

Time for Everyone

The Origins, Evolution, and Future of Public Time

The 2013 Ward Francillon Time Symposium

To be held at the
California Institute of Technology
Pasadena, California
November 7 - 9, 2013

Preliminary program outline

Wednesday, November 6th

Speakers arrive

Possible dinner reception at the Athenaeum, Caltech for the speakers and their spouses

Thursday, November 7th

Beckman Auditorium, California Institute of Technology

Audio-visual presentation trial checks for speakers at appointed times during the day

14:00 Registration desk open

19:20 History and background of the James Arthur Lecture
Jim Cipra, Chairman of the N.A.W.C.C. Ward Francillon Time Symposium Committee

19:30 James Arthur Lecture: "The Time of our Lives"
William J. H. Andrewes, author, horological consultant, and sundial maker, Concord, Massachusetts.

20:30 Reception in the quad adjacent to the Beckman Auditorium

Friday, November 8th

Beckman Auditorium, California Institute of Technology

08:00 Registration desk opens

09:00 Welcome

Jean-Lou Chameau, *President of California Institute of Technology*

09:05 Introductory remarks [The history of how this symposium evolved and overview of the events taking place over the next few days]

Mostyn Gale, Symposium Chairman

SESSION I: FINDING TIME

Chair: Sean Carroll, Division of Physics, Mathematics, and Astronomy, California Institute of Technology

09:15 "The Origin of the Universe and the Arrow of Time"

Sean Carroll, Division of Physics, Mathematics, and Astronomy, California Institute of Technology

09:30 "The Meaning of Time in Biology"

*Lynn Rothschild, Astrobiologist, NASA Ames Research Center,
Consulting Professor at Stanford University, California*

10:15 Break and refreshments

10:45 "Time and the Brain"

David Eagleman, Professor of Neuroscience, Baylor College of Medicine, Houston, Texas

11:30 Subject - advent and evolution of the calendar, and origins and evolution of the divisions of the day

Edwin Krupp, Astronomer and Director of the Griffith Observatory, Los Angeles

12:15 Panel discussion

12:30 Lunch

(Sandwiches/soft drinks provided around the perimeter of the Beckman Auditorium)

SESSION II: KEEPING TIME

Chair: Dava Sobel, author, East Hampton, New York

14:00: "The Bell and the Clock: the Need for Public Time"

Dava Sobel, author, East Hampton, New York

14:15 “From Water to Weights: the Mechanisms and Functions of Public Time Devices from the Early Middle Ages to c. 1650”

Anthony Turner, *author and historian of scientific instruments, Le Mesnil-Le-Roy, France*

15:00 Break and refreshments

15:30 “Precision Crunching, 1650-1900: Measuring time accurately over 250 years”

Jonathan Betts, *Senior Curator of Horology, Royal Greenwich Observatory, Greenwich, England*

16:15 Subject – Bond Time: Pendulum, Spring, and Wire”

Donald Saff, *Director Capital Projects, Guggenheim Museum, New York*
Educator and Department Chairman, University Southern Florida

17:00 Panel discussion

17:15 [To be confirmed] Steven S. Koblik, *President of The Huntington Library, Art Collections, and Botanical Gardens* — Reception welcome and introduction of curators Catherine Hess and Dan Lewis

17:30 [To be confirmed] **Reception for Information Exchange** in the quad adjacent to the Beckman Auditorium

Optional additional programs

19:15 AHS USA Section Annual meeting: Chairman: Jim Cipra

19:30 Mark Frank [History of the Tower Clock, title to be decided]

20:15 Break

20:30 NAWCC Horological Science Chapter No. 161: Chairman Bob Holmström

Tom van Baak [Atomic clocks, analyzing pendulum clocks?]

21:30 Meeting adjourned

Saturday, November 8th

Beckman Auditorium, California Institute of Technology

SESSION III: CHANGING TIME

Standardizing time, mass-production of time, times zones, daylight saving time, & etc.

[To be confirmed] *Chair: Steve Hindle, Director of Research, The Huntington Library, Art Collections, and Botanical Gardens*

09:15 Subject – the social implications of changing time
[To be confirmed] Steve Hindle, *Director of Research, The Huntington Library, Art Collections, and Botanical Gardens*

09:30 “The Great Age of the Tower Clock”
Chris McKay, *author and specialist in turret clocks, Wimborne, Dorset, England*

10:15 Break and refreshments

10:45 Affordable Time: America’s Contribution”
Chris Bailey, *former Curator of the American Clock & Watch Museum, Bristol, CT*

11:30 “The Standardizing of Civil Time”
Geoff Chester, *Public Affairs Officer, U.S. Naval Observatory, Washington, DC*

12:15 Panel discussion

12:30 Lunch
(Sandwiches/ soft drinks provided around the perimeter of the Beckman Auditorium)

SESSION IV: USING TIME

Chair: Jed Buchwald, Doris and Henry Dreyfuss Professor of History, California Institute of Technology

14:00: “The Taming of Time”
Jed Buchwald, *Doris and Henry Dreyfuss Professor of History, California Institute of Technology*

14:15 “From Bain to Shortt – Electrical Timekeeping: 1840-1940”
James Nye, *Visiting Fellow, Institute of Contemporary British History, King’s College London. Council Member and Secretary, Electrical Timekeeping Group of the AHS, England*

15:00 Break and refreshments

15:30 “The quartz revolution: quartz clocks and the public in Britain, 1930–60”
David Rooney, *Curator of Transport, Science Museum, London, former Curator of Timekeeping, National Maritime Museum, Greenwich*

16:15 “Atomic clock: Does anyone really know what time it is?”
Thomas O’Brian Chief, Time and Frequency Division, National Institute of Standards and Technology (NIST), Boulder, Colorado

17:00 Panel discussion

17:15 End of discussion

19:15 Hors d'oeuvres and drinks (cash bar)

20:00 Banquet (black tie optional)

Keynote address: "Time, Einstein, and the Coolest Stuff in the Universe"

Bill Phillips, *Nobel Laureate, National Institute of Standards and Technology, Gaithersburg, Maryland*

Sunday, November 10th

Optional: Visit to Santa Barbara to see the Bisno-Schall Gallery and the Santa Barbara County Court House clock, the Santa Barbara County Courthouse and the city of Santa Barbara. Tours of the courthouse and the clock given from 11 to 4 pm [?]

Possible Banquet at the Santa Barbara Court House

[speaker to be determined:]

Goals of the Symposium:

- 1) Show how time is the nexus of many subjects
- 2) Increase the interest in the history of time measurement
- 3) Celebrate the horological achievements of the past
- 4) Understand more about the impact of those achievements on our world today
- 5) Expand the knowledge/education of the study of time and dependent technologies
- 6) Learn about the current thinking of the future of time measurement in the context of the demands and needs of science and technology
- 7) Make the symposium – the origins, evolution, and future of public time – of interest to many disciplines, so as to attract a diverse, international audience

rev. 18th November, 2012