Annual Report WGSN 2023

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WG Associates: Danielle Adams (USA), Doris Vickers (Austria), Yunli Shi (China), Boshun Yang (China)

WGSN Chair: Susanne M Hoffmann (Germany)
WGSN Secretary: Eric Mamajek (USA)
WGSN Etymology Task Group Lead: Doris Vickers (Austria)
WGSN IAU Websites:

- https://www.iau.org/science/scientific_bodies/working_groups/280/
- http://exopla.net/approved-star-names/

WGSN Email:

- starnames@exopla.net is forwarded to Eric and Susanne
- starnames-chair@exopla.net is forwarded to Susanne
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1. Summary of Terms of Reference

The IAU Division C Working Group on Star Names (WGSN) consists of an international group of astronomers with expertise in various fields of astronomy who research and catalog proper names for stars for the use by the international astronomical community and also to aid the recognition and preservation of intangible astronomical heritage.[1] WGSN maintains the IAU-Catalog of Star Names (CSN).

The focus during the 2021-2024 triennium will be: (1) to continue an exhaustive search of star names from the cultural astronomy literature, (2) to adopt new proper names for stars of scientific and historical value for community use following WGSN guidelines, (3) to provide relevant expertise to support other IAU efforts related to celestial nomenclature, including public naming campaigns (e.g. NameExoWorlds). **Anticipated outputs** of the WGSN are **(1)** to maintain the **IAU Catalog of Star Names** (https://www.iau.org/public/themes/naming_stars/) and assist the IAU with maintaining its web content on celestial nomenclature, **(2)** to add **etymological and ethnological information** to the IAU Star Names Catalogue in the interests of further preserving astronomical heritage, **(3)** to **construct a new supporting list or name bank of names for stars** and associated asterisms which is culturally and geographically diverse, **(4)** to **refine WGSN guidelines** for the proposal and adoption of names for stars. This annual report covers activities during 2023.

[1] https://www.iau.org/science/scientific_bodies/working_groups/280/.

2. Business Matters

WGSN welcomes our new member Dr. **Boshun Yang** who has finished his dissertation on the historical development of Chinese single star-asterisms and multi star-asterisms. He will contribute to the search for historical names of asterisms that can be applied as official star names in the future.

We gratefully thank our member, **Javier Mejuto**, for the initiative and performance of **creating a logo** for our working group (see figure). He generated six suggestions among which the group voted for one to which he then applied minor changes. The group logo is now implemented on our website and will be used for future activities.

Dr. Marc Thuillard and Dr. Doina Bucur, who attended our scientific meeting at Jena in November, are willing to contribute their expertise to our discussions without being a formal member. Fabien Chéreau, the inventor of Stellarium, is willing to support our work by providing a new description format for “sky cultures” in Stellarium.

3. Update on WGSN Activities

3.1 ExoWorld Naming Campaign

Eric Mamajek (secretary of WGSN) was co-chair of the IAU NameExoWorlds 2022 campaign that was managed through the IAU OAO. The campaign called for suggestions of names by “teams of professional and amateur astronomers, astronomy enthusiasts, teachers and students to propose” names for a list of exoplanets and their host stars (all fainter than V=6.5 magnitude). In August 2023 the result of 20 new star names (with 20 new exoplanet names) was released to the press and public.

Here we only include a brief table but on our website further information (on etymologies etc.) is given.

Star catalog ID	**Name Star**	**Exoplanet catalog ID**	**Name Exoplanet**	**Language**	**Country**	**Constellation**
GJ 1214	Orkaria	GJ 1214 b	Enaiposha	Maa	Kenya	Ophiuchus
GJ 3470	Kaewkosin	GJ 3470 b	Phailinsiam	Thai	Thailand	Cancer
GJ 367	Añañuca	GJ 367 b	Tahay	Spanish	Chile	Vela
GJ 436	Noquisi	GJ 436 b	Awohali	Cherokee	United States	Leo
GJ 486	Gar	GJ 486 b	Su	Basque	Spain	Virgo

HAT-P-12	Komondor	HAT-P-12 b	Puli	Hungarian	Hungary	Canes Venatici
HAT-P-26	Guahayona	HAT-P-26 b	Guataubá	Taino	Puerto Rico	Virgo
HATS-72	Zembra	HATS-72 b	Zembretta	Arabic	Tunisia	Aquarius
HD 95086	Aiolos	HD 95086 b	Levantes	Greek	Greece	Carina
HIP 65426	Matza	HIP 65426 b	Najsakopajk	Zoque	Mexico	Centaurus
L 168-9	Danfeng	L 168-9 b	Qingluan	Chinese (Simplified)	China	Tucana
LHS 3844	Batsǔ	LHS 3844 b	Kua'kua	Bribri	Costa Rica	Indus
LTT 9779	Uúba	LTT 9779 b	Cuancoá	Lenguistica U'wa language, also known as Tunebo.	Colombia	Sculptor
WASP-121	Dilmun	WASP-121 b	Tylos	Sumerian and Greek	Bahrain	Puppis
WASP-166	Filetdor	WASP-166 b	Catalineta	Catalan	Spain	Hydra
WASP-19	Wattle	WASP-19 b	Banksia	English	Australia	Vela
WASP-43	Gnomon	WASP-43 b	Astrolábos	Greek	Romania	Sextans
WASP-63	Kosjenka	WASP-63 b	Regoč	Croatian	Croatia	Columba
WASP-69	Wouri	WASP-69 b	Makombé	Duala	Cameroon	Aquarius
WD 0806-661	Maru	WD 0806-661 b	Ahra	Korean	Republic of Korea	Volans

3.2 Etymologies: Star Names

Doris Vickers (chairing the Etymology Task Group) is continuing the work on the star name etymologies. For the Arabic star names, she added the information from Kunitzsch and Smart (2006) as a preliminary background information to our public etymology table. The table is linked on our group's website: http://exopla.net/star-names/modern-iau-star-names/ Danielle Adams, our expert for Arabic names, may later rework parts of this information.

Among 473 names that we currently register in our IAU WGSN-Catalog of Star Names, 277 etymologies are given on the website. The information of the remaining 41% will be contributed and updated successively.

3.3 Catalog of Nameless (and named) Bright Stars

Future discussions on names for bright stars may map lists of suggested names (like Eric's collection from contemporary atlasses, various suggestions of names of obsolete historical constellation names by Ian, Boshun, Danielle and Susanne, and indigenous constellation names by Clive, Duane and others) to the catalog of bright stars. It has been decided previously, that public naming campaigns like NameExoWorlds only address stars fainter than 6.5 mag and the stars brighter than this ('naked eye stars') will be considered for historical and indigenous names by WGSN. Therefore, we need a catalog of these bright stars per constellation area in order to cross-check (e.g.) what stars within the area of an obsolete or unofficial constellation are not yet named.

In 2023, Susanne M Hoffmann created such a catalog of "bright stars" in the sense of our working group **i**n order to get an overview what stars per IAU-constellation area are yet unnamed. **This catalog of 8547 stars brighter than 6.5 mag mapped to their constellations will be the base for future naming discussions in our group.** The catalog is currently unpublished but only shared internally in our group's cloud drive. As some stars (with HR or HIP numbers) may later turn out as binaries or star clusters, we will rework the catalog during our future naming discussions.

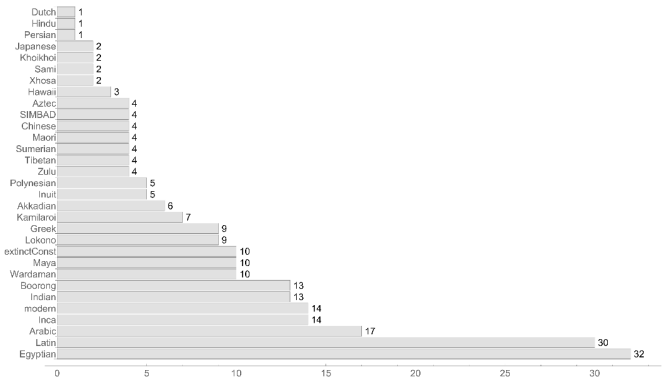
Most of the rather bright ones are named already. Only 471 stars are brighter than 3.9 mag (visible in cities) and should be considered more carefully. Among them, 22 main stars of faint constellations are yet unnamed:

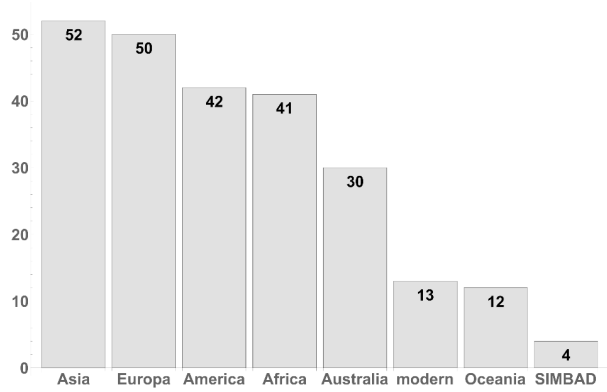
	The following main stars of IAU-constellations are yet unnamed:			
1	HIP 39953	γ2 Vel	Vel	1.83 mag
2	HIP 71860	α Lup	Lup	2.29 mag
3	HIP 61585	α Mus	Mus	2.69 mag
4	HIP 85792	α Ara	Ara	2.84 mag
5	HIP 9236	α Hyi	Hyi	2.86 mag
6	HIP 110130	α Tuc	Tuc	2.87 mag
7	HIP 101772	α Ind	Ind	3.11 mag
8	HIP 45860	α Lyn	Lyn	3.14 mag
9	HIP 71906	α Cir	Cir	3.19 mag
10	HIP 32607	α Pic	Pic	3.3 mag
11	HIP 21281	α Dor	Dor	3.30 mag
12	HIP 17440	α Ret	Ret	3.33 mag
13	HIP 90422	α Tel	Tel	3.51 mag
14	HIP 98337	γ Sge	Sge	3.51 mag
15	HIP 55282	δ Crt	Crt	3.56 mag

16	HIP 42828	α Pyx	Pyx	3.68 mag
17	HIP 34481	γ2 Vol	Vol	3.72 mag
18	HIP 111169	α Lac	Lac	3.76 mag
19	HIP 107089	ν Oct	Oct	3.76 mag
20	HIP 72370	α Aps	Aps	3.83 mag
21	HIP 91117	α Sct	Sct	3.85 mag
22	HIP 19747	α Hor	Hor	3.85 mag

3.4 Catalogs of Name Suggestions

In 2023, we set up a Google Cloud Drive where we started to collect suggested star names. Some ideas were proposed on how to name the above-mentioned nameless main stars. Moreover, from the research on historical constellations and star names within our group, **248 new suggestions from all continents have been collected**.





Some of these suggestions have already been discussed by WGSN members. For example, there are cases of a suggested extinct European constellation name that refers to the same star as an indigenous Arabic or Chinese constellation name. In small expert groups (of 2 to 5 members), we discussed which one of the suggestions should be preferred, developed strategies and arguments. Yet no final decision has been made.

3.5 Scientific Meetings

November 1-3 2023, a week after the launch of the "centennial of the invention of the projection planetarium", the WGSN held a scientific meeting together with the developer team of the planetarium software Stellarium in Jena (Europe). In three intense days of talks, discussions, a public talk with Stellarium in the world's oldest still running planetarium, and the visit of the Nebra Sky Disc, we explored questions of interdisciplinary data collection, exploiting data collections with interdisciplinary multicultural comparisons, creating data collections with the material of field work in ethnology, archaeology and anthropology, and other issues of data management.

We also had a longish discussion on different terminology or usage of terms in various disciplines. The question of the definition of terms like “asterism”, “constellation” and “star name” is not finally solved but has made some progress.

The free and open-source software Stellarium allows contributions from researchers (whether ethnology, anthropology, history of science, cultural studies, philology…) and this has already been used many times. The repository currently has around 40 to 50 “sky cultures”, i.e. sets of representations of constellations, their names and descriptions. A “sky culture” consists of names for constellations, line figures and/or images of constellations, sometimes also names of individual stars, definitely a description (where does this culture come from, where is it located on Earth and how was the one depicted in Stellarium developed) and a license. This can be very useful for the purposes of our WGSN searching for names to be used for official naming: if people approach us with suggestions, Stellarium contributors could be the reference experts to consult.

In person participants	**Online participants**
Danielle Adams (Cultural Astronomy, Arabic star names)	Khalid AlAjaji (Arabic constellations & star names - occasional guest)
Doina Bucur (Data Science/ computer science: constellations networks)	Aashana (Thuringian State Observatory)
Fabien Chéreau (Stellarium)	Rana Brentjes (Digital Content Curator at the Visualization of the Heavens Working Group at the MPIWG)
Michael Geymeier (Author)	Sze-leung Cheung (Cultural Astronomy & Education: stardusts.net)
Jessica Gullberg (Painter for Cultural Astronomy)	Duane Hamacher (Cultural Astronomy, Australia)
Steven Gullberg (Cultural Astronomy: Inca)	Wayne Horowitz (Assyriology/ Cultural Astronomy)
Hermann Hunger (Assyriology)	Dorsa Majidi
Alejandro M. López (Cultural Astronomy)	Eric Mamajek (Founder of IAU Working Group Star Names)
Clive Ruggles (Cultural Astronomy: Oceania)	Javier Mejuto (Cultural Astronomy)
Konrad Rybka (Cultural Astronomy: Locono)	Alexander Wolf (Stellarium)
B S Shylaja (Indian Cultural Astronomy)	
Marc Thuillard (Data Science/ Mathematics: constellation comparison)	
Renate Tobies (History of Mathematics)	

Doris Vickers (Classical Philology, star names) Boshun Yang (Chinese History) Eberhard Zangger (Hittite Astronomy) Georg Zotti (Stellarium/ Cultural Astronomy)	

Acknowledgement: For financial support we thank the Michael Stifel Center Jena for Simulated and Data-Driven Science, the Stellarium Team, and the Zeiss Planetarium Jena.

Other Conferences
In addition to this meeting, Duane Hamacher, Alejandro López and Susanne M Hoffmann participated at the splinter meeting on cultural astronomy at the Annual Meeting of the Society for Social Studies of Science **(4S) in Honolulu** (Hawai'i) on November 8-11, 2023. There, we discussed more challenges with regard to working with indigenous people and how to involve more specialists in these research area(s). The goal is to enable all indigenous cultures to contribute whatever they want to be used in international astronomy while simultaneously avoiding encroaching use of cultural names without the consent of indigenous people.

Alejandro López also participated in the International Astronomical Union **Symposium 386 'Dark sky and astronomical heritage in boosting Astra-tourism around the globe'** held in **Addis Ababa, Ethiopia**, 13-17 Nov 2023. In it, the problems and opportunities that connect astronomical tourism, local astronomical knowledge (especially of indigenous peoples) and the problems of intangible heritage (such as the names of stars and asterisms) were discussed. López's participation in the **X Escuela and IX Jornadas Interamericanas de Astronomía Cultural**, organized by the SIAC in **Mérida and Pisté, Mexico**, 13-21 Oct. 2023 allowed to debate these same topics with researchers, students and tourism providers in Latin America.

Danielle Adams, Doris Vickers, Clive Ruggles and Susanne M Hoffmann participated in the Annual Meeting of the Societé Européene pour l'Astronomie dans la Culture **(SEAC) in Warsaw**, 06-09 Sep. 2023. Some questions on the historical development of name applications have been discussed.

4. Further Problems / Tasks

4.1 Method and Content

With the catalog of unnamed bright stars, Hoffmann compiled a variety of naming strategies that will be discussed in the group. For instance,

- occasionally historical names of geographic or utopic places had been used to name stars (e.g. "Alasia", the first known historical name of the island of Cyprus, has been

applied to a star in Serpens since 2019). So, shall we use names of places? There are contrary opinions within the working group.

- obsolete historical constellation names have been used earlier (e.g. obsolete constellation “Anser” is now used as name for a star in Vul), so we could continue applying e.g. the terms “Globus” and/ or “Aerostaticus” for one or two stars in the Aql-Cap-area where Lalande had placed the image of a genius invention of his time (Hot Air Balloon). **Ian Ridpath provided a list of obsolete constellations**, and Hoffmann worked on suggestions on how to apply them. Currently we don’t have consensus on the limiting magnitude of useful stars: does it make sense to name a 5 mag star after an obsolete constellation? Furthermore, the stars we name with names of obsolete constellations will be occupied and not be usable for names of indigenous cultures other than the European tradition(s). So, one of the questions is whether it makes sense to start naming with these terms or would this be seen as a continuation of European dominance?

There were more lists of suggested names: **Clive Ruggles provided four suggestions of Polynesian star names** that we will discuss in near future. **Juan Belmonte provided a list of Egyptian names** with (partially uncertain) identifications. If we used these names and later research proved the identification incorrect, we can only acknowledge new research with a note in our etymology-table. So the question becomes if it would be better not to use these names and just store them in our own encyclopedia as “unidentified” or “uncertain”? Do we lose something important by neglecting names?

Boshun Yang works on a list of useful Chinese names. There are 283 Chinese names of constellations, each defined by a principle star and all stars within the constellation numbered. As traditional designators for stars, therefore, are “constellation name - number” (e.g. Beidou-17 for a star in Ursa Major), the names of Chinese constellations could be used as star names. However, the difficulty of identifying names and stars in the historically correct ways is that today’s “Chinese” constellations are a product of steps of reworking and foreign influences; e.g. Jesuit astronomers in the past few centuries systematized the original Chinese tradition(s) and we need to go back to the original Chinese roots. Boshun’s dissertation (2023) investigates the steps of transformations, so the knowledge is available but it will take some time to compile a list of IAU-useful names that still make sense for a Chinese historian.

Similarly, we could use other cultures (indigenous and historical) constellations. An idea would be to also ask the **Northern Dene** (home to North Canada) because they have star **names for stars of fourth and fifth magnitude** and as these are very sacred stars, we need their permission (or ideally the suggestion from them) if we may use these names. Chris Cannon’s book is in press and he will consult us.

4.2 Policy on errors

As already mentioned in the report of 2022, Doris Vickers from studying etymologies brought up the topic of possibilities of changing names in the official IAU star name list. The question originally came up because a) occasionally a star name suggested by one group (nations,

cultures, peoples) might be considered offending by another group (e.g. any national hero of anybody, will highly likely have done bad for someone else) and b) in general, several people and working groups in the IAU were hesitant to apply eponymous names although some of them have already manifested in common use (e.g., Barnard's Star). Hoffmann and Vickers had attempted to come up with alternatives that would take into account the interests of all parties (the proposers and those it might offend), but the decision was that the existing list would not be changed and that such alternative proposals could at best be considered in future naming campaigns (but then only after consultation with the proposers).

By the end of the year 2023, Duane Hamacher found two mistakes in a former naming decision with Aboriginal star names: the star *Ginan* is actually Alpha Crucis. The star Epsilon Crucis is *Wuja* (fire). The star named *Gudja* is a transcription error in Dark Sparklers of the name *Judja*. Referring to the previous decision that the existing list will not be changed, the group decided that in such cases the reference in the "Etymology Table" is mandatory, but also in these cases no change of the star name will be made for the time being.

Should a similar error be discovered at a later date that violates the original culture in any way, this decision may have to be revised or re-examined on a case-by-case basis.

This decision and findings should make us especially careful in naming stars and double check more than one time before we apply names. It delays the process.

Lessons learned:

1. In many cases of public name suggestions, it would be possible to honour national luminaries without their names by replacing them with their most important work. Some examples of past NEWC: instead of Cervantes (Spain), Copernicus (Poland), Felixvarela (Cuba), Rosaliadecastro (Spain) we could have used "Donquixote" for Spain or "Derevolutionibus" for Poland as it is already performed in the Dutch suggestion: "Sterrennacht" instead of "van Gogh". This would honour the national identity without using the name of a real person (with all the implication the latter would have) and the "etymology" would still mention the author.
2. Later discoveries of incorrect stars labeled with a (correct) name (as in Duane's case), will be described in the etymology.
3. Some names as applied are incorrect in their ancient languages (e.g. modern Latin "Parumleo" is not the correct form and modern spelling "Sargas" is not consistent with the original "Shargaz" in Sumerian). The consensus in the group is not to change the names once applied and just mention the correct or original form in the etymology table. The question becomes, whether we should care more for philologically correct spelling or for the recent tradition in astrophysics (= the past century or two). Will it be considered ignorant not to take into account knowledge from other disciplines or will astrophysicists be confused by the change in spelling? Possibly there is no general solution for all names but we have to consider each name individually.

6. Publications

Papers, Books etc. by WGSN Members concerning star names

- Hamacher, D.W., Lehman, G.; Nunn, P. and Taylor, R. (2023) Rising seas and a great southern star: Aboriginal oral traditions stretch back more than 12,000 years. *The Conversation (Australia)*, 14 August 2023
- Kelly, B.; Kemp, C.; Little, D.R.; Hamacher, D.W. and Cropper, S.J. (2023) Visual Perception Principles in Constellation Creation. *Topics in Cognitive Science*, Vol. 2024, pp. 1-13.
- Hoffmann, S.M. und Blume, D. (2023): „'I volger del ciel" in Deutsches Dante-Jahrbuch: Dante und die Stadt. Kommunale Kultur und literarische Öffentlichkeit. Blume: "Dantes Sterne" (43-53), Hoffmann: "Planetarium Dantis" 1-42 (DOI 10.1515/dante-2023-0002), DeGruyter, 1-53
- López, Alejandro M. "La construcción social del cielo: Pensando la astronomía cultural desde el Chaco argentino", Núcleos. Revista Científica UNNOBA, año 9 (10); 1-16. ISSN 2408-4492 https://publicacionescedi.unnoba.edu.ar/index.php/revistanucleos/article/view/79

Talks (Public / Conference) on star names by WGSN members:

Adams

- "From Diving Eagle to Alighting Vulture: The Origin of Vega in Arabian Astronomy." Winter Meeting of the American Astronomical Society (AAS), Seattle, WA, January 8–12, 2023.
- "Indigenous Arabian Astronomy and the Hegemonic Discourse of Order." The Artificial Sky: Efficient Research Data Management in Cultural Astronomy for Use in Education and Transdisciplinary Research, Jena, Germany, November 1–2, 2023.

Gullberg

- "The Skies of the Inca and Jessica's Paintings", The Artificial Sky: Efficient Research Data Management in Cultural Astronomy for Use in Education and Transdisciplinary Research, Jena, Germany, November 1–2, 2023.

Hamacher

- The recorded talk "The First Astronomers" was used (at least) 19 times, all over the world for lectures and seminars.
- The recorded talk "Indigenous Astronomy" was used (at least) 5 times in various contexts (lectures, interviews, conference talk)
- "Aboriginal Star Names of Australia", The Artificial Sky: Efficient Research Data Management in Cultural Astronomy for Use in Education and Transdisciplinary Research, Jena, Germany, November 1–2, 2023.

Hoffmann

- “Transfer and Transformation History of Constellations”. American Historical Association’s annual meeting, Philadelphia, USA, 05-08 January 2023
- “Reconstructing Babylonian Constellations”, Hebrew University Jerusalem, 29 April and Ben Gurion University Tel Aviv, Israel, 19 July 2023
- “Farnese, Mainz, Kugel – New Approaches and some Results concerning Constellations on the Three Ancient Globes”. International Coronelli Society for Globe Studies, Berlin Germany, 28-30 September 2023
- Opening / Overview talk for “The Artificial Sky: Efficient Research Data Management in Cultural Astronomy for Use in Education and Transdisciplinary Research”, Jena, Germany, November 1–2, 2023
- “New star names as tool for keeping indigenous heritage”, 4S Conference: Sea – Sky – Land, Honolulu, Hawai’i, 8-11 Nov 2023

Lopez

- “Nuevos aportes y reflexiones en torno a los asterismos moqoit”, Segundas Jornadas de Epistemología e Historia de la Astronomía, Observatorio Astronómico / Facultad de Filosofía y Humanidades, UNC, Córdoba, Argentina, 23-24 Nov.
- “Indigenous peoples and sky stones: tourism and astronomical heritage in contexts of inequality, International Astronomical Union Symposium 386 'Dark sky and astronomical heritage in boosting Astra-tourism around the globe' held in Addis Ababa, Ethiopia, 13-17 Nov 2023.
- “Embodied knowledge: Bodies, Objects and Intangible Astronomical heritage”, Annual Conference of the Society for the Social Studies of Science (4S) 2023, Society for Social Studies of Science, Honolulu, USA, 8- 12 Nov.
- “Naming, classifying and experiencing the sky: reflections from South American ethnoastronomy”. The Artificial Sky: Efficient Research Data Management in Cultural Astronomy for Use in Education and Transdisciplinary Research, Jena, Germany, November 1–2, 2023.
- “Una mirada antropológica sobre el cielo”, “Estudios de casos: aportes, problemas y desafíos de una perspectiva antropológica sobre el cielo” and “Sitios con Astroturismo. Sudamérica” courses taught in collaboration with P. Faulhaber, D. Grecco Pacheco and B. D’Ans Aleman, at the X Escuela Interamericana de Astronomía Cultural, Mérida, México, 16-18 Oct,
- “Luces y sombras del patrimonio y el turismo astronómico: análisis desde la experiencia de Campo del Cielo”, IX Jornadas Interamericanas de Astronomía Cultural (SIAC), Pisté, México, 19 -21 Oct.

Mamajek

- “History of the WGSN”. The Artificial Sky: Efficient Research Data Management in Cultural Astronomy for Use in Education and Transdisciplinary Research, Jena, Germany, November 1–2, 2023

Ruggles

- Polynesian Star Names,
  The Artificial Sky: Efficient Research Data Management in Cultural Astronomy for Use in Education and Transdisciplinary Research, Jena, Germany, November 1–2, 2023

Shylaja B S

- Indian names for stars and constellations,
  The Artificial Sky: Efficient Research Data Management in Cultural Astronomy for Use in Education and Transdisciplinary Research, Jena, Germany, November 1–2, 2023

Vickers

- Woher kommen unsere Sternbilder und Sternnamen?, Vienna, Austria, June 13, 2023
- Wieso haben manche Sterne Namen und andere nicht?, Vienna, Austria, October 13, 2023

Yang

- Chinese names for stars and constellations
  The Artificial Sky: Efficient Research Data Management in Cultural Astronomy for Use in Education and Transdisciplinary Research, Jena, Germany, November 1–2, 2023

Talks on Star Names by our guests at the Scientific Meeting in November

- Rana Brentjes (Berlin). Visualization of Heavens - The database
- Doina Bucur (Twente): Constellation line figure forming and analyzing a scholarly dataset
- Fabien Chéreau (Mauritius): Sky Culture Definition(s) in Stellarium
- Wayne Horowitz (Jerusalem): The Babylonian root of the name Antares
- Konrad Rybka (Leiden): Locono Sky Culture
- Marc Thuillard (Zurich): Stars in worldwide mythology
- Eberhard Zangger (Zurich): Lunar Mansions in the Ancient Near East
- Georg Zotti (Vienna): Stellarium in archaeoastronomy

Public Talks (examples):

- Hoffmann, Zotti and Vickers: The Artificial Sky - Public Conference Talk in Zeiss Planetarium Jena