**Abstracts**

**Invited Session: Formal Philosophy of Science and Formal Epistemology**

**Bayesian Philosophy of Science**  
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Bayesianism is a leading paradigm in the philosophy of science. Meanwhile it is not only applied to questions regarding the confirmation of scientific theories, but also to many other central themes in the philosophy of science such as scientific explanation, intertheoretic relations, scientific realism, and the varieties of scientific reasoning. Another characteristic of contemporary Bayesian philosophy of science is its close relation to Bayesian cognitive science. This talk has the following goals: (i) It will outline and defend the Bayesian framework. (ii) It will survey several new success stories of Bayesian philosophy of science. Here we will especially focus on recent work on the no-alternatives argument and inference to the best explanation. We will see that Bayesianism illuminates important philosophical debates and that it sheds new light on several challenging problems. (iii) It will discuss some recent responses to various open problems of Bayesianism. Besides new responses to the notorious problem of old evidence, we will discuss the implications of the philosophical idealizations Bayesianism makes (such as the assumption of point probabilities). (iv) Finally, this talk will list a number of problems that should be addressed in future work. Here I will especially stress the importance of the increasingly closer relation between formal philosophy of science and experimental approaches to questions from the philosophy of science. Another desideratum is to provide a satisfactory treatment of idealizations in science that will help bridging the gap between Bayesian philosophy of science and more descriptive accounts in the philosophy of science.

**The credit economy and the economic rationality of science**  
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Scientists are motivated by the credit they are given for their discoveries by their peers. Traditional theories of the scientific method in philosophy do not include this motivation, and at first blush it appears as though these theories would regard it as inappropriate. A number of scholars have suggested, however, that this motivation serves to perpetuate successful science. It has been proposed as a mechanism to encourage more scientific effort and a mechanism to effectively allocate resources between competing research programs. This paper presents an economic model of scientists’ choices in which these claims can be formalized and evaluated. Ultimately, the paper comes to mixed conclusions. The motivation for credit may help to increase scientists effort in science, but also may serve to misallocate effort between competing research programs.