

**Continuity and Discontinuity  
in the Physical Sciences  
Since the Enlightenment**

A conference for graduate students  
and early-career scholars

College Park, MD | 27–31 July 2011

Organizing committee:

Amy Fisher, Center for History of Physics, American Institute of Physics

Fábio Freitas, Universidade Federal da Bahia

Anna Holterhoff, Max-Planck-Institut für Wissenschaftsgeschichte

Christian Joas, Max-Planck-Institut für Wissenschaftsgeschichte

Joseph D. Martin, University of Minnesota

Ann E. Robinson, University of Massachusetts Amherst

Pierre Teissier, Centre François Viète, Université de Nantes

Xiaodong Yin, Capital Normal University

Conference planning supported by:

The Center for History of Physics (American Institute of Physics)

DPG FV History of Physics

The Commission for the History of Modern Physics (IUHPS/DHS)

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N.A.Sharp, NOAO/NSO/Kitt Peak FTS/AURA/NSF

July, 2011

Dear Colleagues:

The American Institute of Physics (AIP) along with the Center for History of Physics and the Niels Bohr Library and Archives are most pleased to welcome you to our first conference for early-career historians of the physical sciences. This will be the first comprehensive, international conference since the days of the old Joint Atlantic Seminars (JASHOPS). However, the reach of this conference is broader than these venerable conferences. We hope that scholars at all career stages will be able to sustain this new effort and build a very active and inclusive community.

The organizing committee has produced a wonderful program, and the AIP's History Center as well as the Library & Archives hopes that you enjoy the venue and the hospitality of its staff.

Yours truly,

A handwritten signature in black ink, appearing to read "Gregory A. Good". The signature is fluid and cursive, with the first name "Gregory" being the most prominent.

Dr. Gregory A. Good  
Director, Center for History of Physics  
American Institute of Physics  
One Physics Ellipse  
College Park, MD 20740  
Tel: 301-209-3174  
Fax: 301-209-0882  
ggood@aip.org



## Wednesday, July 27

ARRIVAL AT HILTON GARDEN INN, 7810 WALKER DRIVE, GREENBELT, MD (240-543-2530)

6:00 p.m.

INFORMAL GATHERING: HOTEL RESTAURANT, THE AMERICAN GRILL

## Thursday, July 28

7:45 - 8:45

BREAKFAST AT THE HILTON GARDEN INN / SHUTTLE SERVICE TO AIP

8:45 - 9:00

REGISTRATION

9:00 - 9:10

OFFICIAL WELCOME

### Session 1: Keynote 1 - Thursday, 9:10 a.m. – 10:25 a.m.

Chair: Amy Fisher, Center for History of Physics, American Institute of Physics

9:10 - 10:25

**Jaume Navarro**, Max-Planck-Institut für Wissenschaftsgeschichte and University of Cambridge  
*William Whewell in Action: Continuity and Discontinuity in the British Physical Sciences*

10:25 - 10:40

COFFEE & TEA

### Session 2: Instrumentation - Thursday, 10:40 a.m. – 12:35 p.m.

Chair: Joseph D. Martin, University of Minnesota

10:40 - 11:10

**Sebastian Korff**, Universität Flensburg  
*Walter Müller's Role in the Development of the Geiger-Müller Counter*

11:10 - 11:40

**Adriana Minor García**, Universidad Nacional Autónoma de México  
*Scientific Instruments in Transit: The Acquisition of a Van de Graaff for Mexico during the Postwar*

11:40 - 12:10

**Mari Yamaguchi**, University of Tokyo  
*From a Tool to an Icon: The Ball Model and the Field Ion Micrograph*

12:10 - 12:35

Discussion - Commentator: Dieter Hoffmann, Max-Planck-Institut für Wissenschaftsgeschichte

12:35 - 1:20

LUNCH

### Session 3: Interpreting Measurements - Thursday, 1:20 p.m. – 4:00 p.m.

Chair: Fábio Freitas, Universidade Federal da Bahia

1:20 - 1:50

**Roberto Lalli**, Università degli Studi di Milano / Massachusetts Institute of Technology  
*The Relation between the Reception of Relativity and Ether-drift Experiments in the '20s*

1:50 - 2:20

**Frederik Moreira dos Santos**, Universidade Federal da Bahia  
*A Forgotten Debate: E. P. Wigner and H. Margenau versus H. Putnam on Quantum Mechanics Measurement Problem*

2:20 - 2:35

COFFEE & TEA

2:35 - 3:05

**Thiago Hartz**, Universidade Federal da Bahia  
*A Controversy about the Quantization of Gravity and the Quantum Measurement Process (1962-1965)*

3:05 - 3:35

**Lisa Crystal**, Harvard University  
*Atomic Times: Clockmaking in the Postwar Era*

3:35 - 4:00

Discussion - Commentator: Richard Staley, University of Wisconsin – Madison

4:00 - 5:00

TOUR NBL/ESVA

5:00 - 6:30

BBQ / WELCOME RECEPTION

## Friday, July 29

8:30 - 9:30	BREAKFAST AT THE HILTON GARDEN INN / SHUTTLE SERVICE TO AIP
	<b>Session 4: Defining Disciplines - Friday, 9:30 a.m. – 12:10 p.m.</b> Chair: Pierre Teissier, Centre François Viète, Université de Nantes
9:30 - 10:00	<b>Climério Silva Neto</b> , Universidade Federal da Bahia <i>Introducing Discontinuity in Optics: Consolidating Quantum Optics through Textbooks</i>
10:00 - 10:30	<b>Adrien Vila Valls</b> , Université de Lyon <i>Louis de Broglie and the Reception of Quantum Mechanics in France</i>
10:30 - 10:45	COFFEE & TEA
10:45 - 11:15	<b>Josep Simon</b> , Institut de Recherches Philosophiques, Université Paris Ouest <i>Rapture and Nurture: Textbook Science and the 'Invention' of Physics</i>
11:15 - 11:45	<b>Imogen Clarke</b> , University of Manchester <i>A 'Conservative Attitude'? Continuity, Discontinuity and the Contested Rise of 'Modern Physics'</i>
11:45 - 12:10	Discussion - Commentator: Alexei Kojevnikov, University of British Columbia
12:10 - 1:00	LUNCH
	<b>Session 5: Statistical Mechanics - Friday, 1:00 p.m. – 2:55 p.m.</b> Chair: Alex Wellerstein, Center for History of Physics, American Institute of Physics
1:00 - 1:30	<b>David R. Crawford</b> , Duke University / University of Pittsburgh <i>Boltzmann and Fisher: The Role of Statistical Mechanical Theory in the Development of Mathematical Population Genetics</i>
1:30 - 2:00	<b>Hajime Inaba</b> , Kyoto University <i>Statistical Mechanics and its Scope in the 19th Century</i>
2:00 - 2:30	<b>Massimiliano Badino</b> , Max-Planck-Institut für Wissenschaftsgeschichte / Fritz-Haber-Institut <i>How Theories Begin: Max Planck and the Genesis of Quantum Theory</i>
2:30 - 2:55	Discussion - Commentator: Michel Janssen, University of Minnesota
2:55 - 3:10	COFFEE & TEA
	<b>Session 6: Earth and Space Sciences - Friday, 3:10 p.m. – 5:10 p.m.</b> Chair: Ann E. Robinson, University of Massachusetts Amherst
3:10 - 3:40	<b>Anna Carlsson-Hyslop</b> , University of Manchester <i>Continuity and Discontinuity in British Storm Surge Science, 1919-1959</i>
3:40 - 4:10	<b>Thorleif A. Kristiansen</b> , Universitetet i Oslo <i>Disseminating Knowledge from the Center to the Periphery: Lars Vegard &amp; the Development of Norwegian Auroral Research</i>
4:10 - 4:40	<b>Roger Turner</b> , Rochester Institute of Technology <i>Infrastructural Science: A New Perspective on Practice and the Development of Theory in the Physical Sciences</i>
4:40 - 5:10	Discussion - Commentator: Roger Launius, National Air and Space Museum, Smithsonian Institution
5:30 - 6:45	RECEPTION FOR CONFERENCE ATTENDEES AND HISTORY CENTER PUBLIC
	<b>Science Heritage Lecture - Wednesday, 6:45 p.m.</b> Chair: Greg Good, Center for History of Physics, American Institute of Physics
6:45	<b>David H. DeVorkin</b> , Senior Curator, National Air and Space Museum, Smithsonian Institution <i>How the Cold War Changed the Smithsonian's Astrophysical Observatory</i>

## Saturday, July 30

8:00 - 9:00	BREAKFAST AT THE HILTON GARDEN INN / SHUTTLE SERVICE TO AIP
	<b>Session 7: Conceptualizing Matter and Energy - Saturday, 9:00 a.m. – 12:10</b> Chair: Christian Joas, Max-Planck-Institut für Wissenschaftsgeschichte
9:00 - 9:30	<b>Axel Petit</b> , Centre François Viète, Université de Nantes <i>The Coming of Ions in the Nineteenth Century : Discrete or Continuous Charges?</i>
9:30 - 10:00	<b>Marta Jordi Taltavull</b> , Max-Planck-Institut für Wissenschaftsgeschichte <i>On the Border between Light and Matter: Continuity and Discontinuity in the Development of Optical Dispersion</i>
10:00 - 10:30	<b>Indianara Lima Silva</b> , Universidade Federal da Bahia / Massachusetts Institute of Technology <i>The Vicissitudes of the Concept of Photon in the Twentieth Century</i>
10:30 - 10:45	COFFEE & TEA
10:45 - 11:15	<b>Thomas Pashby</b> , University of Pittsburgh <i>Predicting the Positron: Theory, Interactions and Arguments</i>
11:15 - 11:45	<b>Alexander Blum</b> , Max-Planck-Institut für Wissenschaftsgeschichte <i>Vacuum Polarization – A Case Study of an Infinite Quantity in Early Quantum Field Theory</i>
11:45 - 12:10	Discussion - Commentator: Christoph Lehner, Max-Planck-Institut für Wissenschaftsgeschichte
12:10 - 1:00	LUNCH
	<b>Session 8: Keynote 2, Saturday - 1:00 p.m. – 2:15 p.m.</b> Chair: Amy Fisher, Center for History of Physics, American Institute of Physics
1:00 - 2:15	<b>Michel Janssen</b> , Program in the History of Science, Technology, and Medicine, University of Minnesota <i>Arcs and Scaffoldings in the Construction of Relativity and Quantum Theory</i>
2:15 - 2:30	COFFEE & TEA
	<b>Session 9: Applying Technique in Theory and Experiment - Saturday, 2:30 p.m. – 4:55 p.m.</b> Chair: Joseph D. Martin, University of Minnesota
2:30 - 3:00	<b>Charles Midwinter</b> , University of Minnesota <i>Continuity in Technique: Perturbation Theory in the Old Quantum Theory and Matrix Mechanics</i>
3:00 - 3:30	<b>Martin Jaehnert</b> , Max-Planck-Institut für Wissenschaftsgeschichte <i>From Continuity to Discontinuity: The Correspondence Principle and the Transformation of Mechanics.</i>
3:30 - 4:00	<b>Vivien Hamilton</b> , University of Toronto/Harvey Mudd College <i>"Incongruent Bedfellows": Physics and Medicine in Early 20th Century X-ray Therapy</i>
4:00 - 4:30	<b>Silke Fengler</b> , Universität Wien <i>"...how the right technique emerged at the right time" – A History of the Photographical Method During the Cold War</i>
4:30 - 4:55	Discussion - Commentator: Joan Bromberg, Johns Hopkins University
5:00 -	DINNER (sign-up sheets provided) or BASEBALL GAME (Nationals vs. Mets)

## Sunday, July 31

8:00 - 9:00	BREAKFAST AT THE HILTON GARDEN INN / SHUTTLE SERVICE TO AIP
	<b>Session 10: Roundtable Discussion - Saturday, 9:00 a.m. – 11:00 a.m.</b> Chair: Greg Good, Center for History of Physics, American Institute of Physics
9:00 - 11:00	<i>Whither the History of the Physical Sciences?</i> (All conference participants welcome) Greg Good, Amy Fisher, Alex Wellerstein (AIP); Christian Joas (MPIWG); Joseph D. Martin (U. Minnesota)
11:00	CONFERENCE ADJOURNS. HAVE A SAFE JOURNEY HOME!

## Notes

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