

COMMISSION C3

HISTORY OF ASTRONOMY

PRESIDENT

Christiaan Sterken

VICE-PRESIDENT

Sara Schechner

SECRETARY

Christiaan Sterken

ADVISOR

Wayne Orchiston

ORGANIZING COMMITTEE

**Ileana Chinnici, Eun-Hee Lee,
Piet van der Kruit, David M. Baneke,
Thomas Hockey, Ioannis Liritzis
Virginia Trimble**

COMMISSION C3 WORKING GROUPS

Inter-Commission C1-C3-C4 WG

**Archaeoastronomy and
Astronomy in Culture**

Inter-Commission C1-C3-C4 WG

**Ethnoastronomy and
Intangible Heritage**

**Inter-Union (URSI), Inter-Commission
B4-C3 Functional WG**

Historical Radio Astronomy

Inter-Union IUHPST/ICHA–C3

**IUHPST Commission for
History of Astronomy**

ANNUAL REPORT 2022–2023

1. Introduction

IAU Commission C3 (History of Astronomy) started in 2015 as a natural continuation of the previous IAU Commission 41 for History of Astronomy, which was established in 1948 and which was very successful in supporting research on the history of astronomy. Commission 41 organized and sponsored workshops and conferences, promoted research collaborations, formed specialist Working Groups and fostered the publication of members' research in the History of Astronomy.

2. The International Union of History and Philosophy of Science and Technology

IAU Commission C3 is also the primary constituent and coordinating arm of the Inter-Union Commission for History of Astronomy (ICHA), which is based in the International Union of History and Philosophy of Science and Technology (IUHPST).

3. Activities of Commission C3 during the second year of this triennium

3.1. *Conferences and Workshops*

No face-to-face meetings have been organised in 2022.

Commission C3 supported the Division C Days in Busan (Korea) during the IAU General Assembly 2022. On August 5 and 8, Division C organised a 2-days meeting titled *Towards inclusion in astronomy education, outreach, history, and heritage*, see the Division C Astronomy Education, Outreach and Heritage Annual Report (2022). This in-person plus remote meeting dealt with the following themes:

(a) Day 1: Beyond the pandemic: a discussion of lessons learned and new opportunities in Astronomy Education and Outreach in the post-Covid era

(b) Day 2: Respecting astronomy history and heritage: a discussion on the intersection of culture, science and social movements.

3.2. *A proposal for a resolution about preferred names for the Magellanic Clouds*

Commission C3 received a draft proposal of a resolution about changing the names of the Magellanic Clouds in such a way that any new names do not include words that refer to Ferdinand Magellan, to diameter (*i.e.*, large and small), or to meteorological phenomena (*i.e.*, clouds).

The proposal has been discussed by members of the Organising Committee of C3. The OC points out that there does not exist a historically “correct” procedure for naming astronomical objects: many names of celestial objects and configurations have been chosen rather arbitrarily, and are the result of contingent historical developments. This does not mean that names should never be changed, though it must be reminded that the current names LMC and SMC are so widely used that any change will likely remain symbolic. SIMBAD, for example, lists almost two dozen alternative names (among which Nebecula Major and Nebecula Minor), but the great majority of scientific papers and databases use the “Magellanic” terminology. Just like we use Roman names for the planets and constellations despite the fact that many were already named in much earlier times.

The observation that Magellan has little or maybe even nothing to do with the Clouds is not all that important since this debate is not about giving credit to a person, as was the case when discussing the naming of, for example, Olber’s paradox and the Hubble-Lemaître constant.

The adjectives **Large/Small** and **Cloud** solely refer to their visual appearance – *i.e.*, the angular extent on the sky – and not to any physical size (just like constellations have no physical meaning). **Cloud** has been a common term in astronomy for a long time, just as **nebula** and **interstellar dust cloud**, and should not be interpreted as a reference to the Earth-bound meteorological sight.

The OC is worried that a new nomenclature might be simply ignored by most astronomers, while the general public might not understand and might not be empathic with the objective. It will be a waste of time to try to convince professional astronomers (even the general public) of the need to drop the names that are of so common use. Moreover, renaming LMC and SMC will lead to practical problems when implemented in databases, and the historical literature will become harder to read, preserve, and teach.

3.3. A proposal for a Focus Meeting at the XXXII IAU GA (Cape Town, 2024)

At the occasion of the XXXIIth IAU General Assembly in August 2024 in Cape Town, the SOC of IAU Commission C3 proposes to organize a two-day Focus Meeting on a range of subjects on the history of astronomy in South Africa. The topics are entirely within the remit of Commission C3, and are also of interest to other IAU Commissions and Working Groups.

The topics cover

- (a) history of astronomy for the sake of history, *i.e.*, as studied by historians of science,
- (b) history of astronomy for the sake of combining historical observational data with modern ground-based and space-based observations, and
- (c) history of astronomy for the sake of enriching our understanding of the mutual impacts on, and the reciprocal influences between local cultures and the astronomical institutions and their activities.

The meeting intends to concentrate on people, instruments, and projects during the last two centuries – *i.e.*, the period since the establishment of the Royal Observatory at the Cape of Good Hope. Strong emphasis is put on the outstanding scientific results that were achieved in South Africa notwithstanding the unparalleled extreme hardships and difficulties endured by the late nineteenth and twentieth century astronomical and technical personnel. Speakers will also embed aspects of education, outreach and cultural diversity in the core science that they will present.

In October 2020 the SAAO celebrated 200 years of existence as an astronomical observatory by organizing a symposium *Beyond 200 Years of Astronomy*. The theme of that remote conference covered a wide range of topics, among which African ethnoastronomy and indigenous knowledge, history of astronomy in Africa, contributions to global astronomy, developments in African research, astronomy in recent decades, and astronomy and society. Our Focus Meeting proposal theme and topics are clearly separate and different from the subjects that were treated at the SAAO200 virtual meeting.

The aim and purpose of the proposed FM is

- Making inventories and describing the content of the various astronomical archives that currently hold plates collected in South Africa since the application of photography in astronomy,
- making inventories and describing the associated documents, such as logbooks, emulsion properties and observing rosters,
- safeguarding and conservation of above-mentioned archives, and
- examining the accuracy and precision of photographically recorded and stored data of transient phenomena (stellar outbursts, cometary appearances, etc.) for the use in long time baseline studies involving space and ground-based telescopes.

The purpose of this meeting goes far beyond revealing South Africa’s rich astronomical heritage: documenting the content and value of these unique archives may eventually result in funding opportunities to carry out research projects in the history of science, and even invoke citizen-science teams in the data mining of the rich data bases.

The Scientific Organizing Committee consists of Piet van der Kruit (Chair), Sara Schechner, Virginia Trimble, Siramas Komonjinda, Elizabeth Griffin, Françoise Launay, Alina Eremeeva, Ian Glass, Michael Burton, and John Hearnshaw.

The Coordinating Division is Division C (Education, Outreach, and Heritage), and one other Division is involved, *viz.*, B (Facilities, Technology, and Data Science).

The meeting covers scientific activities in the following IAU Commissions and Working Groups: C1 Astronomy Education and Development, C3 History of Astronomy, C4 World Heritage, B2 WG Preservation and Digitization of Photographic Plates, B6 Astronomical Photometry, EC WG Women in Astronomy, and Div B WG Time Domain Astronomy.

3.4. *Research and Publications*

During the triennium many C3 members were research-active, which resulted in the publication of a considerable number of research papers, books and chapters of books.

One remarkable book project deserves being mentioned: at the occasion of the 80th birthday of Wayne Orchiston, Commission C3 President 2018–2021, Peter Robertson and Steve Gullberg have compiled a *Festschrift* entitled *Essays on Astronomical History and Heritage – A Tribute to Wayne Orchiston on his 80th Birthday* comprising more than 30 papers on astronomical history and heritage. The book will be published in May 2023.

4. C3 Working Groups

Working Groups were a key factor in the success of C3 and its predecessor C41 for more than two decades (see Orchiston, 2019). The Division C Steering Committee agreed to the formation of three C3 WGs, all of which are Inter-Commission WGs. The three C3 WGs (on *Archaeoastronomy and Astronomy in Culture*, chaired by Steve Gullberg; *Ethnoastronomy and Intangible Heritage*, chaired by Duane Hamacher; and *Historical Radio Astronomy*, chaired by Richard Schlizzi) were successful in fostering research and publications, organizing meetings, and maintaining up-to-date lists of publications in their respective fields since the XXXth IAU GA. Each Working Group submits its own short Annual Report to the IAU.

5. Project Groups

Commission C3 organized informal *Project Groups* in order to facilitate research projects and international collaborations at Commission level: *Asian Astronomy*, chaired by Wayne Orchiston; *Biographical Encyclopedia of Astronomers*, Third Edition, chaired by Thomas Hockey and Jennifer Bartlett; *Historical Instruments, Archives, and Observatories*; chaired by Sara Schechner; *Indian and Southeast Asian Stone Inscriptions*, chaired by B.S. Shylaja; and *Johannes Kepler*, chaired by Terry Mahony. Progress reports for each of these Project Groups are published in the *Journal of Astronomical History and Heritage*.

6. Grants

The IUHPST has provided some funding that the Organizing Committee of Commission C3 can distribute to early-career scholars to defray the costs of attending meetings relevant to the history of astronomy. Three grants covering the early-bird registration fee/partial travel support were bestowed to participants of the XLI Scientific Instrument Symposium, 19–23 September 2022.

7. Fond Farewells

We have lost several C3 members, see the *In Memoriam* Section in the the Division C Annual Report (2022).

References

- Orchiston, W., 2019. “The IAU C41 Working Groups and their contribution to international history of astronomy research.” In Sterken, C., Hearnshaw, J.B., and Valls-Gabaud, D. (eds.), *Under One Sky: The IAU Centenary Symposium*. (Cambridge: Cambridge University Press). Pp. 357–380.
- Sterken, C., Hearnshaw, J., and Valls-Gabaud, D. eds., 2019. *Under One Sky: the IAU Centenary Symposium, IAU Symposium 349* (Cambridge: Cambridge University Press).