

## **Monday, September 23rd (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.

## **Tuesday, September 24th (University of Havana)**

**9.00-10.30**

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

- E. Altshuler, G. Sánchez-Colina, L. Alonso, A. Serrano, and 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): 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

**10.30-11.00 Coffee Break**

**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.
- Schmidl-Splettsen: Knowledge in motion: another witness.
- Taha Yasin Arslan: Tracing the Evidence of Instrument Making Traditions in the Islamic World
- Madhusudan Riman: Medical Instruments in Ancient Indian Medical System?

### 11.00-12.15

#### At the Crossroads between oblivion and success

- Stephanie Louise Pope: Nevertheless, It Persisted: The Unlikely Survival of the Hourglass in Early Modern Europe.
- Jan Waling Huisman: From steam to internal combustion and then back again.
- Efthymios Nicolaidis: The lesser known instruments of Ferdinand Verbiest.

### 12.30-13.30 Lunch

### 13.30-16:00

#### Collections' status, management and promotion

- Laura Volkmer: The Edinburgh Natural Philosophy Collection at the Crossroads.
- Grecher Rodríguez Guast/ Lillian Luisa Valera Palacios: Management and conservation of the scientific and technological heritage as a tool for teaching in Cuba.
- Carlos Adriano Cardoso/ Décio Ruivo Martins: A Scientific Instruments Knowledge Base
- Lúbia Díaz/Claudia Felipe/: The collection of scientific instruments of the University of Havana
- Lidia Lauren Elías Hardy/Lúbia 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 with patrimonial value of the Astronomical Observatory at the University of Havana.

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

### 11.00-12.30

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

- Elizabeth Neswald: Co-designing blood glucose metres and their users.
- Roberto Lalli: Experimental practices, local traditions and theoretical constraints: A comparative study of Michelson interferometers, 1920-1930
- Michelle Mercier: Kundt's Tube from 1868 – how experimental conditions and skills affected the instrument
- Jan Tapdrup: Chemical instruments at a crossroad.

### 13.30-14.20

#### 20<sup>th</sup>-century scientific heritage: collecting and exhibiting issues (as an introduction to the pitch session on long-living instruments)

- 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.

### 14.20-16.00

#### PITCH session on "long-living instruments"

- Sofia Talas/Giulio Peruzzi: Original sites versus museums? The case of the gravitational waves detector AURIGA.
- Osmel Cruzata: Project for the recovery of the station for meridian measurements at the Observatory of Havana.
- Bradies Joaquín Lambert Navarrete: Recovery and reconfiguration of GOS-1001 laser for use in scientific research and university extension.
- Gustavo Sánchez, Manuel Alvarez: How historical a mass-produced scientific instrument can be?
- Lidia Lauren Elías Hardy, Luis Cimino Quiñones, Antonio Torres Valle, José Manuel González Alfonso: Conversion of the control panel of a nuclear reactor of zero power into a nuclear parameter measurement panel used for the control of a subcritical reactor.

## **Wednesday, September 25th (Academy of Sciences, Old Havana)**

### **9.00-11.00 [plenary]**

#### **From the Tropics to Antarctic**

- Paolo Brenni: From Rome to the rest of the world: the diffusions 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.

### **11.00-11.30 Coffee Break**

### **11.30-11.50 [plenary]**

Luis Enrique Ramos Guadalupe: Astronomical Telescopes in Cuba: 1700-1970

### **11.50-13.00**

#### **Astronomical Instruments and Observatories**

- Lea Leppik: Determination of coordinates of the Tartu old observatory in 19th and 20th century.
- Jean Davoigneau/ Loïc Jeanson: Instrument integrity states: the case of French meridian circles.
- Sibylle Gluch: Clocking the observatory: The purchase, modification and discharge of timepieces in 18th century observatories.

### **13.00-14.00 Lunch**

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

### **11.50-13.00**

#### **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

## Thursday September 26th, (Academy of Sciences, Old Havana)

9.30-11.00

### Crossroads at national boundaries

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

11.10-11.40 Coffee Break

11.40-13.00

### Challenges in research and applied instruments

- Carlos Cabal Mirabal: Cuban MR project.
- Jasmin Janka: Models of waves.
- Daniel Liu: Polarization microscopy and the development of molecular imagination in biology, 1867–1941

13.00-14.00 Lunch

### Poster session

- Elena Corradini: Giovanni Battista Amici and the birth of the Astronomical Observatory of Modena University in the first half of the Nineteenth century.
- Dermitzaki/Doxanaki/Korakidou/Panagiaris/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

9.30-11.10

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

- Matthias Heymann: Short commentary
- Robert-Jan Wille: The science and politics of weather balloons: Hugo Hergesell's imperial atmosphere physics before and after the First World War
- 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

11.40-13.00

### PITCH session on "failures"

- Hans Hooijmaijers: Collecting failures or not?
- Giorgio Strano: Stars, patronage and money: Tycho Brahe's experimentations of observational techniques.
- Michael Korey: Missing the target, but reaching another? The cautionary tale of a 'failed' Renaissance range-finder.

- 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, September 27th (Academy of Sciences, Old Havana)**

**9.30-10.45**

### **At the Crossroads between different fields**

- 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: Crossing textile industry and scientific instruments.

**10.45-11.15 Coffee Break**

**11.15-13.00**

**Business Meeting**

**13.00-14.00 Lunch**

**15:00** Closing ceremony and cocktail

**20:00** Conference dinner

## **Saturday, September 28th (Professional Tour)**

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

**9.30-10.45**

### **Changing contexts: Crossroads of meaning for instruments**

- Sara J. Schechner/Susanna Cecilia Berger: What scientific instruments tell us in Tornioli's painting, "The Astronomers".
- Floor Koeleman: The discovery of Ghijsbrecht Donckere's perpetuum mobile: Visual proof of the first barometer?
- Eleni-Ersi Bakou / Christos Panagos: Scientific instruments in fiction and science fiction films.