

## Monday 23 September

### University of Havana

**9:00-14:00** Registration at University of Havana.

**14:00** Opening Ceremony. Aula Magna

**15:00** Guided tour to the University of Havana campus, museums and collections.

**18:00** Welcome cocktail.

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## Tuesday 24 September

### University of Havana

**9.30-11.00**

#### **Instruments at the crossroads of science and economy**

- E. Altshuler, G. Sánchez-Colina, L. Alonso, A. Serrano, G. Viera-López, *Guerrilla Science: creating scientific instruments in “high tropicality” conditions*
- Ad Maas, *Electrologica X8: A Dutch flagship computer at the crossroads of science and commerce*
- Kristin Halverson, *Tools of the Trade(s): Examples of Instruments and Devices as Methodological Tools in the History of Late Modern Medicine in Sweden and Denmark*
- Lorenzo Hernandez-Tabares, Juan G. Darias-Gonzalez, *Scientific Instrumentation at CEADEN: working for the welfare of the Cuban nation*

**11.00-11.30** Coffee Break

### 11.30-12.45

#### PITCH session - Failures

- Hans Hooijmaijers, *Collecting failures or not?*
- Giorgio Strano, *Stars and Money: Tycho Brahe's Experimentation with Instruments and Observational Techniques*
- Michael Korey, *Missing the target, but reaching another? The cautionary tale of a 'failed' Renaissance range-finder*

### 13.00-13.45 Lunch

### 13.45-16:15

#### Collections' status, management and promotion

- Laura Volkmer, *The Edinburgh Natural Philosophy Collection at the Crossroads*
- Grecher Rodríguez Guast, Lilian Luisa Valera Palacios, *Management and preservation of the teaching scientific and technological heritage in Cuba*
- Carlos A. Cardoso, Decio R. Martins, *A Scientific Instruments Knowledge Base*
- Lubia Díaz, Claudia Felipe *The collection of scientific instruments of the University of Havana*
- Lidia Lauren Elías Hardy, Lubia Díaz Bernal, *Heritage technology management in universities*
- Martin P.M. Weiss, *The Restoration of the 1915 German Tide Predicting Machine*
- Karla Betancourt Rodríguez, *Preserving scientific instruments of the Astronomical Observatory of the University of Havana*

### 16.15-17.00 Coffee Break and visit to University of Havana collections

### 11.30-13.00

#### Users, skills, materials... crossroads of instrument-making

- Elizabeth Neswald, *Co-designing blood glucose metres and their users*
- Jan Waling Huisman, *From steam to internal combustion and then back again*
- Michelle Mercier, *Kundt's Tube from 1868 – how experimental conditions and skills affected the instrument*
- Jan Tapdrup, *Chemical instruments at a crossroad*

### 13.45-14.30

#### 20<sup>th</sup>-century scientific heritage: collecting and exhibiting issues

- Geert Vanpaemel, *The Spurious Instrument: the meaning of incomplete, dismantled, and unfinished instruments*
- Pedro M. P. Raposo, *Balloon-borne astronomy: some thoughts on objects, narratives, and museum displays*

### 14.30-16.00

#### PITCH session – Instruments with a long working life, scientific installations and buildings

- Sofia Talas, Giulio Peruzzi, *Original sites versus museums? The case of the gravitational waves detector AURIGA*
- Osmel Cruzata, *Preservation of the station for right ascension measurements at the Observatory of Havana*
- Bradies Joaquín Lambert Navarrete, *Recovery and reconfiguration of a Soviet-made GOS-1001 laser for use in scientific research, teaching and public engagement*
- Gustavo Sánchez, Manuel Alvarez, *How historical a mass-produced scientific instrument can be?*
- L. Lauren Elías Hardy, L. Cimino Quiñones, A. Torres Valle, J. Manuel González Alfonso: *Conversion of the control panel of a nuclear reactor of zero power into a nuclear parameter measurement panel*

## Wednesday 25 September

### National Museum of Fine Arts (Universal collections), Old Havana

#### 9.00-10.50

##### From the Tropics to Antarctic

- Paolo Brenni, *From Rome to the World: diffusion of Secchi's meteorograph in extra-European observatories*
- Richard L. Kremer, *Predicting hurricanes in Havana and Manila, circa 1900: Two Jesuit observatories, two meteorologists, two new instruments*
- Feliks Gornischeff, *The use of navigational instruments during the Russian Antarctic Expedition, 1819-1821*
- Christiaan Sterken, *Jean-Charles Houzeau's novel instrumental approach for observing the 1882 Transit of Venus*
- Rosa María González López, Lois Angel Urgellés Navarro, *Scientific instruments in the collection of the Museum Antonio Núñez Jiménez*

#### 10.50-11.20 Coffee Break

#### 11.20-12.30

##### Astronomical Instruments and Observatories

- Luis Enrique Ramos Guadalupe, *Astronomical Telescopes in Cuba: 1700-1970*
- Lea Leppik, *Determination of the coordinates of Tartu old observatory in the 19th and 20th century*
- Jean Davoigneau, Loïc Jeanson, *Scientific heritage and instrumental integrity: case-study of a series of "standard" instruments*

#### 12.30-13.15 Lunch

#### 13.15 -14.30

##### Session: Instruments at Crossroads in the Geophysical Sciences

- Philipp Lehmann, *Things fall apart: instruments and accidents in colonial climatology*
- Dania Achermann, *New technology for old ice: How glaciology transformed into a climate science*
- Sarah Dry: *John Swallow, Henry Stommel and the role of the neutrally buoyant float in the maturation of physical oceanography, 1955-1973*
- Matthias Heymann, *Short commentary*

#### Visits to Old Havana Scientific Collections (Academy of Sciences, Historical Pharmacies, Belen Astronomical Observatory)

**Thursday 26 September**

**National Museum of Fine Arts (Universal collections), Old Havana**

**9.30-11.00**

**Crossroads at national boundaries**

- Fernando B. Figueiredo, *The creation of the Meteorological and Magnetic Observatory of Coimbra University: its architectural and instrumental planning*
- Roland Wittje, *Research Technology as Development Aid: Indo-German Laboratories at IIT Madras*
- Ke Zhao, *The Key to Radar Development: the Birth of First-Generation Waveguide Components in China*
- Tacye Phillipson, *The Relic of an Unsuccessful Quest for Longitude*

**11.00-11.30 Coffee Break**

**11.30-12.45**

**At the crossroads of science and politics**

- Peter Heering, *The political meaning of scientific practice in pre-revolutionary France*
- Janet Laidla, *Instruments and Social Control in Post-War Estonia*
- George N. Vlahakis, Foteini Assimakopoulou, *National tools of modernity. Scientific Instruments in 19<sup>th</sup>-century Greece*

**12.45-13.45 Lunch**

**Poster session**

- K. Dermizaki, A. Doxanaki, V. Korakidou, G. Panagiaris, A. Tympas, *Issues in the curation of computing artifacts: From slide rules to software codes*
- Roldan Vaguez Ortiz, *Restoration of a celestial sphere by Ernst Schotte & Co. belonging to the Astronomical Observatory of the University of Havana*
- Mertzani/Panagiaris/Malea: *Museum and conservation policies for the protection & promotion of scientific heritage: Challenges & dilemmas*
- Jorge Luis Gálvez Soler, *Insertion of ancient instruments in the exhibition room of the Montané Anthropological Museum*
- Carlos Arredondo, *Instruments for studying osteometrics with investigative and museological value*
- Ivette Ravelo Cabrera, *Technical status and reuse of LOMO monochromators manufactured in the USSR belonging to the IMRE UH*

**15:00 Visits to Old Havana Scientific Collections (Jose Marti High School Scientific Collection)**

**21:00 Night visit to the University of Havana's Astronomical Observatory.**

## Friday 27 September

### National Museum of Fine Arts (Universal collections), Old Havana

9.00-10.30

#### At the Crossroads of civilisations

- Azucena Hernández, *Are the hours male or female? Astrolabes in al-Andalus: science and art at the crossroad between Orient and Occident in the Middle Ages*
- Petra G. Schmidl, Convin M. Splettsen, *Knowledge in motion: another witness*
- Taha Yasin Arslan, *Tracing the Evidence of Instrument-Making Traditions in the Islamic World*
- Efthymios Nicolaidis, *The lesser-known instruments of Ferdinand Verbiest: their description in the 1676 manuscript of the Mechanica*

10.30-10.50 Coffee Break

10.50-12.40

#### At the Crossroads between different fields and meanings

- Louise Devoy, *Cutting across disciplines: the night sky recorder at Greenwich*
- Christian Forstner, *Analytical Interferometers: Crossing the borders between physics, chemistry, medicine, mining, and industry*
- E. Angelini, A. Gori, *Textile industry instruments at crossroads*
- Sara J. Schechner, Susanna Cecilia Berger, *What scientific instruments tell us in Tornoli's painting, "The Astronomers"*
- Floor Koeleman, *The discovery of Ghijsbrecht Donckere's perpetuum mobile: Visual proof of the first barometer?*

12.40-13.30 Lunch

13.30- 15.00 Business Meeting

15:00 Closing ceremony and cocktail

20:00 Conference dinner

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## Saturday 28 September (Professional Tour)

9:00 Visits to Meteorological Institute, Industrial and Medical Heritage Collections, among others.