

# COSMOLOGY ACROSS CULTURES

Last Minute Programme

## Parque de las Ciencias September 8-13 (Granada, Spain)

### 0. Sunday, September 7

Arrival to Granada

### 1. Monday, September 8

09:00 Open Registration

10:30-11:20 **Welcome address**, Chairman: Juan A. Belmonte  
Ernesto Páramo, Director del Parque de las Ciencias  
Francisco Sánchez, Director del Instituto de Astrofísica de Canarias  
Francisco Prada, Director del Instituto de Astrofísica de Andalucía

11:20-11:50 Coffee break

11:50-13.30 **Opening Lectures**

11:50-12:40 Michael Hoskin. *The cosmology of William Herschel*

12:40-13:30 Joel Primack. *Discovering our extraordinary place in the Cosmos*

13:30-15:30 Lunch Time

15:30-19:30 **Afternoon Session: LUNAR & COSMIC PERCEPTIONS**. Chairman: Antxon Alberdi

15:30-16:00 Alex Vilenkin. *Many worlds in one*

16:00-16:30 Stanislaw Iwaniszewski. *Did I say cosmology? On modern cosmologies and ancient world-views*

16:30-16:45 John Cox. *Observations of far southerly moonrise from Hagar Qim, Ta 'Hagraat and Ggantija temples from May 2005 to June 2007*

16:45-17:00 Rodrigo Gil Merino. *Interdisciplinary approach to megalithic tombs in Northern Iberia*

17:00-17:15 Roslyn Frank. *Basque stone octagons revisited*

17:15-17:30 César González García. *Statistical analysis of the orientation of the megaliths of the Iberian peninsula*

17:30-18:00 Coffee break

18:00-18:30 Juan Antonio Belmonte. *The Egyptian civil calendar: a masterpiece to organize the Cosmos*

18:30-18:45 Orfeu Bertolami. *Some new reflections of Mr. Palomar*

18:45-19:00 Lionel Sims. *Keeping time moving: lunar-solar paired alignments as diacritical syntax*

19:00-19:15 Piotr Flin. *Some properties of nearby galaxy clusters*

19:15-19:30 A.S. Majumdar. *Primordial Black holes and dark matter*

19:30-20:30 Short visit to Parque de las Ciencias (Manuel Roca)

20:30-22.30 **Welcome cocktail at Parque de las Ciencias**

## 2. Tuesday, September 9

09:00-13:30 **Morning session: DRILLING THE PAST.** Chairwoman: Mary Blomberg

09:00-09:30 *José Alberto Rubiño Martín. Past, present and future of Cosmic Microwave Background observations: implications for Cosmology*

09:30-10:00 *Michael Rappenglueck. Constructing worlds: comovisions as integral parts of human ecosystems*

10:00-10:15 *Emilia Pasztor. Prehistoric Cosmology*

10:15-10:30 *Barbara Rappenglueck. The Chiemgau impact: an extraordinary case-study for the question of the Holocene impacts and their cultural implications*

10:30-10:45 *Dmitry Emchenko & Olga Polyakova. Cosmic symbolism in cultures of the Bronze Age*

10:45-11:00 *José Fernández. Solar and stellar paintings in the Epipaleolithic and Neolithic rock art of the Iberian peninsula (II): new shelters and ceramics with astral paintings*

11:00-11:30 Coffee break (Poster Session in the display area)

11:30-11:45 *Fernando Pimenta, Nuno Riberiro, Andrew Smith & Luis Tirapicos. Rock art carvings at Açor Mountain (Portugal)*

11:45-12:00 *Elio Antonello. The collaboration between the Italian Society of Archaeoastronomy and the archaeological superintendences*

12:00-12:15 *A. Tunzi & V. Francesco Polcaro. The "Madonna di Loreto" Bronze Age sanctuary and its stone calendar*

12:15-12:30 *V. Francesco Polcaro. The megalithic complex of the "Petra 'ru Mulacchio" on the Monte della Stella*

12:30-12:45 *Gerasimos Artelaris. Aspects on the orientation of the Bronze Age public buildings of Megiddo*

12:45-13:00 *Javier Mejuto. Archaeoastronomical information in the study of cremation necropolis: preliminary study*

13:00-13:15 *Marcello Ranieri. Beyond the cosmological: numerical scenarios underneath ancient annular architectural structures*

13:15-13:30 *Nichola Schiavottiello. The "acropolis" of Cesi hill in Umbria: an archaeoastronomical analysis*

13:30-15:30 Lunch Time

15:30-20:00 **Afternoon Session: STONES & STARS.** Chairwoman: Emilia Pasztor

15:30-16:00 *Vicent Martínez & Virginia Trimble. Cosmologists in the dark*

16:00-16:30 *Yves Gauthier. Distribution and orientation of stone monuments in the Sahara: space and time evolution*

16:30-16:45 *Nyssanbay Bekbassar. Astronomical practice of central Asian nomads and possible Pleiades, Orion Belt and Sirius alignments of the "moustached" kourgans*

16:45-17:00 *Natalya Dmitrieva. Prime archaeological researches near mountain Monastyr'i on the western Altai*

17:00-17:15 *Andrey Matsina & Olga Polyakova. Human cognition in astronomical categories*

17:15-17:30 *Sepp Rothwangl. One day every 216 years, three days each decan*

17:30-18:00 Coffee break (Poster Session in the display area)

18:00-18:30 *Jarita Holbrook. African cosmology*

18:30-18:45 *Barth Chukwuezi. Cosmological interpretation of ethnological artefacts: a study of the Igbo people of Nigeria*

18:45-19:00 *Chris Impey. Seeing the Universe: on the cusp of technology*

19:00-19:15 *Catarina Oliveira. The moon in the perception and measurement of social and ritual time: comments on the prehistoric records.*

19:15-19:30 *George Dimitriadis. Material culture as cosmological matter*

19:30-19:45 *José Carlos Gil Carreras & Juan A. Belmonte. Gran Canaria revisited*

### 3. Wednesday, September 10

09:30 Visit to Alhambra

13:00-15:00 Lunch Time

15:00-20:00 **Afternoon Session: DREAMING ON THE AMERICAS.** Chairwoman: Roz Frank

15:00-15:30 Nancy Abrams. *Think cosmically, act globally*

15:30-16:00 Jesus Galindo. *Mesoamerican cosmology: recent finds*

16:00-16:15 J. McKim Malville. *Animating the inanimate: Andean huacas and the concept of "camay"*

16:15-16:30 Robert Benfer & Larry Adkins. *Temples with multiple alignments, Buena Vista, Peru, 2000 BC*

16:30-16:45 Larry Adkins. *Lunar standstill markers at pre-ceramic temples at the Buena Vista site in Peru*

16:45-17:00 Rita Fink. *Astronomical events and their political significance in three Inca founding myths*

17:00-17:15 Juan David Morales. *Archaeoastronomy in the Muisca territory*

17:15-17:30 Richard Zito. *A comparison of two independent models of the solar system: Bode's Law and the 260 day Mesoamerican calendar*

17:30-18:00 Coffee break

18:00-18:30 Ivan Šprajc. *Astronomical and cosmological aspects of Maya architecture and urbanism*

18:30-19:00 David Pankenier. *Bringing Heaven down to Earth in ancient China*

19:00-19:15 Arnold Lebeuf. *A fourth Mesoamerican cosmological system*

19:15-19:30 Giulio Magli & Michael Mickelson. *Recent advances in Hopewell archaeoastronomy*

19:30-19:45 Chanda Carey. *Pueblo folklore, landscape phenomenology and the visual poetics of Fajada Butte*

19:45-20:00 Ronaldo Mourão. *A remarkable comet and other astronomical objects in the Brazilian rock art*

### 4. Thursday, September 11

09:00-13:30 **Morning session: THE AEGEAN AND BEYOND.** Chairman: Kim Malville

09:00-09:30 Owen Gingerich. *How Galileo and Kepler countered Aristotle's cosmological errors*

09:30-10:00 David Valls Gabaud. *The conceptual and cultural history of gravitational lensing*

10:00-10:15 Xenophon Moussas. *The Antikythera Mechanism, astronomy and mathematics embedded in the gears*

10:15-10:30 Nick Campion. *The Antikythera Mechanism: an archaeoastronomical artefact in its religious context*

10:30-10:45 Peter Chapman-Rietschi. *Pre-Socratic cosmology*

10:45-11:00 Frederic Devevey & Aurelie Rousseau. *The astral disc of Chevroches (France)*

11:00-11:30 Coffee break

11:30-12:00 Martín López Corredoira. *Sociology and modern Cosmology*

12:00-12:15 Mary Blomberg & Göran Henriksson. *Orientations of the Bronze Age town of Gournia in Crete*

12:15-12:30 Efrosyni Boutsikas. *The Erechtheion: cult, identity and the cosmos*

12:30-12:45 Peter Blomberg. *Were there astronomical rites at the peak sanctuaries on Crete?*

12:45-13:00 Alexandra Coucouzeli. *At the dawn of Greek astronomy: the temple of Zagora on Andros*

13:00-13:15 Panagiotis Gregoriades. *Minoan labyrinth: the oldest map of the sky*

13:15-13:30 Florin Stanescu. *Astronomical orientations in ancient Dacian sanctuaries of Piatra Craivii (Romania): preliminary results*

13:30-15:00 Lunch Time

15:00-17:00 **Afternoon Session: ECHOES OF AL ANDALUS.** Chairman: Antonio Claret (TBC)

15:00-15:30 Mosalam Shaltout. *The Holy Quran and cosmology*

15:30-15:45 Monica Rius. *Finding the sacred direction: medieval books on the Qibla*

15:45-16:00 W. Ben Adams. *Living by al-Anwa': a literary, cultural and theological analysis of folk astronomy in pre-Islamic and early Islamic Arabia*

16:00-16:15 Juan David Morales. *The book of the "Reologio del palacio de las Horas" from the "Libros del saber de Astronomía" of Alfonso X*

16:15-16:30 Mosalam Shaltout. *Astronomers and astronomical observatories at Cairo during the Fatimid Islamic Period (969-1171 AD)*

16:30-16:45 Ari Belenkiy. *The astronomy of Maimonides and its Arabic sources*

**Free Evening:** At your disposal (e.g. to have a promenade in the city of Granada before Closing Dinner)

20:15 **Closing Dinner** at "Mirador de Morayma" Restaurant in the Albaicín quartier

## 5. Friday, September 12

09:00-14:00 **Morning session: THE LIMITS OF HOME.** Chairman: Elio Antonello

09:00-09:30 César González García. *N-body simulations of galaxy formation: "laboratory" experiments in cosmology*

09:30-10:00 Stephen McCluskey. *Astronomies and cosmologies in the Latin West*

10:00-10:15 Candido Marciano da Silva. *Bianchini's patron: el Rei D. Joao V de Portugal*

10:15-10:30 Saša Čaval. *Astronomical orientations of sacred architecture during the medieval period in Slovenia*

10:30-10:45 Manuela Incerti. *The hall of the months of the Palace Schifanoia (Ferrara 1469-70)*

10:45-11:00 Göran Heriksson. *A new test of Einstein's theory of relativity by ancient solar eclipses*

11:00-11:30 Coffee break

11:30-12:00 Francesco Bertola. *The Milky Way through the ages: an iconographic journey*

12:00-12:15 Lorenzo Verderame. *The primeval Zodiac: its social religious and mythological background*

12:15-12:30 Jennifer Gray. *Planetary data and predictions in Babylonian Goal-Year astronomy*

12:30-12:45 Michael Rappenglueck. *Heavenly Messengers: the role of birds in the cosmographies and the cosmovisions of ancient cultures*

12:45-13:00 Inma Domínguez. *Supernovae and dark energy*

13:00-14:00 **Closing Session.** Chairmen: Owen Gingerich and Juan A. Belmonte

14:00-16:00 Lunch Time

16:00-19:00 **16<sup>th</sup> SEAC Annual General Meeting.** SEAC elections

19:30-21:00 **Public conference.** Joel Primack & Nancy Abrams.

*Visiones desde el centro del Universo / Views from the Centre of the Universe*

## 6. Saturday, September 13

08:30-24:00 **Full day excursion to the megalithic enclosures of Antequera and the mosque of Cordoba.** Lunch and dinner on route (Final timetable TBC)

## 7. Sunday, September 14

Departure

## Poster Sessions

During the coffee breaks of Tuesday September 9, poster contributors will be kindly requested to be close to their respective posters in order to explain their content to interested delegates. The list of Poster Contributions is as follows:

*Arcturus and the Bears*  
Elio Antonello

*Cosmologists Timeline*  
Thomas Hockey

*On two Runic calendars in Rome and in Paris*  
Nicoletta Lanciano

*An interpretation of the orientation of late Neolithic rondels in the Carpathian Basin*  
Emilia Pasztor

*Directional customs in the Carpathian Basin during the Bronze Age*  
Emilia Pasztor

*An interpretation of some unique archaeological finds of the Carpathian Basin  
– the possible sky lore of prehistoric shamans*  
Emilia Pasztor

*The general technique of the research of historical sites in the astronomical coordinates*  
Olga Polyakova

*The orientation of the northern gate of the Goseck solar observatory*  
Marianna Ridderstad

*Review of topo-astronomical methods for the precise orientation in archaeological sites*  
Gracia Rodríguez-Caderot

*From survey to education: how augmented reality can contribute to the study  
and dissemination of archaeoastronomy*  
Nicola Schiavottiello