

Department of History and Philosophy of Science

University of Lisbon

Integrated History and Philosophy of Science

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## **DESCRIPTION**

How are history and philosophy of science related to each other? How can historical studies of science be brought to bear on the philosophical interpretation of scientific practice? Conversely, how can philosophical reflection on science enrich the historical understanding of scientific development? In this short course we will discuss these questions and examine various ways of blending history and philosophy of science (HPS). We will first review the debate on the “marriage” between history and philosophy of science. Then we will discuss some attempts to practice HPS, from the 1970s to the 2000s. Our focus will be on particular topics that call for an integrated HPS approach, such as the dynamics of theory change, the structure of scientific discovery, and the autonomy of experimentation. Our main aim will be to identify the merits and difficulties of integrating HPS.

## **SCHEDULE**

### **Introduction: an overview of the history of HPS**

- Monday, 22 September: Schickore 2011, Giere 1973; McMullin 1974

### **Topic 1: The rationality of scientific change**

- Tuesday, 23 September: Lakatos 1976; Musgrave 1976, Kuhn 1980

### **Topic 2: The structure of scientific discovery**

- Wednesday, 24 September: Kuhn 1970, Kuhn 1977, Arabatzis 2006

### **Topic 3: The history and philosophy of experimentation**

- Thursday, 25 September: Hacking 1983, Steinle 2002

### **The current state of play: the prospects of philosophical history of science**

- Friday, 26 September: Giere 2011, Golinski 2011, Chang 2011

## **READINGS**

Arabatzis, T. 2006. *Representing Electrons: A Biographical Approach to Theoretical Entities* (University of Chicago Press), pp. 18-35, 53-69.

Chang, H. 2011. "Beyond Case-Studies: History as Philosophy." In S. Mauskopf and T. Schmaltz (eds.), *Integrating History and Philosophy of Science: Problems and Prospects* (Springer), pp. 109-124.

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- Kuhn, T. S. 1970. *The Structure of Scientific Revolutions* (University of Chicago Press, 2<sup>nd</sup> ed., 1970), pp. 1-9, 52-65.
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- Lakatos, I. 1976, "History of Science and its Rational Reconstructions." In C. Howson (ed.), *Method and Appraisal in the Physical Sciences* (Cambridge University Press), pp. 1-39.
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- Musgrave, A. 1976. "Why did oxygen supplant phlogiston?" In Howson, C. (ed.), 1976. *Method and Appraisal in the Physical Sciences* (Cambridge University Press), pp. 181-210.
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- Steinle, F. 2002. "Experiments in History and Philosophy of Science." *Perspectives on Science* 10:4, 408-432.