Jesse Hughes
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Academic background

Areas of Specialization	Philosophical and Mathematical Logic, Analytic Philosophy of Technology
Areas of Competence	Philosophy of Mathematics, Practical Philosophy, Philosophy of Computing and Information, Category Theory, Formal Semantics

Employment and affiliations

Jan. 2008–present	Bentley University Philosophy Dept. Visiting lecturer
June 2007–June 2008	University of Oxford IEG Research associate
Jan. 2007–present	Salem State College Philosophy Dept. Visiting lecturer
Aug. 2006–Dec. 2006	Massachusetts Institute of Technology Philosophy and Linguistics Dept. Visiting scholar
Sep. 2003–Sep. 2006	Technical University of Eindhoven Philosophy and Ethics of Technology Section Post-doctoral researcher, "Norms in Knowledge" project Supervisor: prof. dr. Anthonie Meijers
Aug. 2001–Aug. 2003	Radboud University of Nijmegen Computer Science Dept. Post-doctoral researcher, "Modal Logic for Coalgebras" project Supervisor: prof. dr. Bart Jacobs

Employment (cont.)

Aug. 1993–May 2001	Carnegie Mellon University Philosophy Dept. Duties included teaching assistant, lecturer, research programmer
Fall 1996	Pennsylvania State University Continuing Education Program Instructor
Jan. 1991–May 1993	Oklahoma State University Mathematics Dept. Teaching assistant (with lecturing duties)

Education

May, 2001	Ph.D., Logic, Computability and Methodology (Philosophy) Carnegie Mellon University
May, 1996	M.S., Logic and Computation (Philosophy) Carnegie Mellon University
May, 1993	M.S., Mathematics Oklahoma State University
Dec., 1990	B.S., Computer Science, Mathematics and Philosophy Oklahoma State University

Dissertation

Title	"A Study of Algebras and Coalgebras"
Synopsis	An exercise in categorical logic developing the theories of algebras and coalgebras. The latter are models of non-well-founded structures including automata, anti-foundational set theories and modal frames. I proved coalgebraic analogues to Birkhoff's theorems for algebras and presented an original internal logic for coalgebras.
Committee	Steve Awodey and Dana Scott (co-chairs), Larry Moss and Jeremy Avigad

Journal publications

Forthcoming "Practical Reasoning and Philosophy of Engineering", chapter in the Handbook of Philosophy of Technological Sciences, Anthonie Meijers ed.

2008 "Don't Ever Do That! Long-term duties in PD_eL", with Lambèr Royakkers. Studia Logica 89.

"An artifact is to use: an introduction to instrumental functions". Synthese currently published online. Print publication forthcoming.

2007 "A Semantics for Means-End Relations" with Peter Kroes and Sjoerd Zwart. Synthese 158. Knowledge, Rationality and Action Section.

2006 "Admissible Digit Sets" with Milad Niqui, Theoretical Computer Science 351. Special Issue on Real Numbers and Computers.

"Means-end Relations and a Measure of Efficacy" with Albert Esterline and Bahram Kimiaghalam, Journal of Logic, Language and Information Volume 15, Issue 1–2.

2004 "Simulations in Coalgebra" with Bart Jacobs, Theoretical Computer Science 327.

2003 "Concise Graphs and Functional Bisimulations" with Ling Cheung, Electronic Notes in Theoretical Computer Science 100 (CMCIM/GETCO 2003 issue).

"Modal Operators and the formal dual of Birkhoff's completeness theorem" with Steve Awodey, MSCS 13.

"The Coinductive Approach to Verifying Cryptographic Protocols" with Martijn Warnier, in Lecture Notes in Computer Science 2755 (WADT 2002 issue). "Distributivity of Categories of Coalgebras" with H. Peter Gumm and Tobias Schröder, Theoretical Computer Science B 883.

"Factorization Systems and Fibrations" with Bart Jacobs, Electronic Notes in Theoretical Computer Science 69 (CTCS 2002 issue).

2002 "Some Co-Birkhoff-Type Theorems", Electronic Notes in Theoretical Computer Science 65 (CMCS 2002 issue).

Conference presentations

2008 "What's That Thing For?", presented at the closing workshop for the Norms in Knowledge research project, Technical University of Eindhoven, December, 2008.

2007 "Is Software Malfunction an Oxymoron?", presented at National Association for Computing and Philosophy (NA-CAP), Loyola University, Chicago, July, 2007.

Conference presentations (continued)

2006 "Don't Ever Do That! Long-term duties in PD$_e$L", presented at DEON by coauthor Lambèr Royakkers, Utrecht, July, 2006.

2005 "A Semantics for Means-End Relations", European Congress of Analytic Philosophers (ECAP), Lisbon, August, 2005.

"A Semantics for Functional Efficacy", Society for Philosophy of Technology, Delft, July, 2005.

"Means-end Relations and a Measure of Efficacy", Progic 2005, London, July, 2005. "Means-end relations and Artifactual Functions: a Sketch", Norms, Reasoning and Knowledge in Technology Workshop, Boxmeer, June, 2005.

"A Semantics for Means-End Relations", Society for Exact Philosophy, Toronto, May, 2005. (Same title as the ECAP presentation, but included different material.)

2003 "Simulations in Coalgebra", Coalgebraic Methods in Computer Science, Warsaw, April, 2003.

2002 "Some Co-Birkhoff-type Theorems", Coalgebraic Methods in Computer Science, Grenoble, April, 2002.

2001 "Modal Operators for Coequations", Coalgebraic Methods in Computer Science, Genova, April, 2001.

2000 "The Coalgebraic Duals to Birkhoff's Theorems", Midwest Workshop on Philosophy of Mathematics, Notre Dame, December, 2000.

"A Coalgebraic Analogue to Birkhoff's Variety Theorem", Association for Symbolic Logic Winter Meeting, Washington D.C., January, 2000.

Teaching experience

Bentley College	**Problems of Philosophy** Lower level undergraduate An introduction to philosophy primarily for non-majors. **Corporate Social Responsibility** Lower level undergraduate An introduction to business ethics with emphasis on corporate responsibility and analysis of case studies.
Salem State	**Business Ethics** Lower level undergraduate A discussion of ethical theories and applications with emphasis on business case studies. **Early Greek Thinkers** Lower level undergraduate An introduction to Greek philosophy.

Salem State	**Introduction to Philosophy** Lower level undergraduate An introduction to philosophy primarily for non-majors.
	Principles of Logic Lower level undergraduate An introduction to critical thinking, deductive and inductive logic.
	Social ethics Graduate A course in applied ethics for graduate students, primarily in nursing and social work.
TU/Eindhoven	**Philosophy of Information** Upper level undergraduate An introduction to topics in philosophy of information.
	Logic Graduate seminar An introduction to logic and computability for non-logicians studying philosophy
Carnegie Mellon	**Topos Seminar** Graduate seminar A course in advanced category theory (co-instructor with Professor Steve Awodey).
	What Philosophy Is Lower level undergraduate An introduction to philosophy primarily for non-majors.
	Nature of Mathematical Reasoning Lower level undergraduate An introduction to proof and logic for non-technical students.
	Self-paced Logic Lower level undergraduate A course based on Stanford's Valid program and CMU's Proof Tutor.
Penn State	**Introduction to Modern Mathematics** Continuing Education Program An introduction to mathematics given to employees at Canonsburg Hospital in Canonsburg, PA.
Oklahoma State	**Various mathematics courses** Including College Algebra, Technical Calculus, Business Calculus, Calculus I.

Other academic experience

Advising   Daily research direction of PhD student Krist Vaesen.
Technical University of Eindhoven

Seminars   Organized and scheduled monthly seminars for local scholars.
Technical University of Eindhoven

Conferences   Co-organized the NWO-sponsored "Norms, Reasoning and Knowledge in Technology" conference with Krist Vaesen.
Technical University of Eindhoven

Program committee member, "Coalgebraic Methods for Computer Science 2002"

Refereeing   Refereed for the following journals:
    Annals of Pure and Applied Logic
    Electronic Notes in Theoretical Computer Science
    Journal of Autonomous Agents and Multi-Agent Systems
    Mathematical Structures in Computer Science
    Philosophical Explorations
    Synthese
    Theoretical Computer Science

Courses prepared to teach

Graduate	*Upper level*	*Lower level*
Philosophical logic	Philosophy of science	Intro. to philosophy
Mathematical logic	Logic and computability	Critical thinking
Modal logic	Philosophy of information	Intro. to logic
Modern teleology	Practical philosophy	Business ethics
Philosophy of technology	Philosophy of mathematics	Mathematical reasoning
Social ethics	Philosophy of AI	Intro. to ethics

References

William Cornwell Philosophy Department, Salem State College
`wcornwell@salemstate.edu`

Steve Awodey Department of Philosophy, Carnegie Mellon University
`awodey@andrew.cmu.edu`

Anthonie Meijers Section of Philosophy and Ethics of Technology, Technical University of
Eindhoven
`A.W.M.Meijers@tue.nl`

Dana S. Scott Department of Philosophy, Carnegie Mellon University
`dana_scott@cs.cmu.edu`

Wilfried Sieg Department of Philosophy, Carnegie Mellon University
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