acta Historica Astronomiae* vol. 16).

Hadrava's aim in the framework of C41/ICHA is to promote international cooperation in editing, translating and interpreting the historical astronomical texts and making them available either in printed or electronic form. This task is especially urgent in the case of unique manuscripts that are in danger of being lost forever.

**Teije de Jong (Netherlands)** is a professor of Astrophysics at the Astronomical Institute "Anton Pannekoek" of the University of Amsterdam. Educated at Leiden Observatory he has held appointments at Leiden Observatory (the Netherlands), Harvard University (Cambridge, USA), Joint Institute for Laboratory Astrophysics (Boulder, USA), Université Joseph Fourier (Grenoble, France) and Space Research Organisation Netherlands of which he was Deputy Director from 1994-2001. He has published over 170 research papers of which about 130 in refereed journals and some as chapters in monographs. His research activities cover the fields of Interstellar and Circumstellar Matter, Late Stages of Stellar Evolution, Star Formation, Structure and Evolution of Galaxies and History of Astronomy.

Over the past five years Teije has been able to spend a large fraction of his research time on ancient astronomy with the main emphasis on Babylonian astronomy. His work in this area includes the usage of ancient solar eclipses for the study of orbital evolution in the Earth-Moon system, dating Greek horoscopes, the interpretation of Babylonian observations of heliacal rising and setting of stars and planets, the origin and development of Babylonian lunar and planetary theories and Egyptian chronology.

Having been a member of the IAU since 1973 he is standing for election to the Organizing Committee of Commission 41 because he believes that the history of our science is an essential part of astronomy and has an important and stimulating role to play in its teaching. Ancient astronomy may be considered as the first attempt of mankind to quantitatively describe nature and as such is an important element in its cultural and intellectual evolution. In Teije's opinion it is essential that professionally trained astronomers take part in the study of the history of their science. Therefore he wants to promote the realization that the history of astronomy is an integral part of our science. This can be done by educating both our colleagues (during Joint Discussions and Symposia), the students (by adapting the curriculum of universities and schools) and the general public (by giving popular lectures).



**Alla A. Korsun (Ukraine)**, a senior researcher at the Main Astronomical Observatory, the National Academy of Sciences of the Ukraine (Kyyiv) was born in the city of Kamyanyts-Podilskyi. In 1958, she graduated from Shevchenko State University in Kyyiv as an astrophysicist. In 1958-1960, she worked as a researcher at Poltava Gravimetric Observatory, from 1960 – at the Main Astronomical Observatory. Her principal areas of research are motions of the Earth's poles and irregularities of rotation of the Earth. Being a member of C41, she has had long-standing and strong interests in the history of astronomy. She penned more than a hundred publications, including four books. In 2004, as the editor and one of the authors, she published *Astronomical Encyclopedic Dictionary*. In 1983, she won the State Award of the Ukraine in science and technology.

**Tsuko Nakamura (Japan)** has worked for 30 years as a planetary scientist at the National Astronomical Observatory of Japan, from which post he is retiring in March 2006. After retirement, however, he will be a cooperative researcher at Toyo Kenkyo-jo (Oriental Institute) of Daito-Bunka University, Japan, where he expects to continue his researches in the history of astronomy.

Tsuko obtained his PhD in 1975 and majored in studies of small bodies of the solar system at NAOJ. He has published about 45 papers for international refereed journals. In parallel during the last 15 years he has studied the history of astronomy in Japan during the 17th to 19th centuries, and has written roughly 20 papers. He is especially interested in Chinese and western influences on pre-modern Japanese astronomy, as seen through astronomical instruments. In February 2006, he published the *General Catalog of Japanese Astronomical Books and Materials in the Pre-Meiji Era* (in Japanese, with some English abstracts), following four years' governmental support. This is a collaborative work by 10 domestic and overseas researchers, and includes roughly 6200 titles.

If elected as a OC member, Tsuko would like to input research outcome mainly from East Asia to the committee. If possible, he wishes to maintain his activities in the Astronomical Instruments WG. In particular, recent studies including his have revealed that development of telescopes in the first half of the 17<sup>th</sup> century in East Asia was more advanced than previously considered. Since 2008-9 is the 400<sup>th</sup> anniversary of telescopic invention, he could make a significant contribution to the committee's activities during the next three-year term.

**Wayne Orchiston (Australia)** joined the IAU in 1985. From 1997 to 2003 he was a member of the C41 Organizing Committee, serving as Secretary of the Commission from 2000 to 2003. He is a Committee member of the Archives, Historical Instruments and Transits of Venus Working Groups, and Chairman of the Historic Radio Astronomy Working Group. He has always been a regular contributor to the Newsletter. If elected to the OC, he would like to be a driving force behind the Working Groups and play a prominent role with the Newsletter. Given his wide-ranging research interests, editorial experience and strong record of publication, he looks forward to promoting the development of all facets of astronomical history and

encouraging cooperation and collaboration between historians of astronomy worldwide. He also looks forward to playing a useful role in planning the 2009 General Assembly history of astronomy program.

Currently, Wayne is a Senior Lecturer in the Centre for Astronomy at James Cook University (Australia), and responsible for the history of astronomy area. He has ten part-time doctoral students, and also teaches a history of astronomy unit in the Master of Astronomy degree and supervises historical research projects undertaken by masters students. In addition, the University now publishes the *Journal of Astronomical History and Heritage* and he serves as its editor.

**Brian Warner (South Africa)** is Distinguished Professor of Natural Philosophy, and since 1972 has been the Head of the Department of Astronomy, at the University of Cape Town. His research interests in astrophysics concern cataclysmic binary stars, pulsating degenerate stars, and high-speed astronomical photometry. In the history of astronomy his research interests focus on nineteenth-century British and South African astronomy, although he has much wider general interests. He has published 8 books in the area of history of astronomy (see <http://mensa.ast.uct.ac.za>).

Brian is currently a Vice President of the IAU and will be until 2009. As well as being a member of the Organizing Committee of C41, he is a past President of C42 (Interacting Binary Stars) and gave an invited discourse at the IAU General Assembly in Kyoto. By remaining on the C41 OC he hopes to be able to give the Commission support within the IAU Executive.

**Antonio A. P. Videira (Brazil)** was born in Princeton (New Jersey/USA). Studied Physics, Mathematics and Philosophy at the Federal University in Rio de Janeiro. Made his PhD in Epistemology and History of Science in Heidelberg and Paris. Since then, he is an Associate Professor of philosophy of science and history of science at the State University of Rio de Janeiro (UERJ). He is also an invited researcher in history of science at the Brazilian Center for Physics Research (since 1992) and invited Professor of history of science at Center of Epistemology, History of Science at the UFRJ (since 2005). Between 1994 and 1999 he was a researcher at the Observatório Nacional (National Observatory) in Rio de Janeiro. Currently he is the Editor-in-Chief of the main Brazilian journal of history of science: *Revista Brasileira de História da Ciência*. He was a member of the directory boards of the number of scientific societies. Between 1997 and 2002 he was a member of Commission for Preservation of the History of Astronomy in Brazil of the Sociedade Astronômica Brasileira. As a member of the C41 OC he would like to work on the history of the Brazilian participation in the project *Carte du Ciel* and also to help to organize a collective research on the development of astronomy in Latin-America. This work would be written by historians of astronomy of Argentina, Brazil, Mexico, etc.

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## C. The Prague General Assembly: Transit of Venus Working Group Meeting

Transit of Venus session  
IAU General Assembly, Prague  
August 17, 2006

### **09.00-10.30      Transit of Venus History**

Opening Remarks	Steven Dick, Chair, ToV WG
Maya Observations of 13 <sup>th</sup> Century Transits of Venus	Christine Allen
Further Investigation of the 1874 Transit of Venus Relics at The Grange, Tasmania	Wayne Orchiston
Houzeau and the Belgian ToV transit expeditions	Chris Sterken and Hilmar Duerbeck
The 1874 Transit of Venus Observed in Nagasaki by the French and its Remnants	Suzanne Débarbat
Transit of Venus Observations and Relics in South Africa	W. P. Koorts

### **11.00-12.30      Transit 2004 and the Future**

2004 Transit of Venus Observations from TRACE and Greece	Jay M. Pasachoff & Glenn Schneider
Kepler-mission analog study using ACRIMSAT	Glenn Schneider & Jay Pasachoff
Transits of Venus in Context: Where Has it All Brought Us?	Richard Strom
Detection of Extrasolar Planets with Transits	TBD

*Steven J. Dick*  
*Chair, ToV Working Group*  
[steven.j.dick@nasa.gov](mailto:steven.j.dick@nasa.gov)

## **D. The Prague General Assembly: Historic Radio Astronomy Working Group**

The Historic Radio Astronomy (HRA) WG has been assigned 1.5 days in Prague, and will hold a Business Meeting and two different thematic Science Meetings. These are summarized below.

### **Business Meeting: Thursday 17 August, 9.00-9.20**

### **Science Meeting #1. “The Development of Radio Astronomy in Europe” (Thursday 17 August, 09.20-17.30 hrs)**

*Organising Committee:* Richard Wielebinski (Germany: Chair), Rod Davies (UK), Ken Kellermann (USA), Alain Lecacheux (France), Wayne Orchiston (Australia), Slava Slysh (Russia), Richard Strom (The Netherlands), Hugo van Woerden (The Netherlands).

*Program:* The purpose of this meeting is to discuss the history of radio astronomy in Europe, with emphasis on developments that made significant contributions to instrumentation and/or astrophysics. Oral papers and poster papers will be accepted, and we hope to publish these in a book.

*Further Information:* For further details and offers of papers contact Richard Wielebinski ([rwielebinski@mpifr-bonn.mpg.de](mailto:rwielebinski@mpifr-bonn.mpg.de)). The deadline for 200 word abstracts is 30 April.

### **Science Meeting #2. “Radio Astronomy 50 Years Ago: From Field Stations to ‘Big Science’” (Wednesday 23 August, 14.00-17.30 hrs)**

*Organising Committee:* Wayne Orchiston (Australia: Chair), Ron Bracewell (USA), Ken Kellermann (USA), Masaki Morimoto (Japan), Bruce Slee (Australia), Govind Swarup (India), Jasper Wall (Canada).

*Program:* The purpose of this meeting is to discuss developments in radio astronomy that occurred worldwide during the critical decade 1950–1960 (i.e.  $\sim 50 \pm 5$  yrs ago) when radio astronomy began to cast off its ‘band-aids and fencing wire’ image and take on the elements of ‘big science’ (i.e. large, very expensive national installations). Oral papers and poster papers will be accepted, and we plan to publish these in the *Journal of Astronomical History and Heritage* as part of the on-going series on the history of radio Astronomy.

*Further Information:* For further details and offers of papers contact Wayne Orchiston ([Wayne.Orchiston@jcu.edu.au](mailto:Wayne.Orchiston@jcu.edu.au)). The deadline for 200 word abstracts is 30 April.

## Grote Reber Medal

The presentation of the 2006 Grote Reber Medal will also be part of the over-all Historic Radio Astronomy WG program in Prague. The ceremony will take place on Thursday 17 August, between 15.00 and 15.30, in the same venue as Science Meeting #1.

*Wayne Orchiston, Richard Wielebinski, Ken Kellermann  
Historic Radio Astronomy WG*

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## E. The Prague General Assembly: Archives Working Group

Archives WG session  
IAU General Assembly, Prague  
August 23, 2006

**Committee:** Brenda Corbin (USA: Chair), Ileana Chinnici (Italy), Suzanne Débarbat (France), Wolfgang R. Dick (Germany), Daniel Green (USA), Wayne Orchiston (Australia) and Adam Perkins (UK).

**Business Meeting:** Wednesday, 23 August, 09:00-09:20  
Projects for the next triennium

**Papers Session 1:** Wednesday, 23 August, 09:20-10.30.  
A 30-minutes keynote paper and two 20-minutes oral papers will be presented.

*Break: 10:30-11:00*

**Papers Session 2:** Wednesday, 23 August, 11:00-12:30.  
A 30-minutes keynote paper and three 20-minutes oral papers will be presented.

**Poster Papers:** Between 5 and 10 poster papers have been estimated.

**Further Information:** For further details and offers of papers contact Brenda Corbin ( [brenda.corbin@verizon.net](mailto:brenda.corbin@verizon.net) ). The deadline for abstracts is 26 April. The abstracts will be published in a Commission 41 Program and Abstract Booklet.

*Brenda Corbin  
[brenda.corbin@verizon.net](mailto:brenda.corbin@verizon.net)*

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## **F. The Prague General Assembly: Historic Instruments Working Group**

Historic Instruments WG Meetings  
IAU General Assembly, Prague  
August 23, 2006

**Committee:** Nha Il-Seong (Korea: Chair), Juergen Hamel (Germany), Kevin Johnson (UK), Tsuko Nakamura (Japan), Wayne Orchiston (Australia), Sara Schechner (USA).

**Business Meeting:** Wednesday, 23 August, 14:00-14:15  
Appointment of the Committee for 2006-2009  
Appointment of the Chair for 2006-2009  
Triennial Report for 2003-2006  
Program of work for 2006-2009

**Session 3:** Wednesday, 23 August, 14:15-15:35. **Chair:** Tsuko Nakamura  
Four 20-minutes oral papers will be presented.

**Afternoon Tea:** 15:35-15:55

**Session 4:** Wednesday, 23 August, 15:55-17:30. **Chair:** Luisa Pigatto  
Four 20-minutes oral papers will be presented.  
15-minutes of questionnaires and answers will be scheduled for poster papers at the end of this session.

**Further Information:** For further details and offers of papers contact Nha Il-Seong ([slisnha@chollian.net](mailto:slisnha@chollian.net)). The deadline for 200-word abstracts is 30 April.

**Publication:** We plan to publish both oral and poster papers in the *Journal of Astronomical History and Heritage*.

*Nha Il-Seong*  
*Chair, Historic Instruments Working Group*  
[slisnha@chollian.net](mailto:slisnha@chollian.net)

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## **G. C41/ICHA activity at the International Congress on History of Science**

On July 25, 2005, during the 22<sup>nd</sup> International Congress on History of Science in Beijing sponsored by the International Union on History and Philosophy of Science, the C41/ICHA arranged the Symposium called “Sharing the Celestial Sphere.” The principal organizer of the Symposium was Rajesh Kochhar with support by Alex Gurshtein. The Symposium focused primarily on the early phases of

human civilizations. It was well attended, with lectures being followed by lively discussions. It was pointed out that our interpretation of early history is strongly biased in favour of those cultures that had a written tradition. There was much appreciation of the very concept of the Symposium. There was a broad agreement that the place of astronomy in ancient cultures and the interplay among various activities needs to be studied with rigor. Materials of the Symposium are to be published as separate papers and no proceedings were planned from the beginning.

*Rajesh Kochhar*

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## **H. Working Group on Archives – Brief Report**

An important event in 2005 for the Archives WG was the publication of the excellent collection of papers in *Astronomical Heritages*. Editors Christiaan Sterken and Hilmar Duerbeck state in the preface: “These Proceedings contain a selection of presentations and research papers emanating from the meetings of the *Astronomical Archives* and *Transits of Venus* Working Groups of Commission 41, and from presentations at the last three IAU General Assemblies. Some additional reports related to the topic of this book have also been added.” There are 18 papers (listed below), 13 relating to Archives and 5 on the Transits of Venus. Originally published in *The Journal of Astronomical Data*, Vol. 10 pt. 7 (2004), the papers were reprinted in book form in 2005 (ISBN 9080553867). The WG expresses deep appreciation to the editors for making these papers more widely available via the Journal issue and the book. It is hoped that *Astronomical Heritages* will become a part of every astronomical library’s collection. For availability of this volume please contact C. Sterken ([csterken@vub.ac.be](mailto:csterken@vub.ac.be)).

### PART I: IAU ARCHIVES

**Ansari, S.M. Razaullah**, Astronomical Archives in India.

**Corbin, B.G.**, Archives at the U.S. Naval Observatory – Recent Projects

**Débarbat, S. and L. Bobis**, The French Astronomical Archives Alidade Project.

**Dick, W.R.**, Documents Related to Astronomy in German Archives.

**Herrmann, D.B.**, The Sound Archive of Archenhold Observatory – An Overview

**Moran, K. and M.T. Brück**, The Crawford Collection at the Royal Observatory  
Edinburgh

**Nakamura, T.**, The Japanese Astronomical Archives Project

**Orchiston, W.**, An Introduction to the Astronomical Archives of Australia and New Zealand

**Orchiston, W.**, Highlighting the History of Nineteenth Century Australian Astronomy: The Tebbutt Collection in the Mitchell Library, Sydney

**Pigatto, L. M. Salmaso and V. Zanini**, The Lorenzoni-Tacchini Correspondence at Padova Observatory Archives – the “True” History of Italian Astronomy of the Second Half of the Nineteenth Century

**Simonia, I.**, Old Georgian Astronomical Manuscripts  
**Stavinschi, M. and V. Mioc**, Storing Astronomical Information on the Romanian Territory  
**Wilkins, G.A.**, The Archives of the Norman Lockyer Observatory

## PART II: HISTORICAL VENUS TRANSITS

**Botez, E.**, Maximilian Hell and the Northernmost Transit of Venus Expedition of 1769  
**Kopper, M.**, Austria's Contributions to the Observation of the 1874 Transit of Venus  
**Misch, A. and W. Sheehan**, A Remarkable Series of Plates of the 1882 Transit of Venus  
**Orchiston, W.**, The Nineteenth Century Transits of Venus: An Australian and New Zealand Overview  
**Sterken, C., H.W. Duerbeck, J. Cuypers and H. Langenaken**, Jean-Charles Houzeau and the 1882 Belgian Transit Expeditions

*Brenda Corbin (USA: Chair) [brenda.corbin@verizon.net](mailto:brenda.corbin@verizon.net)  
Ileana Chinnici (Italy), Suzanne Débarbat (France), Wolfgang R. Dick (Germany)  
Daniel Green (USA), Wayne Orchiston (Australia) , Adam Perkins (UK)*

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### I. The Struve Geodetic Arc

On 15 July 2005, the World Heritage Committee of UNESCO adopted the Struve Geodetic Arc as a World Heritage Site. There are at present only just over 800 such sites and this is the first surveying site, indeed the first scientific and technological landmark to be adopted. In addition, it crosses ten countries: Norway, Sweden, Finland, the Russian Federation, Estonia, Latvia, Lithuania, Belarus, the Republic of Moldova and the Ukraine. The Republic of Moldova ratified its membership of UNESCO while the submission for recognition of the Struve Arc was being prepared, so it is the country's first heritage monument.

While Friedrich Georg Wilhelm Struve (1793-1864) is familiar to all astronomers, for his own work and that of several of his descendants, not many are aware of his geodetic work which was a major contribution to our knowledge of the size and figure of the Earth. The International Federation of Surveyors (FIG), in a news release about the monument, described it as follows:

The Struve arc is a chain of survey triangulation stretching from Hammerfest in North Norway to Staro Nehrassowka on the Black Sea, through ten countries and over 2820 km. These are points of a survey carried out between 1816 and 1855 by the astronomer Friedrich Georg Wilhelm Struve and others, which represent one of the early accurate measurements of a long segment of a meridian. This helped to



establish a value for the size and shape of our planet and marked an important step in the development of earth sciences and topographic mapping. It is an extraordinary example of collaboration among scientists from different countries and of collaboration also between monarchs in a scientific cause. The original arc consisted of 258 main triangles with 265 main station points. The listed site includes 34 of the original station points, with various markings, i.e. a drilled hole in rock, iron cross, cairns or built obelisks.

The first formal move toward achieving Heritage designation was made at a conference in Tartu (Struve's Dorpat) held in 1993 in commemoration of the 200th anniversary of Struve's birth. A paper by Aarne Veriö of Finland, presented by Seppo Härmälä of the National Land Survey of Finland, included the idea of an approach to UNESCO for a declaration to preserve a selection of the remaining points of the Struve Arc as a World Heritage Site. Participants in the conference agreed, on 28 August, 1993, to a resolution that urged "the governments of those countries that still possess relics of [the Struve Arc] to take all possible steps to preserve those relics, including an approach to UNESCO to declare them to be World Heritage sites."

The following year, at their respective General Assemblies, FIG and IAU added their support to this initiative. Meeting in Melbourne, members of FIG passed a resolution that "FIG should present a request to the United Nations that the remains of this arc of meridian be added to the World Heritage List of Historical Monuments", while later, at The Hague, IAU Commission 41 passed a resolution, subsequently endorsed by the General Assembly, urging "the Executive Committee of the IAU to approach the governments of the following countries...which still possess relics of [the Struve Arc], with a view to taking all possible steps to preserve those relics, including an approach to UNESCO to declare them to be world-heritage sites." When documentation of the verifiable sites had advanced sufficiently, this IAU resolution was reaffirmed in a letter to one of us (JRS) from the General secretary, dated 10 January, 2003, which became part of the submission to UNESCO. The International Association for Geodesy (AIG) also indicated its support in an e-mail to JRS of March, 1996.

Finally, at a second conference in Estonia, held in both Tallinn and Tartu, in September, 2002, to mark the 150th anniversary of the completion of the Arc measurement, which drew 50 delegates from 12 countries (namely, the ten of the Arc plus Belgium and the U.K.) further resolutions were passed, urging the governments of the ten countries to complete documentation of the remaining sites so that the submission to UNESCO could be made, and to take steps to preserve the sites provisionally selected so that the monument could be realized. One of these resolutions envisaged a southward extension to the Arc, which is described more fully below.

Initially, the International Institute for the History of Surveying and Measurement (IIHSM - then a fledgling permanent body within FIG) worked in conjunction with the ten countries to achieve the preservation of the Struve points and

to make the presentation to UNESCO. From 2002, the National Land Survey of Finland took on the major task of compiling and publishing the final document.

To obtain the World Heritage designation, the stations included in the proposal had to be already protected in the countries in which they are situated. Legislation differs between the countries concerned and it was not always clear, even in a given country, which laws to apply. For example, in Finland it was unclear whether to apply the rules of planning or of nature conservation. Progress was slow but steady, considering all the difficulties, not least those of language and communication. Cooperation between IIHSM and all ten countries eventually resulted in the formulation of a case to be put to UNESCO and, despite setbacks, the National Land Survey of Finland accumulated the necessary documentation, maps and photographs and produced the final document of 270 pages in time for presentation to UNESCO in January, 2004. The eighteen-month period of scrutiny within UNESCO and ICOMOS (International Council on Monuments and Sites) seemed endless, but at last on 15 July, 2005, at the UNESCO annual meeting in Durban, S. Africa, a decision was made. World Heritage status had been achieved.

That is not the end of the story, however. Resolutions passed at the 2002 Conference in Tallinn and at subsequent conferences in Minsk (2003) and Chisenau (2004) envisaged:

1. Ensuring the maintenance and management of all 34 sites.
2. Determining the location of surviving Struve material on the subject and reserving it for future generations. Struve's tomes in French documenting the Arc survey are a valuable part of the history of surveying. The books are now rare and may even not be available in all the ten countries involved. Some chapters were reprinted in Moscow in 1957, but these are probably out of print now. A facsimile edition could be printed in French, but an English translation would reach more readers.
3. Pursuing the idea of a Struve museum or home in Tartu, possibly centred in the old Observatory.
4. Considering possible future scientific schemes for which the 34 points provide a data base.
5. Extending the present monument over the territory between Belarus and Crete to embrace the East African Arc of the 30th Meridian, for an overall length of 105 degrees.

Other World heritage sites have been either very large structures or features covering areas of many hectares. The Arc is very long, but the actual survey stations are essentially point positions only. Even those marked by a cairn cover only a few square metres. There are obelisks at the two termini of the Arc, a church tower in Tornea (Finland) and, of course, the Tartu Observatory.

The aim was to select three or four points in each of nine countries (Russia has only two, on the island of Hogland) that were recoverable as definite Struve points and to mark them in some commemorative manner. Those selected are reasonably

accessible to the public (unlike some in North Norway that can be reached only by helicopter or several days trek) and spread throughout each country.

Each country involved had to identify a selection of points and to indicate how they envisaged them being marked and maintained. Since the points are old, they were often hard to reach and to identify. Compiling the submission to UNESCO was obviously hard work, undertaken by the appropriate government department in each country and coordinated by Pekka Tatilä of the Survey Department of Finland.

A possible future project is to remeasure the selected sites by GPS. This could evaluate the accuracy of the original measurements and provide a data bank for the investigation of movements of parts of the land mass traversed by the Arc, whether due to tectonic plate movements or to volcanic activity.

Struve envisaged extension of the Arc through Turkey to Crete, thus extending it to over 37 degrees of latitude. His son and successor, Otto Struve wrote a paper in 1868 detailing plans for this extension and indicating that he was preparing the equipment. Apparently, the field work was never done. Although it is not clear why this was so, tensions between Russia and Turkey were increasing at that time, leading to war in 1877-8.

About that time David Gill, newly appointed Her Majesty's Astronomer at the Cape, was planning an arc measurement in South Africa, which he began in 1879. He and Otto Struve were friends and corresponded frequently. They shared the dream that one day measurements could link the two Capes: North Cape in Norway with the Cape of Good Hope in Africa. At various times and by various workers, Gill's arc was extended up to 1 degree southern latitude by 1938. Measurements were made from the Mediterranean southward through Egypt and The Sudan at varying periods between 1901 and 1951. By that time, survey techniques were sufficiently developed to make a connection between Africa and Crete possible. Shoran/Hiran, a radar technique for measuring accurately very long distances, was used for this purpose. The Arc in Egypt was extended westwards into Libya, forming a triangle with Crete and Rhodes.

In June, 2004, a plaque was unveiled on the Southernmost station of the 30th-Meridian Arc, at Buffelsfontein near Port Elizabeth, and in April, 2005, another plaque was unveiled at the northern end, near Cairo. This Arc passes through 11 countries and it is hoped that, except for Botswana and Mozambique, which have only one and two sites respectively, each of those countries will select a representative number of the surviving stations and do the work needed for them to form a part of a submission to UNESCO for an extension of the Struve Heritage monument that would cover the entire 105 degrees.

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## **J. Journals and Publications**

### ✓ **Archaeoastronomy. The Journal of Astronomy in Culture**

*Vol. XIX, 2005*

- Johan Reinhard and Constanza Ceruti: **Sacred Mountains, Ceremonial Sites and Human Sacrifice Among the Incas**
- Alonso Mendez, Edwin L. Barnhart, Cristopher Powell and Carol Karasik: **Astronomical Observations from the Temple of the Sun**
- Johannes Neurath: **The Ambivalent Character of Xurawe: Venus-related Ritual and Mythology Among West Mexican Indians**

#### *BOOK REVIEWS*

- **In Synchrony with the Heavens**  
A review of: In Synchrony with the Heavens: Studies in Astronomical Timekeeping and Instrumentation in Medieval Islamic Civilization, Volume One: The Call of the Muezzin (Studies I-IX) by David A. King  
(reviewed by Imad-ad-Dean Ahmad)
- **Exploring Ancient Skies**  
A review of: Exploring Ancient Skies: An Encyclopedic Survey of Archaeoastronomy by David H. Kelly and Eugene F. Milone  
(reviewed by Thomas Hockey)

For further information, please consult the website:

<http://www.wam.umd.edu/~tlaloc/archastro/journal.html>

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### ✓ **Journal of Astronomical History and Heritage**

#### **Previous Journals**

The 2005 issues of *JAH*<sup>2</sup> (Volume 8, Numbers 1 & 2) contained the following research papers, reports and book reviews:

*June 2005*

- **Orchiston, W.** "Sixty years in radio astronomy: a tribute to Bruce Slee." 8(1), 3-10.
- **Sullivan, W.T.** "The beginnings of Australian radio astronomy." 8(1), 11-32.
- **Milne, D.K., and Whiteoak, J.B.** "The impact of F.F. Gardner on our early research with the Parkes Radio Telescope." 8(1), 33-38.

- **Fujiwara, T., and Yamaoka, H.** “Magnitude systems in old star catalogues.” 8(1), 39-47.
- **Marché, J.D.** “‘Popular’ journals and community in American astronomy, 1882-1951.” 8(1), 49-64.
- **Orchiston, W., Bracewell, R. Davies, R., Denisse, J.-F., Goss, M., Gunn, A., Kellermann, K., McGee, D., Morimoto, M., Slee, B., Slysh, S., Strom, R., Sullivan, W., Swarup, G., van Woerden, H., Wall, J., and Wielebinski, R.** “The IAU Historic Radio Astronomy Working Group. 2: Progress report.” 8(1), 65-69.
- **Orchiston, W., Dick, S., Duerbeck, H., van Gent, R., Hughes, D., Koorts, W., and Pigatto, L.** “The IAU Transits of Venus Working Group. 4: Progress report.” 8(1), 70-71.
- Review of *Astronomical Instruments and Archives from the Asia-Pacific Region*, edited by W. Orchiston, F.R. Stephenson, S. Débarbat, and Nha I-S. (**John Perdrix**). 8(1), 72.
- Review of *The European Scientist. Symposium on the Era and Work of Franz Xaver von Zach (1754-1832)*, edited by L.G. Balázs, P. Brosche, H.W. Duerbeck and E. Zsoldos (**Wayne Orchiston**). 8(1), 72.
- Review of *Empire and the Sun. Solar Eclipse Expeditions*, by A.S-K. Pang (**Wayne Orchiston**). 8(1), 72.

December 2005

- **Bracewell, R.N.** “Radio astronomy at Stanford.” 8(2), 75-86.
- **Davies, R.D.** “A history of the Potts Hill radio astronomy field station.” 8(2), 87-96.
- **Slee, O.B.** “Early Australian measurements of angular structure in discrete radio sources.” 8(2), 97-106.
- **Hughes, D.W.** “The concept and evaluation of temperature in the history of astronomy.” 8(2), 107-121.
- **Petterson, B.R.** “Astronomy in service of shipping: documenting the founding of Bergen Observatory in 1855.” 8(2), 123-128.
- **Liu, C., Liu, Z., and Ma, L.** “A Chinese observatory site of 4,000 years ago.” 8(2), 129-130.
- **Orchiston, W.** “Obituary: John Louis Perdrix (1926-2005).” 8(2), 131-132.
- **Orchiston, W.** “Society for the History of Astronomy.” 8(2), 133-134.
- Review of *The Emergence of the Telescope: Janssen, Lipperhey, and the Unknown Man*, by M.B. Pepin (**Fred Watson**). 8(2), 135.
- Review of *The Early Years of Radio Astronomy. Reflections Fifty Years after Jansky’s Discovery* (Reprint edition), by W.T. Sullivan III (**Wayne Orchiston**). 8(2), 135.
- Review of *England’s Leonardo: Robert Hooke and the Seventeenth-Century Scientific Revolution*, by A. Chapman (**Alan H. Batten**). 8(2): 135-136.

- Review of *The Astronomer of Rousdon. Charles Grover 1842-1921*, by B. Slater (**Wayne Orchiston**). 8(2), 136-137.
- Review of *Stromlo, An Australian Observatory*, by T. Frame and D. Faulkner (**Colin Montgomery**). 8(2), 137-138.
- Review of *Transit of Venus. The Scientific Event that Led Captain Cook to Australia*, by N. Lomb (**Graeme L. White**). 8(2), 138.
- Review of *Science Technology and Learning in the Ottoman Empire. Western Influence, Local Institutions, and the Transfer of Knowledge*, by E. Ihsanoglu (**Ihsan Hafez**). 8(2), 138-139.
- Review of *John Herschel's Cape Voyage. Private Science, Public Imagination and the Ambitions of Empire*, by S. Ruskin (**Wayne Orchiston**). 8(2), 139.

### **Death of John Perdrix**

It is with sadness that we report the death of John Perdrix on 27 June 2005, just three days short of his seventy-ninth birthday. John and I started the *Journal of Astronomical History and Heritage* (*JAH*<sup>2</sup>) in 1998, after closing down the *Australian Journal of Astronomy*. Obituaries have appeared in *JAH*<sup>2</sup>, the RAS's *A&G*, *Australian Sky and Telescope*, *Journal of the British Astronomical Association* and the *Newsletter* of the Society for the History of Astronomy.

### **Changes to the Journal**

In July 2005 I moved from Sydney to Townsville, and joined the Centre for Astronomy at James Cook University. All manuscripts, books for review, orders for back numbers, new subscriptions and enquiries should be sent to me there (Dr Wayne Orchiston, Centre for Astronomy James Cook University, Townsville, Queensland 4811, Australia). I can also be contacted by e-mail ([Wayne.Orchiston@jcu.edu.au](mailto:Wayne.Orchiston@jcu.edu.au)).

With John Perdrix's passing, the Editorial Board now comprises:

David Andrews (England), Alan Batten (Canada), Mary Brück (Scotland), Allan Chapman (England), Suzanne Débarbat (France), Steven Dick (USA), Wolfgang Dick (Germany), Bambang Hidayat (Indonesia), Rajesh Kochhar (India), Lui Ci-Yuan (China), Tsuko Nakamura (Japan), Nha Il-Seong (Korea), Don Osterbrock (USA), Richard Stephenson (England), Brian Warner (South Africa) and Graeme White (Australia).

The amount of copy crossing my desk justifies a substantial increase in the number of pages in each issue, and this change will begin with the June 2006 number. However, the subscription rate for 2006 remains unchanged.

### **Back Numbers**

I'm pleased to report that we now have stocks of all back numbers of the journal. For the cost of back numbers please consult our web site,

[www.jcu.edu.au/astronomy/JAH2](http://www.jcu.edu.au/astronomy/JAH2), which also contains an order form. All orders are dispatched by airmail.

Wayne Orchiston  
Editor, JAH<sup>P</sup>

### Some research papers by C41/ICHA members – 2002/2005

- Andropoulos, J., and Orchiston, W., 2006. Melbourne Observatory and the genesis of astrophysics in Australia. *Anglo-Australian Observatory Newsletter*, 109, 18-20.
- Barnes, K., George, M., and Orchiston, W., 2005. John Louis Perdrix (1926-2005). *Australian Sky & Telescope*, October, 73.
- Chen, K.-Y., Orchiston, W., Soonthornthum, B., and Strom, R. (eds.), 2006. *Proceedings of the Fifth International Conference on Oriental Astronomy*. Chiang Mai, Chiang Mai University.
- Chinnici I. 2005. "Pietro Tacchini (1838-1905): un protagonista dell'astronomia italiana post-unitaria", *Astronomia*, n. 4, pp. viii-xii.
- Chinnici I., 2005. "Omaggio a Pietro Tacchini", *Cronache parlamentari*, anno 4, n. 53, pp. 4-6.
- Chinnici I., 2005. "Pietro Tacchini: 1838-1905", *Giornale di Astronomia* 31, n. 2, pp. 29-31.
- Chinnici I. 2005. "Angelo Secchi S. J. (1818-1878): a scientific and biographical profile", in: *Cento anni di astronomia in Italia 1860-1960*, Atti dei Convegni Lincei 217 (Roma, 26-28 marzo 2003), Roma, Bardi Editore, pp. 87-100.
- Green, D.A., and Orchiston, W., 2004. In search of *Mahutonga*: a possible supernova recorded in Maori astronomical traditions? *Archaeoastronomy*, 18, 110-113.
- Orchiston, W., 2005. A forgotten Grubb telescope. *Journal of the British Astronomical Association*, 115, 295 [Letter to the Editor].
- Orchiston, W., 2005. James Cook's 1769 transit of Venus expedition to Tahiti. In Kurtz, D.W., and Bromage, G.E. (eds.). *Transits of Venus: New Views of the Solar System and Galaxy*. Cambridge, CUP. Pp. 52-66.
- Orchiston, W., 2005. John Louis Perdrix 1926-2005. *Astronomy & Geophysics*, 46(6), 6.39.
- Orchiston, W., 2005. Obituaries. John Loius Perdrix. *SHA Newsletter*, 9, 19.
- Orchiston, W., 2005. Obituary: John Louis Perdrix (1926-2005). *Journal of Astronomical History and Heritage*, 8, 131-132.
- Orchiston, W., 2005. Obituary. John Louis Perdrix (1926-2005). *Journal of the British Astronomical Association*, 116, 49.
- Orchiston, W., 2005. Sixty years in radio astronomy: a tribute to Bruce Slee. *Journal of Astronomical History and Heritage*, 8, 3-10.



- Orchiston, W., 2005. Society for the History of Astronomy. *Journal of Astronomical History and Heritage*, 8, 133-134.
- Orchiston, W., and Slee, B., 2006. Early Australian observations of historical supernova remnants at radio wavelengths. In Chen, K.-Y., Orchiston, W., Soonthornthum, B., and Strom, R. (eds.). *Proceedings of the Fifth International Conference on Oriental Astronomy*. Chiang Mai, University of Chiang Mai. Pp. 161-175.
- Orchiston, W., Hons, A., and White, G.L., 2006. Teaching history of astronomy in an Internet Masters degree. In Chen, K.-Y., Orchiston, W., Soonthornthum, B., and Strom, R. (eds.). *Proceedings of the Fifth International Conference on Oriental Astronomy*. Chiang Mai, Chiang Mai University. Pp. 43-56.
- Orchiston, W., Chen, K.-Y., Lee, E.-H., and Ahn, Y.-S., 2006. British observations of the 1868 total solar eclipse from Guntoor, India. In Chen, K.-Y., Orchiston, W., Soonthornthum, B., and Strom, R. (eds.). *Proceedings of the Fifth International Conference on Oriental Astronomy*. Chiang Mai, Chiang Mai University. Pp. 23-34.
- Orchiston, W., Dick, S., Duerbeck, H., van Gent, R., Hughes, D., Koorts, W., and Pigatto, L., 2005. The IAU Transits of Venus Working Group. 4: Progress report. *Journal of Astronomical History and Heritage*, 8, 70-71.
- Orchiston, W., Bracewell, R., Davies, R., Denisse, J.-F., Goss, M., Gunn, A., Kellermann, K., McGee, D., Morimoto, M., Slee, B., Slysh, S., Strom, R., Sullivan, W., Swarup, G., van Woerden, H., Wall, J., and Wielebinski, R., 2004. The IAU Historic Radio Astronomy Working Group. 2: Progress report. *Journal of Astronomical History and Heritage*, 8, 65-69.
- Poppi F., Bònoli F., Chinnici I., "Il progetto Tacchini e la riforma degli Osservatori italiani", in: *Cento anni di astronomia in Italia 1860-1960*, Atti dei Convegni Lincei 217 (Roma, 26-28 marzo 2003), Roma, Bardi Editore, pp. 123-171.
- Sim, H., and Orchiston, W., 2004. Brian John Robinson: 1930–2004. *ATNF News*, 54, 11-13.

## **K. News**

### **/// History of Astronomy at James Cook University: Progress Report**

There have been further developments since it was announced in the previous *Newsletter* that the Centre for Astronomy at James Cook University (Townsville, Australia) has introduced Doctoral degrees in the history of astronomy.

In July 2005 I was appointed to a full-time post at the University and moved from Sydney to tropical Townsville in coastal northern Queensland. Since then, we



have initiated the appointment of Kim Malville (ethnoastronomy and archaeoastronomy), Richard Stephenson (applied historical astronomy; Asian astronomy) and Brian Warner (nineteenth and twentieth century astronomy; variable stars) as adjunct professors of astronomy at James Cook University.

Currently, there are ten students (from Australia, Lebanon and the USA) enrolled for doctorates in history of astronomy, and their thesis topics are:

- “Abdul Rahman al Sufi and *The Book of the Stars*: a journey in re-discovery”
- “Kepler’s War on Mars and the usurpation of seventeenth century astronomy”
- “The 1869 total solar eclipse and the popularization of astronomy in the USA”
- “The Lick Observatory solar eclipse expeditions and the study of the solar corona”
- “A history of research into the concept of ‘dark matter’”
- “The contribution of the Great Melbourne Telescope to international astronomy”
- “Quasi-stellar objects, the Owens Valley Radio Telescope, and the changing nature of the Caltech-Carnegie nexus”
- “The contribution of the Division of Radiophysics Potts Hill field station to international radio astronomy”
- “The history of low frequency radio astronomy in Tasmania”
- “Early pulsar research and role of the Molonglo Cross Radio Telescope”

All of these students are undertaking their doctorates part-time and off-campus, but it is possible to complete a history of astronomy doctorate on campus, at James Cook University, as a full-time student.

Some of the JCU doctoral students plan to attend the Prague GA, and papers by them and/or staff members have been submitted for the programs run by Commissions 40 (Radio Astronomy), 41 (History of Astronomy) and 46 (Astronomy Education and Development).

A further significant development at JCU is the inclusion of history of astronomy as an optional elective within the University’s part-time, off-campus, internet-based Master of Astronomy degree. Beginning in 2006, all students enrolling in their final year choose to major in either astrophysics or history of astronomy. Those selecting the latter take a new semester-long history of astronomy subject titled “Scientific and Technological Developments in Astronomy and Astrophysics” and follow this up in their final semester with a historically-oriented research project.

If you would like further details about the JCU history of astronomy masters and doctoral programs (including entry criteria and course fees) please e-mail me.

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## /// **Proceedings of ICOA-5**

The Fifth International Conference on Oriental Astronomy was held in Chiang Mai (Thailand) from 4-8 October, 2004, and the Proceedings (edited by Kwan-Yu Chen, Wayne Orchiston, Boonraksar Soonthornthum and Richard Strom) are about to be published by Chiang Mai University.

The book is A4-format, contains many color photographs, runs to 183 pages, and includes the following papers:

### **King Mongkut and Total Solar Eclipses**

“King Mongkut, the Father of Thai Science” by Nibondh Saibejra

“The King Rama V total solar eclipse of 1875: Schuster’s Expedition to Siam” by Busaba Hutawarakorn-Kramer and Michael Kramer

“British observations of the 1868 total solar eclipse from Guntoor, India” by Wayne Orchiston, Kwan-Yu Chen, Eun-Hee Lee and Young-Sook Ahn

### **Historical Supernovae and their Remnants**

“What are supernovae and supernova remnants?” by John Dickel

“Early Australian observations of historical supernova remnants at radio wavelengths” by Wayne Orchiston and Bruce Slee

“The structure and expansion of the remnants of historical supernovae” by John Dickel

“Do some porcelains of the Southern-Song Dynasty illustrate the 1006 supernova remnant?” by Fu-Yuan Zhao and Shi-Yang Jiang

“A new date for the Crab Nebula supernova burst” by John Fountain and Helmut Abt

### **Exchange and Development of Astronomical Knowledge**

“On the astronomical meaning of Rāhu and Ketu preserved in the translated Chinese sutras” by Niu Weixing

“The first comprehensive book in Indo-Persian on modern European Astronomy” by S.M. Razaullah Ansari

“The first Chinese version of the Newtonian tables of the Sun and Moon” by Shi Yunli and Xing Gang

“Transmission of Occidental astronomy to Japan through Chinese star charts compiled by Jesuits” by Tomoko Fujiwara and Masanori Hirai

### **Historical Records and Observations**

“Progress report on the long-term project of astronomical archives in Korean history. 2: Comets” by Nha Il-Seong and Lee Jung-Bok

“A survey of Han astronomical figures on Nanyang stone slabs” by Liu Yongping, Cho Seung Ku and Nha Il-Seong

### **Ancient Observatories and Early Astronomical Instrumentation**

“The historical and cultural value of Dengfeng Observatory” by Guan Zengjian

- “Progress report on the IAU Historical Instruments Working Group web site: the classification of Korean and Chinese sundials” by Sarah L. Nha
- “Xin’an Xiuyu, a city of Chinese sundials and compasses” by Nha Il-Seong, Oh Gilsun and Chen Kaige
- “Accuracy of the gnomonic measurements in Korea and China” by Eun-Hee Lee and Kwan-Yu Chen

### **Star Catalogues, Calendars and Chronology**

- “Lanna map of lunar mansions” by Boonraksar Soonthornthum and Jiraporn Soonthornthum
- “The riddle of the cycle of intercalation and the sidereal year: an aspect of the Mainland South-east Asian calendars” by Yukio Ôhashi
- “Astronomical methods applied in Chinese chronology” by Yong Li

### **Astronomical Education**

- “Teaching history of astronomy in an internet Masters degree” by Wayne Orchiston, Alex Hons and Graeme L. White

There are also biodata about the authors and an Author Index.

For further details (including the purchase price) please contact Professor Soonthornthum (boonraks@chiangmai.ac.th).

*Kwan-Yu Chen, Wayne Orchiston,  
Boonraksar Soonthornthum & Richard Strom*

### **/// Astronomie dans la civilisation musulmane – région Maghrébine**

Tlemcen (Algeria), 3-4 juin, 2005

Le colloque est organisé conjointement par l'Université Aboubaker BELKAID de Tlemcen et Le centre de Recherche en Astronomie, Astrophysique et Géophysique (CRAAG).

C'est un premier colloque sur ce thème en Algérie et au Maghreb. Le but du colloque est donc se partager les connaissances entre les chercheurs sur le thème, rassemblement des archives (matériel et immatériel) éparpillés et mal connues, faire connaître ou découvrir les anciens astronomes maghrébins, les anciens travaux, les anciens instruments astronomiques, les échanges avec les européens etc...

Le sujet principal est l’histoire de l’astronomie dans la civilisation musulmane et particulièrement au Maghreb qui comprenait ou interagissait, dans l’histoire du monde musulman, avec la rive occidentale de la Méditerranée: le Portugal, l’Espagne, la France et l’Italie.

*Hamid Sadsaoud  
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## /// La Carte du Ciel. Regards croisés d'historiens et d'astronomes

Journée d'études - Paris, Centre Alexandre Koyré (EHESS), 5 octobre 2006

La Carte du ciel, lancée en 1887 par Ernest Mouchez et David Gill, ne sera jamais totalement achevée et s'interrompt officiellement en 1970. L'objectif était d'établir un inventaire du ciel qui soit le plus complet possible.

La Journée d'études organisée sous l'égide du Centre Alexandre Koyré (EHESS) aura pour ambition de comprendre à la fois la genèse de ce projet scientifique ambitieux, les formes de sa réalisation et de sa poursuite, ses usages ultérieurs et ses possibles mises en valeur patrimoniale aujourd'hui. Il s'agira donc, dans une perspective d'échanges interdisciplinaires, de croiser les points de vue des historiens et des astronomes sur cette entreprise savante de grande ampleur.

*Jérôme Lamy, organisateur  
(Observatoire de Paris)  
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