



CHAMA Newsletter

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COMMISSION FOR THE HISTORY OF ANCIENT AND MEDIEVAL ASTRONOMY
DIVISION OF HISTORY OF SCIENCE AND TECHNOLOGY
INTERNATIONAL UNION OF HISTORY AND PHILOSOPHY OF SCIENCE

Report from the 24th ICHSTM Manchester 2013

This issue of the CHAMA Newsletter is entirely devoted to CHAMA's symposia and business meeting held at the 24th International Congress of History of Science, Technology, and Medicine, which was hosted by the University of Manchester, UK. The Congress's theme was *Knowledge at Work*. (More general information about the 24th ICHSTM and its program are available at <http://www.ichstm2013.com>). CHAMA was a prominent presence in the Congress scientific program. Our main symposium, organized by members of the CHAMA executive, was one of the largest, with nine 90-minute sessions and more than thirty presenters, many of whom had not participated in a CHAMA symposium previously. CHAMA also cosponsored two smaller symposia with other commissions. The symposium programs are reproduced below; the paper titles have hyperlinks to the online abstracts.

The 25th ICHSTM will take place in 2017 in Rio de Janeiro, Brazil.



Symposium S092. Astronomy and its applications in ancient and medieval societies (July 22-July 24)

Sponsored by the Commission for the History of Ancient and Medieval Astronomy.

Symposium organisers:

Alexander JONES | ISAW, New York University, USA

Josep CASULLERAS | Universitat de Barcelona, Spain

S. M. Razauallah ANSARI | formerly Aligarh Muslim University, India

Astronomy in ancient and medieval societies was, in the first instance, practical knowledge. Observation, measurement, modelling, and prediction were employed in and motivated by time-reckoning and calendrics, religion and cult, state and private divination, astrology, and

medicine. Applications constrained not only astronomy's practices and theory but also the social status and training of astronomers. Our symposium explores "astronomy at work" across early societies (Mesopotamia, Greco-Roman, West Asia, Medieval Europe, Islam, South and East Asia).

Session A. Astronomy and its cultural role in the ancient Near East.

Chair: Mathieu OSSENDRIJVER, Humboldt-Universität zu Berlin, Germany

Sarah SYMONS | McMaster University, Canada

Stars and death: the role of astronomy in ancient Egyptian funerary culture

Zoë MISIEWICZ | New York University, United States

What the king, my lord, said: communication between scholar and employer in the Neo-Assyrian court

John STEELE | Brown University, United States

The use of astronomy in Mesopotamian medicine: theory and practice

Teije DE JONG | University of Amsterdam, Netherlands

The evolution of the Saros and the early development of Babylonian lunar theory

Session B. Instruments and inscriptions in Greco-Roman astronomy.

Chair: Alexander JONES | New York University, United States

Jérôme BONNIN | HALMA-IPEL, UMR 8164, France

Timekeeping in Greco-Roman antiquity: a social necessity?

Daryn LEHOUX | Queen's University, Canada

Reflectance transformation imaging and astronomical inscriptions

John D. MORGAN | University of Delaware, United States

The lunisolar calendar on the Antikythera mechanism

James EVANS | University of Puget Sound, United States

Approaches for the epoch of the Antikythera mechanism

Session C. European medieval astronomy and astrology.

Chair: David JUSTE | Bayerische Akademie der Wissenschaften, Germany

Alena HADRAVOVA | Centre for the History of Science, Czech Academy of Sciences, Czech Republic

The iconography of Ratdolt's woodcuts in his edition of Hyginus's *Astronomy*

Petr HADRAVA | Astronomical Institute of the Czech Academy of Sciences, Czech Republic

Construction and use of Ptolemaic armillary astrolabe and precession celestial globe

Teri GEE | Brigham Young University, Idaho, United States

‘Not compelled but strongly influenced’: Roger Bacon’s defense of astrology in his *Opus maius*

Stephan HEILEN | University of Osnabrück, Germany

Presentation of astronomical data in early modern conjunctionist astrology

Session D. Astronomy and its applications in western Asia and the Islamic world.

Chair: Benno VAN DALEN | Bavarian Academy of Sciences and Humanities, Germany

Jefferson SAUTER | Independent Scholar, United States

Innovative astronomy in medieval Georgian religious and secular works

Yoichi ISAHAYA | The University of Tokyo, Japan

A Chinese calendar in Persian: the missing link in Chinese astronomy

Johannes THOMANN | University of Zurich, Switzerland

An Arabic ephemeris for the year 954/955 CE in the Strasbourg papyrus collection

Pouyan REZVANI (remote contributor) | Institute for the History of Science, Iran

The role of ‘ilm al-mīqāt in the development of sundials in Islamic civilization

Session E. South and East Asian astronomy, part 1.

Chair: ANSARI S M Razaullah | Formerly Aligarh Muslim University, India

Michio YANO | Kyoto Sangyo University, Japan

Sho HIROSE | Kyoto University, Japan

Mathematical models and cosmology in early Indian astronomy

B S SHYLAJA | Jawaharlal Nehru Planetarium, India

Stone inscriptions as sources of astronomical records

Kim PLOFKER | Union College, United States

Balancing calculation and observation in medieval Indian astronomy

Ramasubramanian K. | Indian Institute of Technology Bombay, India

The implication of *Asakrt-karma* on planetary orbit

Session F. South and East Asian astronomy, part 2.

Chair: John STEELE | Brown University, United States

ANSARI S M Razaullah | Formerly Aligarh Muslim University, India

The astronomical writings of the descendants of Ahmad Ma’mâr, architect of the Taj Mahal

Sriram MYYASANDRA SUBRAHMANYA | University of Madras, India

Use of continued fractions in *Karanapaddhati* (c.1730 CE) , a Kerala astronomy text

GUAN Yuzhen | Brown University, United States

Eclipse prediction in early China from the Eastern Zhou Dynasty to the adoption of the Jing chu li in AD 237

NIU Weixing | Shanghai Jiao Tong University, China

Planetary ephemeris between the late Tang and early Song period (AD 800-1000): a technical manual for fortune-tellers

Session G. South and East Asian astronomy, part 3.

Chair: Michio YANO | Kyoto Sangyo University, Japan

Raymond MERCIER | University of Cambridge, United Kingdom

A survey of mean longitudes in Chinese astronomical systems

XU Fengxian | Institute for the History of Natural Sciences, Chinese Academy of Sciences, China

Square or orientable?

Kam-Wing FUNG | The University of Hong Kong, Hong Kong

The transmission of the Islamic astrolabe in Imperial China

Hong-Jin YANG | Korea Astronomy and Space Science Institute, Republic of Korea

The brightness of the stars recorded in Korean stone star charts

Session H. Ptolemy Graecus, Arabus, Latinus, part 1.

Chair: Dag Nikolaus HASSE | Julius-Maximilians-Universität Würzburg, Germany

Cristian TOLSA | Universitat de Barcelona, Spain

Evidence and speculation about Claudius Ptolemy's workplace in second-century Alexandria

Alexander JONES | New York University, United States

Ptolemy's style and the unity of the corpus

Jean LEMPIRE | Université catholique de Louvain, Belgium

D'Alexandrie à Byzance: la transmission de l'astronomie grecque au VIIe siècle

S. Mohammad MOZAFFARI (remote contributor) | Research Institute for Astronomy and Astrophysics, Maragha, Iran

Ptolemaic orbital elements of the inferior planets: the eccentricity of Venus in medieval Islamic astronomy

Session J. Ptolemy Graecus, Arabus, Latinus, part 2.

Chair: Raymond MERCIER | University of Cambridge, United Kingdom

Dag Nikolaus HASSE | Julius-Maximilians-Universität Würzburg, Germany

An introduction to the 'Ptolemaeus Arabus et Latinus' project of the Bavarian Academy of

Sciences

Benno VAN DALEN | Bavarian Academy of Sciences and Humanities, Germany

Ptolemy's astronomical heritage in the Islamic Middle Ages

Charles BURNETT | Warburg Institute, United Kingdom

Ptolemy's astronomical heritage in medieval Europe

David JUSTE | Bayerische Akademie der Wissenschaften, Germany

Ptolemy's astrological heritage in medieval and Renaissance Europe



Symposium S129. Islamic astronomy in its cultural context (July 24)

Sponsored by the Commission for the History of Ancient and Medieval Astronomy and the Commission on History of Science and Technology in Islamic Societies.

Symposium organisers:

Josep CASULLERAS | Universitat de Barcelona, Spain

Robert MORRISON | Bowdoin College, United States

Within Islamic civilization, the sciences of the stars have attracted the most scholarly attention over the years and have also been the locus for some of Islamic societies' most notable achievements. Therefore, CHOSTIS and CHAMA have collaborated on a special session entitled 'Islamic Astronomy in its Cultural Context'. This panel covers a remarkable range of topics, from theoretical astronomy, to handbooks with tables, to astrology.

Session A. Cosmography and hay'a.

Chair: Jan HOGENDIJK | University of Utrecht, Netherlands

Josep CASULLERAS | Universitat de Barcelona, Spain

The description of the cosmos in tenth-century Al-Andalus

Taro MIMURA | University of Manchester, United Kingdom

Planetary models in pseudo-Mashā'allāh's *Liber de orbe* in the early 'ilm al-hay'a tradition

Marc OLIVERAS | Universitat de Barcelona, Spain

Ancient Arabic cosmography on the sources of the river Nile

Session B. Observational astronomy and its applications.

Chair: Josep CASULLERAS | Universitat de Barcelona, Spain

Julio SAMSÓ | Universitat de Barcelona, Spain

Meteorological astrology in the Muslim West

Petra G. SCHMIDL | Universität Bonn, Germany

al-Ashraf Umar's description of the zodiacal signs

María José PARRA | Universitat de Barcelona, Spain

Some new data about the manuscripts that contain the Arabic translations of Abraham Zacut's *Almanach Perpetuum*



Symposium S095. USING MODERN COMPUTING POWER TO ANALYSE AND EXPLICATE ANCIENT ASTRONOMICAL SOURCES: OPPORTUNITIES AND CHALLENGES (July 25)

Sponsored by the Commission for the History of Ancient and Medieval Astronomy and the East Asia Commission.

Symposium organisers:

Christopher CULLEN | Needham Research Institute, United Kingdom

Matthieu HUSSON | Université Paris Diderot - Paris 7, France

Historians of astronomy use many different types of sources to analyze the ways in which ancient people interpreted what they saw in the sky and how they attempted to predict what they might expect to see in the future. Despite important contributions made by the study of ancient material objects and architectural structures relating to the heavens, the most significant sources still are written texts. Amongst such texts, those containing numerical data and calculations have been the focus of major research efforts. This symposium will offer a forum for specialists from a wide variety of backgrounds to discuss the opportunities offered by the power and flexibility of modern computers and their software to deal with ancient numerical material as well as the risks and problems that may follow from such approaches.

Although extensive quantitative analysis of ancient numerical material has been used at least since Kügler and Neugebauer applied it to the study of Babylonian astronomy more than a century ago, in the last 30 years there has been an explosion in the number of publications involving the use of computer-based quantitative analysis. The symposium will seek to take stock of what has been learned across the disparate areas of an emerging community that so far has had little chance to gather. Some historians have developed very general methods of analysis applicable to a wide variety of cases in order to survey large bodies of sources; others have concentrated on developing tools that give precise insights into specific sources. A collective discussion of this particular issue may open new methodological directions and help to integrate both approaches in a fruitful way.

The wider audience of historians of science has often responded ambivalently to these quantitative methods of analysis. On the one hand, many agree that we should make the best possible use of what computer-assisted analysis of historical sources can provide. On the other hand, some skeptics fear that a "technical smoke screen" may mask conclusions that lack historical or cultural sensitivity. Organizing this symposium during the ICHST will create a unique opportunity to address such issues, which impact not only ways in which quantitative

analysis should be presented in publications but also possible articulations between these numerical methods and the more familiar analytical tools of the historian of science.

Session A.

Chair: Matthieu HUSSON | Université Paris Diderot - Paris 7, France

Glen VAN BRUMMELEN | Quest University, Canada

Tools of the table crackers: a survey of the application of quantitative methods in the history of numerical tables

Mathieu OSSENDRIJVER | Humboldt-Universität zu Berlin, Germany

Working with tables: Babylonian mathematical astronomy

Christopher CULLEN | Needham Research Institute, United Kingdom

Making 'live' translations of Chinese astronomical systems with Excel

Session B.

Chair: Christopher CULLEN | Needham Research Institute, United Kingdom

Clemency MONTELLE | University of Canterbury, New Zealand

Bhaskara II's *Brahmatulyasarini*: the challenges arising from a preliminary quantitative analysis of a set of second-millennium Indian astronomical tables

Richard KREMER | Dartmouth College, United States

Using computers to crack syzygy tables: The case of Immanuel Bonfils' *Six Wings* (c. 1350)

Matthieu HUSSON | Université Paris Diderot - Paris 7, France

Astronomical tables and the recovery of ancient mathematical practices



CHAMA business meeting and election of officers for 2013-2017

Summary of President's report (Alexander Jones). 2009-2013 saw a major overhaul of CHAMA's resources for electronic communications. The website was reestablished on new servers (Google and NYU), and its contents are undergoing a long-term process of renovation. Again through NYU, CHAMA now has a listserv open to all members, which is intended to function as a news list, not a discussion group. It is minimally moderated, mostly to prevent accidental broadcasting of messages meant to reach individuals.

CHAMA sponsored a symposium "Ancient Astronomy and its Later Reception" (organized by Alena Hadravova and Alexander Jones) at the meeting of the European Society for the History of Science at Athens, November 1-3, 2012. At ICHSTM Manchester, three symposia (S092, S129, and S095) were sponsored or cosponsored by CHAMA.

CHAMA received \$2700 in administrative grants from DHST over 2010-2013. Of this \$900 has been spent so far to pay a student assistant in 2012; finding suitable assistants has been a slow process, hence we have currently an unspent balance of \$1800. DHST has provided CHAMA with conference grants totalling \$2500 to be used for travel subventions for our sponsored symposium at the Athens ESHS and our symposia at ICHSTM Manchester. Because some speakers offered subventions were unable to attend the conferences, we have currently an unspent balance of \$800 that we will carry forward for a future sponsored meeting.

Summary of Secretary's report (Josep Casulleras). Since 2009, a new category of "graduate membership" has been created, allowing an initial membership in CHAMA for a period of eight years for doctoral students who are working in the field of ancient and medieval astronomy but do not yet have a substantial record of publication or professional activity. The category of "associated members" has been phased out. Application for membership in CHAMA is now normally by an online form.

Membership in CHAMA has grown substantially since 2009:

2009: 79 members
2010: 118 members
2012: 123 members
current: 137 members (including 10 graduate members)

We have been attempting to confirm contact information for our members. A list of members with whom we have lost contact was distributed at the business meeting.

Summary of the report of the Nominating Committee (Julio Samsó and John Steele). The nominating committee recommended that, in line with DHST's rules for commission presidents, members of the executive should serve for no more than two consecutive terms. In offering the following suggestions for members of the executive committee for 2013-2017, the nominating committee also sought to achieve a balance of geographical and temporal interests: Alexander Jones (President), S. R. Sarma (Vice President), Secretary (Josep Casulleras), Shi Yunli (Councillor).

Election of officers for 2013-2017. The members present voted unanimously in favor of the Nominating Committee's recommended candidates for the executive committee for 2013-2017. In subsequent discussion, it was proposed, and approved by the membership, that a second councillorship should be created in the interest of broadening the range of expertise of the executive. Petra Schmidl was nominated and elected by a special vote of the membership. Hence the executive for 2013-2017 will be as follows:

President: Alexander Jones (second term, subject to DHST approval)

Vice President: S. R. Sarma

Secretary: Josep Casulleras (second term)

Councillor: Shi Yunli (second term)

Councillor: Petra Schmidl

(The commission's voted recommendation for president was confirmed by DHST General Assembly on July 27.)



CONTACTS

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Secretary: Josep CASULLERAS, jcasulleras@ub.edu

Councillor: SHI Yunli, ylshi@ustc.edu.cn

Councillor: Petra SCHMIDL, <mailto:schmidl@em.uni-frankfurt.de>

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