

# ROBERT CRAVEN

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British Citizen

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## RESEARCH INTERESTS

Philosophy of action and mind, metaphysics, epistemology, ethics, logic, Aristotle, Anscombe.

Argumentation theory, non-monotonic logic, action languages, knowledge representation.

## ACADEMIC EMPLOYMENT

Sept. 2015–*present*: Teaching Associate, Department of Philosophy, Birkbeck College.  
Giving seminars to undergraduates, essay marking.

2012–Sept. 2015: Research Associate, Imperial College London.  
TRaDAr (Transparent Rational Decisions by Argumentation). Argumentation-theoretic perspectives on decision theory, reformulation of theories of structured argumentation, work on relations between prioritized non-monotonic logic and argumentation.

2011–2012: Research Associate, Imperial College London.  
Parallel argumentation and medicine. Development of parallel algorithms and applications in C++ for assumption-based argumentation. Representation of parts of NICE guideline for breast cancer and type-2 diabetes, and related experimentation.

2007–2011: Research Associate, Imperial College London.  
Security policy analysis using abductive logic programming. Application of action languages to the representation of security policies, in theory and applications. Formal approaches to policy refinement.

2006–2007: Temporary Lecturer, Imperial College London.  
Preparation and teaching of 1.5 lecture courses for 1st-year undergraduates: Artificial Intelligence, Reasoning about Programs.

2005–2006: Research Assistant, Imperial College London.  
Work with the Departments of Computing and Electrical Engineering on norm-governed agents for ad-hoc networks.

## EDUCATION

Sept. 2015–*present*: Ph.D. in Philosophy, Birkbeck College, University of London.  
Theme: philosophy of action, metaphysics, knowledge of action.  
Supervisor: Jennifer Hornsby.

2012–Sept. 2015: M.Phil.Stud. in Philosophy, Birkbeck College, University of London.  
Thesis: *Stuff: its Nature and Principles*.  
Essay papers: 6 in total, 2 each for philosophy of mind, ethics, Aristotle.  
Distinction for essays component.  
Supervisors: Michael Garnett, Jennifer Hornsby, Hallvard Lillehammer, Anthony Price.

2002–2006: Ph.D. in Logic and Artificial Intelligence, Imperial College London.  
*Execution Mechanisms for the Action Language C+*.  
Supervisor: Marek Sergot.

2001–2002: M.Sc. in Advanced Computing (Distinction), Imperial College London.  
Focus on mathematical foundations, logic, artificial intelligence.  
Dissertation: *Action, Causation and Normative Agent Systems*.

1994–1997: B.A. (Hons) Philosophy (First Class), King’s College, Cambridge.  
Scholar, King’s College. Richard’s Prize.  
Papers included: mathematical logic, philosophy of physics, metaphysics, Nietzsche, psychology, aesthetics.

## SCHOLARSHIPS AND AWARDS

SSHP Scholarship for Ph.D. research in philosophy.  
Birkbeck College, University of London.  
(3 years, fees and stipend; 2015–2018.)

EU FP7 funding for workshop “Argumentation, Rationality and Decision” (co-organizer).  
Imperial College London.  
September 2014.

EU FP7 funding for workshop “Agency and Action” (co-organizer).  
Imperial College London.  
September 2014.

SSHP Scholarship for M.Phil.Stud. research in philosophy.  
Birkbeck College, University of London.  
(3 years, fees; 2012–2015.)

Best Paper award at SACMAT 2011.  
(Joint work with Srdjan Marinovic, Jiefei Ma and Naranker Dulay.)

Departmental Scholarship for Ph.D. research in artificial intelligence.  
Imperial College London.  
(4 years, fees and stipend; 2002–2006.)

Departmental Scholarship for M.Sc. research in computer science.  
Imperial College London.  
(1 year, fees and stipend; 2001–2002.)

Scholar, King’s College Cambridge; 1997.

Richards Prize for final year examination results.  
King’s College, Cambridge; 1997.

## WORK IN PROGRESS

“Structured Rational Decision Theory”.  
Robert Craven and Francesca Toni.

“Stable and Preferred Semantics for Argument-Graphs”.  
Robert Craven and Francesca Toni.

## SUBMITTED WORK

“Argument Graphs and Assumption-Based Argumentation”.  
Robert Craven and Francesca Toni.

## PUBLICATIONS

### EDITED VOLUME

*Logic Programs, Norms and Action: Essays in Honor of Marek J. Sergot.*  
Alex Artikis, Robert Craven, Nihan Çiçekli, Babak Sadighi, Kostas Stathis (eds.). Springer, 2012.

## JOURNAL ARTICLES

- “Agent Strands in the Action Language  $n\mathcal{C}+$ ”.  
Robert Craven and Marek Sergot. *Journal of Applied Logic*, 2008.
- “Distant Causation in  $\mathcal{C}+$ ”.  
Robert Craven and Marek Sergot. *Studia Logica* 79(1), 73-96, 2005.

## REFEREED CONFERENCE AND WORKSHOP PROCEEDINGS

- “Smarter Electricity through Argumentation”.  
Menelaos Makriyannis, Tudor Lung, Robert Craven, Francesca Toni, Jack Kelly. *CIMA* 2014.
- “Automated Error-Detection and Repair for Compositional Software Specifications”.  
Dalal Alrajeh, Robert Craven. *SEFM* 2014.
- “Graph-Based Dispute Derivations in Assumption-Based Argumentation”.  
Robert Craven, Francesca Toni, Matthew Williams. *TAFI* 2013.
- “Assumption-Based Argumentation for Decision-Making with Preferences”.  
Xiuyi Fan, Robert Craven, Ramsay Singer, Francesca Toni, Matthew Williams. *CLIMA* 2013.
- “Argumentation-Based Reinforcement Learning for RoboCup Soccer Keepaway”.  
Yang Gao, Francesca Toni, Robert Craven. *ECAI* 2012.
- “Efficient Support for Medical Argumentation”.  
Robert Craven, Francesca Toni, Adrian Hadad, Matthew Williams. *KR* 2012.
- “Policy Refinement: Decomposition and Operationalization for Dynamic Domains”.  
Robert Craven, Jorge Lobo, Emil Lupu, Alessandra Russo, Morris Sloman. *CNSM* 2011.
- “Rumpole: A Flexible Break-glass Access Control Model”.  
Srdjan Marinovic, Robert Craven, Jiefei Ma, Naranker Dulay. *SACMAT* 2011 (Best Paper award).
- “Decomposition Techniques for Policy Refinement”.  
Robert Craven, Jorge Lobo, Emil Lupu, Alessandra Russo, Morris Sloman. *CNSM* 2010.
- “Security Policy Refinement using Data Integration: A Position Paper”.  
Robert Craven, Jorge Lobo, Emil Lupu, Alessandra Russo, Morris Sloman. *SafeConfig* 2009.
- “Expressive Policy Analysis with Enhanced System Dynamicity”.  
Robert Craven, Jorge Lobo, Jiefei Ma, Alessandra Russo, Morris Sloman, Arosha Bandara. *ASIACCS* 2009.
- “The Language  $\mathcal{EC}+$ ”.  
Robert Craven and Marek Sergot. *ARW* 2007.
- “The Deontic Component of Action Language  $n\mathcal{C}+$ ”.  
Marek Sergot and Robert Craven. *DEON* 2006.
- “Some Logical Properties of Nonmonotonic Causal Theories”.  
Marek Sergot and Robert Craven. *LPNMR* 2005.

## TECHNICAL REPORTS

- “Policies, Norms and Actions: Groundwork for a Framework”.  
Robert Craven. Department of Computing, Imperial College London, Technical Report, 2011/3.
- “A Formal Framework for Policy Analysis”.  
Robert Craven, Jorge Lobo, Emil Lupu, Jiefei Ma, Alessandra Russo, Morris Sloman, Arosha Bandara. Department of Computing, Imperial College London, Technical Report 2008/5.

“Logical Properties of Nonmonotonic Causal Theories and the Action Language  $\mathcal{C}^+$ ”.  
Marek Sergot and Robert Craven. Department of Computing, Imperial College London, Technical Report 2005/5.

## TALKS

Response to Edgar Phillips, “A Mere Coincidence?”.  
London Philosophy Graduate Conference, Spring 2015, Institute of Philosophy.

“Organisms, Form, and Inorganic Matter”.  
Birkbeck Graduate Research Seminar, Spring 2015.

Response to Sarah Sawyer, “Moral Twin Earth”.  
Spring workshop 2015, Department of Philosophy, Birkbeck College, London.

“Smarter Electricity through Argumentation”.  
*CIMA 2014*, Limassol, Cyprus.

“Graph-Based Dispute Derivations in Assumption-Based Argumentation”.  
*TAFIA 2013*, Beijing, China.

Response to Joshua Habgood-Coote on Knowledge-How.  
Cumberland Lodge, 2013, Department of Philosophy, Birkbeck College, London.

“On an Analogy between Temporal and Spatial Matter”.  
*Aspect, Process and Know-How*, 2013, Department of Philosophy, Birkbeck College, London.

“Efficient Support for Medical Argumentation”.  
*KR 2012*, Rome, Italy.

“Parallel Argumentation for Medicine”.  
Applied Logic Group, UCL, 2012.

“Analysis of policies and systems by abduction”.  
Departmental Seminar, 2011, University of Leuven, Department of Computing.

“A Logic-Based Policy Analysis Framework with Dynamic System Component”.  
ISG seminar, 2010, Royal Holloway University, London.

“Expressive Policy Analysis with Enhanced System Dynamicity”.  
*ASIACCS 2009*, Sydney, Australia.

## TEACHING

M.Sc./M.Eng. thesis supervision, Department of Computing, Imperial College: Florian Strub (2012), Krzysztof Huszcza (2013), Tudor Lung (2013), Menelaos Makriyiannis (2014), (All students obtained a distinction for their projects; Huszcza received a distinguished project award.)

B.Sc. thesis supervision, Department of Computing, Imperial College: Maciej Albin (2013), Daniel Burrell (2010).

2006–2007: lecturer, Artificial Intelligence. 2nd-year undergraduate, 10-week course in the Department of Computing, Imperial College,  $\approx 120$  students.

2006–2007: lecturer, Reasoning about Programs. 1st-year undergraduate, 5-week course in the Department of Computing, Imperial College,  $\approx 140$  students.

2005: guest lecturer (2 lectures), Modal and Temporal Logic. Department of Computing, Imperial College. (Lectures and exercises written.)

2002–2006: tutor, Discrete Mathematics, Logic, Artificial Intelligence, Software Engineering.

## SERVICE

Workshop co-organizer, *Argumentation, Rationality and Decision*, Imperial College London, November 2014.

Workshop co-organizer, *Agency and Action*, Institute of Philosophy, November 2012.

Programme committees: *ECSI 2014*; *KR 2014*; *IJCAI 2013*.

Journal reviewer: *Journal of Artificial Intelligence and Medicine*; *Argumentation and Computation*; *Journal of Logic and Computation*.

Conference reviewer: *COMMA 2014*; *Norms, Actions and Games 2014*; *ICLP 2014*; *ICAIL 2005*.

2008–2010: RA representative, Department of Computing, Imperial College.

## LANGUAGES

Natural: French.

Artificial: Prolog, Haskell, Python, C/C++, Perl, L<sup>A</sup>T<sub>E</sub>X, METAPOST, HTML, CSS, bash.

## REFEREES

Prof. Jennifer Hornsby,  
Department of Philosophy,  
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Prof. Hallvard Lillehammer  
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