

# Joe Roussos

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## Education

### **PhD Philosophy, 2016–2020 (ex.)**

*London School of Economics*

Supervisors: Roman Frigg, Richard Bradley

**Title:** Modelling expert disagreement and uncertainty

**Abstract:** Policymakers consult with experts in order to improve their decision-making. Frequently, however, experts disagree or are uncertain, which complicates decision-making. I examine the structure of this problem, and explore the fruitfulness of applying two formal approaches to the problem: (1) Bayesianism, and (2) opinion pooling. I conclude that both are too idealised to make much progress. I then examine a concrete example of a policy decision in the face of severe uncertainty: hurricane insurance pricing. I apply a newly developed decision-theory, called the confidence approach, to solving this problem. In so doing, I illustrate the approach I believe philosophers should take to this problem: careful attention to the details of the disagreement. Here, that looks like close examination of the scientific models providing the disparate results, and using the philosophy of scientific modelling and uncertainty to make progress. In the final section, I turn to a reflective study of our philosophical methodology when we construct highly idealised models in formal epistemology and decision theory. I conclude that insufficient attention has been paid to the methodological constraints that come with using models in philosophy.

### **MASt Applied Mathematics and Theoretical Physics, 2011–12**

Specialisation: Particle Physics, Effective Field Theories

*University of Cambridge*

### **BSc Physics, Philosophy, Mathematics, 2006–2011**

Included Honours year specialising in Theoretical Physics

*University of Witwatersrand, Johannesburg*

## Research interests

**Areas of specialisation:** Decision theory, Formal epistemology, Philosophy of science

**Areas of competence:** Philosophy and Public Policy, Social epistemology, Epistemology

## Papers

**Making confident decisions with model ensembles** (under review)

Co-authors: Roman Frigg, Richard Bradley

**Idealised models of expert disagreement** (unpublished, draft available)

**Formal epistemology as modelling** (unpublished, draft available)

## Other Projects

- Challenging the “linear model” of scientist, advisor, and policymaker (Draft paper)
- Simulating insurance pricing to compare the confidence approach with aggregation. Collaboration with the CLIMADA project at ETH Zurich
- What are the objects of credence? (Draft paper)
- If models are make-believe, how can we learn from them? (Draft paper)

## Talks

7. “Making confident decisions with model ensembles”, *Philosophy of Science Association*, Nov 2018, Seattle
6. “Formal epistemology as modelling”, *LSE Graduate Seminar*, Sep 2018
5. “Making confident decisions with model ensembles”, *Atmospheric and Climate Science Colloquium*, ETH Zurich, May 2018
4. “Making confident decisions with model ensembles”, *Choice Group*, Apr 2018, LSE
3. “Making confident decisions with model ensembles”, *Models 2 Decisions*, June 2018, Isaac Newton Institute, Cambridge
2. “Against Model Aggregation”, *Models & Simulations 8*, March 2018, U South Carolina
1. “Making confident decisions with scientific models”, *London Graduate Philosophy Conference*, Nov 2017, Senate House London

## Comments and other participation

3. Consultation participant: ‘Second Workshop on Planning Complex Infrastructure under Uncertainty’ for the Centre for Digital Built Britain, Nov 2018, Alan Turing Institute, London
2. Reply to: Marco Mariotti (Queen Mary): “Revealed Preference Theory and Bounded Rationality” at *Preference-based modeling in economics*, Nov 2018, LSE
1. Reply to: Rachel Etta Rudolph (UC Berkeley), “Appearance Reports and the Acquaintance Inference” at *15th Berkeley-London Graduate Conference*, May 2018, Senate House London

## Teaching

All of the below are teaching assistant roles. At the LSE, teaching assistants are fully responsible for small group classes, marking and feedback.

**2017/18: PH104 Formal methods of philosophical argumentation.** *LSE.* Taught 5 classes, 71 students. Introduction to propositional logic, first order logic, philosophy of mathematics, set theory, and probability theory.

**2016/17: PH101 Logic.** *LSE.* Taught 2 classes, 30 students. Introduction to propositional logic, first order logic, and naive set theory. Feedback: Won award for Teaching Merit

**2009/10: PHYS3000 Modern experimental physics.** *Witwatersrand.* Experimental demonstrator for undergraduate physics labs.

## Service

### Departmental life

- 2018/19: Chair, Staff-Student Liaison Committee (MPhil/PhD)
- 2017/18: Representative, Research Students Consultation Forum
- 2017/18: Co-chair, Staff-Student Liaison Committee (MPhil/PhD)

### Reviewer

- 2017: Reviewer for 5th LSE-Bayreuth Student Conference

## Awards

- 2018 Award for Teaching Excellence, on the basis of excellent student feedback on a notoriously difficult course and with a high teaching load
- 2017 Award for Teaching Merit

Updated: Jan 2019