

Programme for the history of science conference

One hundred years of the Bohr atom

Tuesday 11 to Friday 14 June 2013

Tuesday 11 June

- 16:00-17:30** **J.L. Heilbron**, emeritus professor of history at the University of California, Berkeley
“My courage is ablaze so wildly”: Niels Bohr en route to his quantum atom
PUBLIC LECTURE – REQUIRES PRIOR REGISTRATION
- 19:00** *Registration and reception for speakers, with tapas*

Wednesday 12 June

- 8:30** *Registration (continued)*
- 9:00** **Kirsten Hastrup**, President of the Royal Danish Academy of Science and Letters
Welcome
- 9:15** **Finn Aaserud**, Niels Bohr Archive, Denmark
Introduction and practical matters
- Session 1: Bohr and the atom (chair, Finn Aaserud)*
- 9:30** **Helge Kragh**, University of Aarhus, Denmark
The many faces of the Bohr atom
- 10:00** **Jaume Navarro**, University of the Basque Country, Spain
Plum puddings and Bohr’s atom
- 10:30** **Michael Eckert**, Deutsches Museum, Germany
Extending Bohr: Sommerfeld’s early atomic theory, 1913–1916
- 11:00** *Coffee*
- 11:30** **Michiyo Nakane**, Kawasaki, Japan
Bohr’s introduction to action-angle variables in a 1918 paper
- 12:00** **Robert Rynasiewicz**, Johns Hopkins University, U.S.A.
The(?) Correspondence Principle
- 12:30** **Martin Jähnert**, Max Planck Institute for the History of Science
The Correspondence Principle in Practice: Its Spread and Use in the Old Quantum Theory
- 13:00** *Lunch*
- Session 2: Bohr, the atom and other physics (chair, Helge Kragh)*
- 14:00** **Anthony Duncan**, University of Pittsburgh and **Michel Janssen**, University of Minnesota, U.S.A.
Stark contrasts between the Old and the New Quantum Theory
- 14:30** **Luis Boya**, University of Zaragoza, Spain
Arnold Sommerfeld and Niels Bohr: Comparison of the schools at Munich and Copenhagen at the time of the Old Quantum Theory
- 15:00** **Enric Canals** and **Blai Pie Valls**, University of Barcelona, Spain
Ehrenfest’s Adiabatic Hypothesis in Bohr’s quantum theory
- 15:30** *Coffee*
- 16:00** **Michael Nauenberg**, University of California, Santa Cruz
What happened to the Bohr-Sommerfeld elliptic orbits in Schrödinger’s wave mechanics?
- 16:30** **Jeroen van Dongen**, Utrecht University, Holland
Communicating the Heisenberg Relations: Niels Bohr and the forgotten Einstein–Rupp Experiments
- 17:00** **Brigitte van Tiggelen**, Lovain Catholic University, Belgium, and **Annette Lykknes**, Norwegian University of Science and Technology, Norway
Ida Noddack and the fission proposal: The actor’s perspective
- 17:30** **End of session**
- 17:45-19:30** *Planning meeting for speakers, with smørrebrød.*

Thursday 13 June

Session 3: Philosophical and contemporary aspects (chair, Jeroen van Dongen)

- 9:00** **Giora Hon**, University of Haifa, Israel, and **Bernard R. Goldstein**, University of Pittsburgh, U.S.A. *Constitution, structure, system, and model: Imagining the atom – an early twentieth century story*
- 9:30** **Theodore Arabatzis** and **Despina Ioannidou**, University of Athens, Greece *The role of models and analogies in the Bohr Atom*
- 10:00** **Henrik Zinkernagel**, University of Granada, Spain *Are we living in a quantum world? Bohr and quantum fundamentalism*
- 10:30** *Coffee*
- 11:00** **N.D. Hari Dass**, Chennai Mathematical Institute; CQIQ, IISc, India *The Superposition Principle in Quantum Mechanics – did the rock enter the foundation surreptitiously?*
- 11:30** **Shan Gao**, University of Sydney, Australia and Chinese Academy of Sciences, China *How do electrons move in atoms? – From the Bohr model to quantum mechanics*
- 12:00** **Thiago Hartz and Olival Freire**, Federal University of Bahia, Brazil *Uses and appropriations of Niels Bohr's ideas about quantum field measurements, 1935–1965*
- 12:30** *Lunch*

Session 4: National and institutional aspects (chair, Henrik Zinkernagel)

- 14:00** **Shaul Katzir**, Tel Aviv University, Israel *Manchester at war: Rutherford, Bohr, submarine detection and atomic spectra*
- 14:30** **Gábor Palló**, Budapest University of Technology and Economics, Hungary *The Bohr model's early reception in Hungary: Hevesy and Bohr*
- 15:00** **Peter Robertson**, University of Melbourne, Australia *Birthplace of a new physics – the early history of the Niels Bohr Institute*
- 15:30** *Coffee*
- 16:00** **Karl Grandin**, Royal Academy of Science, Sweden *Niels Bohr from a Swedish perspective*
- 16:30** **Henrik Knudsen**, University of Aarhus, Denmark *Pursuing common cultural ideals: Niels Bohr, neutrality, and international scientific collaboration during the inter-war period*
- 17:00** **End of session**
- 19:00** *Conference dinner for speakers in Restaurant Nimb Terrasse, Tivoli Gardens*

Friday 14 June

Session 5: Other aspects (chair, Henrik Knudsen)

- 9:00** **Finn Aaserud**, Niels Bohr Archive, Denmark *Love and physics: Margrethe Nørlund and Niels Bohr's scientific creativity, 1910–1913*
- 9:30** **Ernst Peter Fischer**, Heidelberg, Germany *A romantic understanding of atoms: Bohr's success in a new perspective*
- 10:00** **Dieter Hoffmann**, Max Planck Institute for History of Science, Germany *The relationship between Niels Bohr and Max Planck*
- 10:30** *Coffee*
- 11:00** **Arne Schirrmacher**, Humboldt University, Germany *Models at an exhibition: The planetary atom on display in Europe and what this meant for science*
- 11:30** **Kristian H. Nielsen**, University of Aarhus, Denmark *The Bohr Atom bound in cloth: Comparing popular books about atomic physics in Germany, Britain and Denmark, 1918–1927*
- 12:00** *Conclusion*
- 12:30** *Lunch*