



SEAC 2018

Harmony and Symmetry: Celestial regularities shaping human culture

Graz, 27. 8 – 1. 9. 2018

Karl-Franzens University



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KARL-FRANZENS-UNIVERSITÄT GRAZ
UNIVERSITY OF GRAZ



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Tschibo Österreich

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Venue

Main venue: Karl-Franzens University Graz, Meerscheinschlössl, Mozartgasse 3

Other venues, and numbers in the map:

No. 1: Meerscheinschlössl, Conference venue

No. 2: Town Hall (Rathaus), Reception by the Mayor of Graz, Wednesday, 19:00

No. 3: Orangerie (near Grazer Burg), Reception by the Governor of Styria, Friday, 19:00

No. 4: Kepler Museum, Part of the guided tour, Thursday

No. 5: Direction to Eggenberg Palace

No. 6: Geidorfplatz, bus stop No. 39, 41, 58, 63

Locations of special events, and how to reach them:

1	Meerscheinschlössl	Mozartgasse 3, 8010 Graz	Bus No. 58, Stop "Mozartgasse"
2	Town Hall (Rathaus) Reception by the Mayor of Graz Wednesday, 19:00	Hauptplatz 1, 8010 Graz	by foot within 20 min from Mozartgasse (via Heinrichstraße – Maria-Theresia-Allee – Paulustorgasse – Sporgasse); by bus: No. 58 (direction Hauptbahnhof) to Keplerbrücke, then tram No. 4 or 5 (direction Liebenau or Puntigam) till Hautplatz
3	Orangerie Reception by the Governor of Styria Friday, 19:00	Stadtpark 2, 8010 Graz	by foot within 15 min from Mozartgasse; by bus: No. 30 from Geidorfplatz (18:28, map No. 5) to Schauspielhaus Entrance from "Burg" or near "Café Promenade"
4	Kepler Museum Meeting point for Group 2/guided tour	Keplerstraße 1, 8020 Graz	by foot within 20 min from Mozartgasse; by bus: No. 58 (direction Hauptbahnhof) to Keplerbrücke
5	Eggenberg Palace Meeting point is the entrance of the park on Wed., 14:15	Eggenberger Allee 90, 8020 Graz	By bus: No. 58 to Hauptbahnhof (Main Station), then: Tram line 1: direction Eggenberg/UKH to Eggenberg Palace, walking distance about 600 m, or Tram line 7: direction Wetzelsdorf to Schloss Eggenberg, walking distance about 650 m, or Taxi: about 15 – 20 Euros
6	Landhaus Ruckerlberg Conference Dinner Saturday, 19:00	Rudolfstraße 59, 8010 Graz	Tram line 7 or 3 to Krenngasse, then bus No. 61 to Landhaus Jöbstl (18:51) Return after dinner: by taxi

Public transport in Graz

Full-price tickets:

Hourly ticket	€ 2,40	1 – 6 hours in one direction
10-strip ticket	€ 19,80	10 hourly tickets
24-hour ticket	€ 5,30	Valid 24 hours
Weekly pass	€ 14,80	Valid for 7 days from the first day of validity

Hourly tickets, 24-hour tickets and weekly pass can be bought in buses from the driver and in trams from the ticket vending machine.

10-strip tickets can be bought in tobacconists and ticket vending machines at the train station.

Discounts:

50% discount tickets	<ul style="list-style-type: none"> • Children from 6 - 15 • Disabled and blind persons 	Hourly tickets, 10-strip tickets, 24-hour ticket
38% discount tickets	<ul style="list-style-type: none"> • Adolescents from 15 – 19 • Senior citizens aged 63 and above (ID required) 	Hourly tickets, 24-hour ticket
20% discount tickets	Groups of 6 and more	Hourly tickets, 24-hour ticket

Map of the city centre and the university



Conference

Registration

Registration will start here on Monday 18:00 (6 pm), at the same time a welcome drink will be to the participants.

The registration desk will be open during the whole week from 8:30 to 17:00 (4 pm), except Wednesday afternoon.

Oral presentations

The time schedule is very tight, please keep strictly the timetable. Chairpersons will cut presentations and discussion when time limit is reached.

Invited talks: 30 min talk + 5 min discussion

Regular talks: 17 min talk + 3 min discussion

Poster presentations

Posters can be mounted from Monday evening (5 to 9 pm) and will remain on display until Saturday afternoon. During the poster session (Thursday 3 to 4 pm) one author is asked to be present personally at the poster.

Pins to fix the poster are available at the registration desk.

Poster format: A0 maximum

Vouchers

In your bag there are vouchers for special events (receptions, Eggenberg Palace, ...). Please bring the respective voucher with you, it may be requested at entrance.

Lunches

Lunch time is short, therefore a list with restaurants nearby is provided.

1	3 Goldene Kugeln	Local food, big portions, rather cheap and fast
2	Bierbaron	“bausatz” restaurant: free choice of ingredients for pizza, burger, salad, toast and more
3	Galliano	Italian restaurant, Pizzeria; lunch buffet (€ 8,40)
4	Klöcherperle	Local food
5	Café-Restaurant Liebig	Local food, 2 lunch menus
6	Mangolds vis-a-vis	Vegetarian restaurant
7	Posaune	“bausatz” restaurant: pizza, baked potato, salad, toast and more
8	Propeller	“bausatz” restaurant: pizza, noodles, salad, toast and more
9	Skurriel	Café, lunch menu, snacks
10	Zeppelin	“bausatz” restaurant: pizza, noodles, salad, toast and much more
11	Zum weißen Kreuz	Local food



Proceedings

All oral or poster presentations will be published with BAR Publishing within one year after the conference. The following style sheet will be applied:

- 4 pages A4 per presentation
- Text should be fully justified left and right in 2 columns (8,2 cm wide with a 0,6 cm gap)
- Line spacing 12pt, Font: 10 pt Times New Roman, UK English spelling
- Figures: 300 – 600 dpi for photographs and coloured images, TIFFs are preferred, JPEG possible

Full text submission **deadline**: January 1st, 2019. No papers will be accepted for publication after this date.

As usual, papers can be accepted as submitted, rejected or modification can be requested. In this case, the author will be immediately informed of the requests and referees will again evaluate the modified paper. You will receive the referees report within one month from the reception of your paper and from the one of the eventual modified versions. The final referee's decision is unappealable. Modification must be sent back within one month from the date when the modification request is received, otherwise the paper is considered withdrawn.

All the correspondence will be sent to the first author only. If everyone complies with these requirements, publication is possible until the next SEAC conference in 2019.

Program

Mon	18:00-21.00	Welcome	
Tue	9:00 - 10:00	Opening	
			Chair: Max E. Lippitsch
	10:00 - 10:35	Liba Taub	Where did astronomy 'sit' in ancient Greek and Roman culture?
	10:35 - 10:55	Georg Latura	Planetary Harmonies & Celestial Symmetries
	10:55 - 11:25	Coffee Break	
			Chair: A. César Gonzalez-Garcia
	11:25 - 11:45	G. Fischer, G. Graßhoff, <u>Christina Michel</u> , W. Schier	Constructed Knowledge? – New insights on visual characteristics of Middle Neolithic Roundels
	11:45 - 12:05	Tamaš Fodor, <u>Marc Frîncu</u> , Leonard Dorogostaisky	Vršac Circles and Vlajkovac Predial, a possible pair of archeoastronomy related sites in the South Banat district, Vojvodina province, Serbia
	12:05 - 12:25	Rita Gautschy	Common features of megalithic stone rows in western Switzerland
	12:25 - 12:45	Göran Henriksson	Megalithic Total Solar Eclipses
	12:45 - 13:05	Nicholas Kollerstrom	The Lunar meaning of Avebury and Stonehenge
	13:05 - 14:30	Lunch	
			Chair: Hermann Hunger
	14:30 - 14:50	<u>Mary Blomberg</u> and Göran Henriksson	The historical significance of the orientations of the chamber-tombs of Bronze Age Crete near Mavro Spelio (Black Cave)
	14:50 - 15:10	Marianna P. Ridderstad	Games for Cosmos: How the Minoan elite ruled their people by mastering ritual performance and the cycles of time
	15:10 - 15:30	Ilaria Cristofaro	A Journey to the Late Bronze Age Minoan Underworld: The Reflection of Sunlight on the Sea as an Axis Mundi
	15:30 - 15:50	<u>Barbara Rappenglück</u> & Kord Ernstson	Exceptional evidence of a prehistoric meteorite impact at the archaeological site of Stöttham (Chiemgau, SE-Germany)
	15:50 - 16:10	Marc Thuillard	A statistical and Information-Theoretical Analysis of the Motifs on Bronze Age Golden Hats.
	16:10 - 16:30	Coffee Break	
			Chair: Juan Antonio Belmonte Avilés
	16:30 - 16:50	Sara Wanek	Was the knowledge of the spherical shape of the Earth in roman imperial period reserved to the elite or was it common knowledge?
	16:50 - 17:10	Nicoletta Lanciano	Which rule for the order of days in the week in artifacts from Roman times to 1600
	17:10 - 17:30	Panou, E, <u>Ioannis Liritzis</u> , and Preka-Papadema, P.	The Horologion of Andronikos Kyrrhestes (Athens, Greece): Investigation of its eight plane sundials
	17:30 - 17:50	<u>Fabio Silva</u> , A. César González-García, Victor Reijs, F. Pimenta, A. Smith	Introducing skyscapeR, an open-source R package for data reduction, visualization and analysis in cultural astronomy
	17:50 - 18:10	Georg Zotti	A Virtual Park of Astronomical Instruments

Wed			Chair: Liba Taub
	9:00 - 9:20	Lionel Sims	"Th'inconstant Moon": lunar celestial mechanics as a template for ritual transformations.
	9:20 - 9:40	<u>A. César González-García</u> , Juan Antonio Belmonte	Lunar Standstills or Lunastices: a lunatic myth or a moonly reality?
	9:40 - 10:00	Michael A. Rappenglück	A Catchy World Model: The Concept(s) of Cosmic Mountain(s) Used by Ancient Cultures
	10:00 - 10:20	Daniel Brown	Empowering Sky Imagery
	10:20 - 10:40	Feeney-Beaton Morag Helen	Weaving as cosmic instrument: a sublimation of the vertical and the horizontal
	10:40 - 11:10	Coffee Break	
			Chair: Ivan Sprajc
	11:10 - 11:30	<u>Motta Silvia</u> , Adriano Gaspani, Gustavo Corrado, Sixto Benitez, Jose Pino Matos	The "Intihuatana" of Saywite (Perù): an archaeoastronomical investigation on the role of time marker of the gnomon
	11:30 - 11:50	<u>J. McKim Malville</u> and Gary Ziegler	Llactapata and the Puzzle of the Two Coricanchas
	11:50 - 12:10	Robert A. Benfer	A Condor Shaped Stone Pillar that Marked the Equinox 2,000 Years Ago at the Adean Site of Buena Vista
	12:10 - 12:30	José Nicolás Balbi	Meaning and coincidences. A study into the archaeoastronomy of Inka structures and their ritual significance
	12:30 - 14:30	Lunch	
	14:30 - 15:30	Barbara Kaiser	Schloss Eggenberg - A Symbolic World
	16:00 - 18:00	Guided Tours of Eggenberg Castle	
	19:00 - 21:00	Reception by the Mayor of Graz (Town Hall)	
Thu			Chair: Stanislaw Iwaniszewski
	9:00 - 9:35	David W. Pankenier	Planetary Astrology in Early China and the Sāsānian Connection
	9:35 - 9:55	Raul R. Perez-Enriquez	Astronomical and Geographical Features of Zhoubi Deduced from Mythology and Gnomonic
	9:55 - 10:15	Akira Goto	Archaeoastronomy of Japan: a short history
	10:15 - 10:35	Mariusz Ziótkowski, Jacek Kościuk	Astronomical observations in the Inca Temple of Coricancha (Cusco)? A critical review of the hypothesis.
	10:35 - 11:00	Coffee Break	
			Chair: Michael A. Rappenglück
	11:00 - 11:20	Astrid B. Leimlehner	Solar Returns: From observing the sky to observing birthdays
	11:20 - 11:40	Florence Star Wood	The 19-year Luni-solar Cycle of the Odyssey, the Pylos Combat Warrior Seal and the Antikythera Mechanism
	11:40 - 12:00	Alexey Stoev, <u>Penka Maglova</u> , Vassil Markov, Dimitriya Spasova, Anton Genov	Structure of the sacred space, astronomical orientation and functional evolution of the rock-cut monument near the village of Lilych, Kyustendil region, Bulgaria

	12:00 - 12:20	<u>Eberhard Zangger</u> , Rita Gautschy	The Hittite Rock Sanctuary of Yazılıkaya: A Lunisolar Calendar from c. 1250 B.
	12:20 - 12:40	<u>Fabio Silva</u> , A. César González-García	A robust statistical significance test for the orientation of archaeological structures
	12:40 - 14:00	Lunch	
			Chair: Nick Kollerstrom
	14:00 - 14:20	Nicholas Campion	Politics, Harmony and Managing Change in Kepler's Astronomy
	14:20 - 14:40	Uliva Velo	The harmony of J. Kepler. Elliptical form in geometry and music
	14:40 - 15:00	Sepp Rothwangl	Kepler's calculations of the Creation's date, compared to Dionysius Exiguus' Adjustment of Anno Domini
	15:00 - 16:20	Poster and coffee	
	16:30 - 19:00	Guided City Tours and visit of the Kepler Museum	
Fri			Chair: David W. Pankenier
	9:00 - 9:35	Paul Baki	Astronomy and Indigenous Technologies in Africa
	9:35 - 9:55	Barth Chukwuetzi	The regularities of the celestial forces; the concept of the sun and the moon in Igbo world view
	9:55 - 10:15	Reza Assasi	Origins of Ka'ba and The Celestial Order
	10:15 - 10:35	S. Mohammad Mozaffari, <u>Georg Zotti</u>	A New Light on the Central Instrument of the Samarqand Observatory
	10:35 - 10:55	Nyssonbay Bekbassar	Numerical, Geometric and Orientation Properties of "Steppe Geoglyphs" in Kazakhstan
	10:55 - 11:15	Coffee Break	
	11:15 - 12:45	SEAC General Assembly	
	12:45 - 14:00	Lunch	
			Chair: Lionel Sims
	14:00 - 14:20	Jesús Galindo Trejo	The calendrical period of 13 days as a basis to explain the solar orientation of architectural structures in Mesoamerica
	14:20 - 14:40	Stanislaw Iwaniszewski	The use of the Palenque ratio in the Lunar Series as a means to preserve the legitimacy of the ruling dynasty of the Palenque kingdom
	14:40 - 15:00	Ivan Sprajc	Solar alignments and observational techniques in Mesoamerica
	15:00 - 15:20	Hasso Hohmann	Calendar House at Copan? Significant orientations of structures in the Sepulturas region
	15:20 - 15:40	Carlos Eduardo Barrera Atuesta	Harmonic Cycles and Symmetric Time Structures in Mesoamerican Architecture
	15:40 - 16:00	<u>Javier Mejuto</u> and E. Rodas	Tolupan Universe: A Mesoamerican cosmovision
	16:00 - 16:30	Coffee Break	
			Chair: Simone De Angelis
	16:30 - 16:50	<u>Manuela Incerti</u> , Stefania Iurilli	The astrological cycle of Schifanoia: the complexity of content through digital representation

	16:50 - 17:10	<u>Isabella Leone</u> , F. Meddi, S. Gaudenzi, F. Carnevale, V.F. Polcaro	Diachronic evolution of the orientation of the early Christian and medieval churches of Rome
	17:10 - 17:30	Nikolaos Ragkos	Intellectual transformations during Renaissance - The change of worldview - Impacts on the architectural thought and creation in the Czech lands during 16th and early 17th century
	17:30 - 17:50	Eva Spinazzè	The orientation of Roman centuriations. Disposition of Christian medieval sacred buildings inside the Roman centuria situated in Northern Italy
	19:00 - 21:00	Reception by the Governor of Styria (Orangerie)	
Sa			Chair: Mary Blomberg
	9:00 - 9:35	Hermann Hunger	Celestial regularity as a basis of time reckoning
	9:35 - 9:55	<u>Susanne M Hoffmann</u> , Manfred Krebernik	Harmony and symmetry: The Planetarium Babylonicum of MUL.APIN
	9:55 - 10:15	Vance Tiede	Ziggurats of Mesopotamia: An Astro-Archaeological Analysis
	10:15 - 10:35	<u>Steven R. Gullberg</u> , Andrew M. Munro	A Cultural Comparison of Dark Sky Constellations
	10:35 - 11:00	Coffee Break	
			Chair: Fabio Silva
	11:00 - 11:20	<u>Juan Antonio Belmonte</u> , Andrea Rodríguez Antón, A. César González-García	On the orientation of Roman cities in the Illyrian coast: a statistical and comparative study
	11:20 - 11:40	<u>Aleksandra Bajić</u> , Hristivoje Pavlović	The summer solstice Sun in Lepenski Vir
	11:40 - 12:00	Karine Dilanian	"Harmonices Mundi" by Johannes Kepler and Georg Kraft's prediction for ice drift on the Neva River in 1732
	12:00 - 13:40	Lunch	
			Chair: Nick Champion
	13:40 - 14:00	Harald Gropp	The Gregorian calendar in Austria and Johannes Kepler
	14:00 - 14:20	<u>Sonja Draxler</u> and Max E. Lippitsch	Astronomical Treasures in Stift Rein
	14:20 - 14:40	Steven R. Gullberg	Notes from the IAU Working Group for Archaeoastronomy and Astronomy in Culture
	14:40 - 15:20	Coffee Break	
	15:20 - 16:45	<u>Round Table</u> : Frank R.M.; Iwaniszewski, S; Malville K.; López A.M., Silva F.	The Ontological Turn in Anthropology and Archaeology and Its Importance for Cultural Astronomy
	16:45 - 17:00	Closing the Conference	
	19:00 - 22:00	Conference Dinner	

Poster presentations			
Poster 1	<u>Aleksandra Bajić</u> and <u>Milan S. Dimitrijević</u>	Archaeoastronomical investigation of Felix Romuliana	
Poster 2	<u>Bruno P. Besser</u> , M.Y. Boudjada, M.E. Lippitsch, and S. Draxler	Graz and Kepler - working, living, and commemoration	
Poster 3	Jadran Kale	Sky as the cultural landscape	
Poster 4	Heller Frédéric, <u>Silvia Motta</u> , Adriano Gaspani	The case of the enclosure burials of Bonlez (Belgium): an archaeoastronomical analysis	
Poster 5	George Latura	'Child of Earth & Starry Sky' – Orphic/Bacchic Gold Lamellae	
Poster 6	George Latura & Sepp Rothwangl	In Harmony with the Cosmos: Of Calendars & Priests	
Poster 7	Deborah Kala Perkins	The Universe Isn't Silent: Electroacoustic Ensembles with Life 2.0	
Poster 8	Arturo Morales Blanco, Alejandro Aguilar Zeleny, Julio Saucedo Morales, <u>Raul Perez-Enriquez</u> , and Jesus Galindo Trejo	Identification of Seris' Constellations from Memory and Experience	
Poster 9	Raposo-Pulido V., Cerdeño Serrano M.L., Rodriguez Caderot M.G., Baquedano Beltrán M. I. and <u>Mejuto, J.</u>	Building a robust methodology in archaeoastronomy	
Poster 10	Marilyn Gottlieb-Roberts	Rembrandt and the Telescope	
Poster 11	Sepp Rothwangl	A Vulva-like Rock Sculpture at Externsteine/Germany and Fullmoon as Indication for Sexual Rituals	
Poster 12	<u>Penka Maglova</u> , Alexey Stoev and Mina Spasova	Eneolithic solar calendar in the Magura cave near the village of Rabisha, Belogradchik municipality, Bulgaria	
Poster 13	Penka Maglova	Development over time and astronomical orientations of the Demir Baba teke near the village of Sveshtari, Bulgaria	
Poster 14	Marc Türler	A calendrical interpretation of spirals in Irish megalithic art	
Poster 15	Astrid Wokke	Astronomy in the northern Bronze Age. The ring patterns on the women's belt plates astronomically/geometrically analyzed	
Poster 16	<u>Mariusz Ziótkowski</u> , Maciej Sobczyk	A 17th century "Mountain Calendar" from Zywiec (Poland): an erudite's invention or a local Mountaineers' tradition?	
Poster 17	<u>Stefano Spagocci</u> and Adriano Gaspani	Archaeoastronomical stratigraphy: Investigations on a cisalpine celtic enclosure	