

Program of the Conference „Heuristics in Physics“, Bad Honnef, Dec. 10-12, 2010,
Organized by the working group for philosophy of physics (AG Phil) and the section for history of physics (FV Geschichte) in the German Physical Society (DPG) at the House of Physics, Bad Honnef

Friday, Dec. 10, 2010, opening 13:00 <<Symmetry and other Principles>>

13:15 Brigitte Falkenburg (TU Dortmund):

Questions of Principle

14:00 Shaul Katzir (MPI f. Wissenschaftsgeschichte, Berlin):
Definition and Establishment of Rules through their Heuristic Use:
The Principles of Symmetry and Energy

14:30 Giora Hon (Haifa, Israel):
On the Heuristic Value of Symmetry

15:00 - 15:30 Coffee break

Friday, Dec. 10, 2010, afternoon 15:30 <<Heuristics in Relativity and Field Theory>>

15:30 John Norton (Pittsburgh):

Heuristics in Einstein's Special Theory of Relativity

16:30 Scott Walter (Nancy):
Light-Figures as Heuristic Devices in the Early History of Relativity

17:00 Dennis Lehmkuhl (Wuppertal):
Heuristics in Einstein's Search for a Unified Field Theory

17:30 Adrian Wüthrich (Bern):
Against the impossible picture:
Feynman's Quest for an Appropriate Representation of Dirac's Electron

18:00 Arianna Borrelli (Wuppertal):
Naturalness and Hierarchy Problems: Heuristics beyond Mathematics
and Experiment in Theoretical High-Energy Physics

19:00 Dinner at the House of Physics

Saturday, Dec. 11, 2010, morning 9:30 <<The Theory of Heuristics in Historical Perspective>>

9:30 Dieter Suisky (Institut für Physik, Humboldt-Universität zu Berlin):
Leonhard Euler and Emilie Du Châtelet on the Heuristic Role of Hypotheses

10:00 Jaume Navarro (Cambridge, currently MPI f. Wissenschaftsgeschichte, Berlin):
On Creeds and Policies. The Philosophy of Science of Joseph John Thomson

10:30 Wolfgang Pietsch (Carl von Linde Akademie, München)
The Heuristic Value of Underdetermination: On Discovery by Theoretical Analogy

11:00-11:30 Coffee break

11:30 Kateryna Serebryakova (GNT, Stuttgart):
Application of some Physical Effects and Laws in the Heuristics of Altschuller's TRIZ

12:00 Uwe V. Riss (SAP Research, CEC Karlsruhe):
Heuristic Approach and Objective Conditions in Physics [on Michael Polanyi's approach]

12:30 Bernd Kröger (Tiefenbronn near Stuttgart resp. GNT, Stuttgart):
Heuristics in the Work of Hermann Haken in the Formation of Synergetics:

13:00 Lunch

Saturday, Dec. 11, 2010, afternoon 14:15 <<Quantum Theory and Quantum Mechanics>>

**14:15 Prof. Olivier Darrigol (CNRS, Paris):
Heuristics in Early Quantum Theory**

15:15 Meinard Kuhlmann (Bremen)
Heuristics and Explanation in Derivations of Planck's law

15:45 Scott Tanona (Kansas State University):
Was the Correspondence Principle a Heuristic ?

16:15-16:45 Coffee break

16:45 Christian Joas & Dr. Christoph Lehner (Quantum History Project, Fritz Haber Institute of the
Max Planck Society and Max Planck Institute for the History of Science, Berlin):
Schrödinger's Optical-Mechanical Analogy: From Heuristic Tool to Interpretational Device

17:15 Martin Jähnert (Berlin):
Pictures and Principles – Heuristics in the Early Interpretational Debate on Quantum Mechanics

17:45 ROUND TABLE The Settings of “Histosophers” in Europe and Elsewhere...

19:30 Restaurant Dinner (location: to be announced)

Sunday, Dec. 12, 2010, morning 9:15 <<Heuristics in Experiments>>

9:15 Klaus Hentschel (GNT, Stuttgart):
On Classifications and Typical Sequences of Heuristics (mostly in Experimental Physics)

10:00 Maarten Bullynck (Université Paris 8 Vincennes à St-Denis):
Lambert's Systematic Heuristic Toolkit for Doing Experimental Physics

10:30 Daniele Macuglia (Chicago)
Heuristic Approaches to the Understanding of the Two Possible Signs of the Hall Effect.

Coffee break 11:00-11:30

11:30 Joint Summary **of the Conference with Initial Impulse Statements**

12:30 End of Conference