

BARRY SMITH
Curriculum Vitae • June 22, 2017

Born 4 June 1952 in Bury, England. US citizen

EDUCATION

Oxford University: Degree of BA in Mathematics and Philosophy (First Class Honours), 1973. Converted to MA (Oxon.), 1977.

University of Manchester: Ph.D. in Philosophy, 1976. Dissertation: *The Ontology of Reference. Studies in Logic and Phenomenology*, xvi + 477pp., a study of theories of meaning and reference in Frege and Husserl. Supervisor: Wolfe Mays.

[h-index](#): 77

[citations](#): 24,956

[h-Index for Computer Science](#)

Erdős Number: [4](#)

ACADEMIC POSTS

- | | |
|-----------|------------------------------------------------------------------------------------------------------------------------------|
| 1976–1979 | Research Fellow, Department of Philosophy, University of Sheffield, England |
| 1979–1989 | University Lecture, Department of Philosophy, University of Manchester, England, with tenure as of 1982 |
| 1989–1994 | Professor of Philosophy, International Academy for Philosophy, Liechtenstein |
| 1994–2000 | Professor of Philosophy and Member of the Center for Cognitive Science, State University of New York at Buffalo |
| 1996– | Research Scientist, National Center for Geographic Information and Analysis (NCGIA), State University of New York at Buffalo |
| 2000– | Julian Park Chair of Philosophy, State University of New York at Buffalo |
| 2004– | SUNY Distinguished Professor, State University of New York at Buffalo |
| 2005– | Director, National Center for Ontological Research |
| 2006– | Research Scientist, Center of Excellence in Bioinformatics and Life Sciences, Buffalo, NY |
| 2008– | Affiliate Professor, Department of Neurology, University at Buffalo |
| 2009– | Affiliate Professor, Department of Computer Science and Engineering, University at Buffalo |
| 2013– | Affiliate Professor, Department of Biomedical Informatics, University at Buffalo |

HONORS AND AWARDS

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|-----------|-----------------------------------------------------------------------------------------------------------|
| 1983–1984 | Fellowship, Alexander von Humboldt Stiftung, Germany |
| Mar 1999 | Fellow, American Philosophical Society |
| Nov 2001 | Wolfgang Paul Award , Alexander von Humboldt Foundation |
| Oct 2002 | SUNY Chancellor's Award for Excellence in Scholarship |
| Jun 2005 | Carl Linnaeus Lecturer, Mälardalen University, Sweden |
| Dec 2005– | Honorary Professor, Saarland University , Saarbrücken, Germany |
| Apr 2010 | Paolo Bozzi Ontology Prize and Paolo Bozzi Lecture, University of Turin, Italy (April 15) |
| Nov 2014– | Fellow, American College of Medical Informatics (FACMI) |

Aug 2016 [50 most influential living philosophers](#)
Jan 2017– [Member, Faculty of 1000](#)

EXTERNAL GRANTS (SINCE 2012)

Jan 2013 NIH / NIAID HHS N272201200028 [Bioinformatics Integration Support Contract](#) (BISC), National Institute of Allergy and Infectious Diseases, PI of Buffalo Sub-Contact

Jul 2013 NIH / NIDCR 1 T32 DE023526-01 [Advanced Training in Oral Biology](#), National Institute for Dental and Craniofacial Research. Mentor.

Dec 2014 NSF Award 1340112 [The Planteome Project: Common Reference Ontologies for Plant Science](#) (CROPS). Consultant

July 2015 NIH/NIGMS R01GM080646-09 [PRO: A Protein Ontology in Open Biomedical Ontologies](#). 4-year renewal. PI of Buffalo sub-contract.

Aug 2015 [NIH / NCATS Buffalo Clinical and Translational Research Center](#) (CTSA Award). Key personnel.

Sep 2015 [NIH 1U24CA199374-01 Pathology Image Informatics Platform for Visualization, Analysis and Management](#). Co-Investigator

Jan 2017 DMDII 15-11 [Coordinated Holistic Alignment of Manufacturing Processes](#). PI

Mar 2017 NIH Office of Strategic Coordination U24DK112331 [PAGES: Physical Activity Genomics, Epigenomics/Transcriptomics Site](#). Consultant

LEARNED JOURNALS AND SERIES

Editor of *The Monist*. An International Quarterly Journal of General Philosophical Inquiry ([1992–2016](#))

Associate Editor

Applied Ontology (2004–)

BMC Bioinformatics (2011–2015)

Journal of Biomedical Semantics (2009–)

TEACHING (SINCE 2012)

University at Buffalo

Four Seminars on Biomedical Informatics. [Core Curriculum in Clinical and Translational Research](#) Seminar Series (School of Medicine), Spring Semester 2012

[Basic Formal Ontology 2.0](#) (tutorial), Summer Semester 2012

[Protégé 2000](#) (tutorial), Summer Semester 2012 (with Ron Rudnicki)

[Problems in Ontology](#) (graduate seminar), Fall Semester 2012

[Ontological Engineering](#) (graduate seminar), Fall Semester 2013

[Ontological Engineering](#) (graduate seminar), Fall Semester 2014

Tutorial and Hackathon: [Ontology and Imaging Informatics](#), June 23-25, 2014

CE 630: Research Methods in Chemical & Biological Engineering (Research Ethics), Spring Semester 2015

CAS 101: Trends in Arts and Sciences (Philosophy), Fall Semester 2015

[Analytic Metaphysics](#), Spring Semester 2016

PHI 548 [Biomedical Ontology](#), Fall Semester 2016 (with Werner Ceusters)

PHI 549 [Applied Ontology](#), Spring Semester 2017 (online course)

PHI 579 Social Norms and Informal Institutions, Spring Semester 2017 (guest lecture)
PHI Advanced Biomedical Ontology, Fall Semester 2017 (with Werner Ceusters)

Universität des Saarlandes

[Die Grundkategorien der Ontologie](#) (Blockveranstaltung), Summer Semester 2014

US Army Intelligence and Information Warfare Directorate (I2WD), Washington DC
Semantic Enhancement Training, January 12-13, 2012

Ontology for the Intelligence Community: Training and Coordination Event, April 19-20, 2012
Distributed Common Ground System Ontology Training Event, March 27, 2013

New York Botanical Garden, Bronx, NY

[Introduction to Bio-Ontologies](#), Tutorial, Feb 5, 2012

National Center for Biomedical Ontology, Baltimore, MD

[Introduction to Biomedical Ontology for Clinical and Translational Research](#) Tutorial, April 24, 2012

Genomic Standards Consortium, University of Kansas Biodiversity Institute, Lawrence, KS
[Semantics of Biodiversity Workshop and Tutorial](#), May 16 -18, 2012 ([Youtube](#))

International Conference on Biomedical Ontology (ICBO)

[How to Develop and Use OBO Foundry Ontologies](#), Tutorial, Medical University of Graz, Austria
July 21, 2012

[Basic Formal Ontology 2.0](#), Tutorial, Medical University of Graz, Austria, July 25, 2012

[OBO Foundry 101](#): Tutorial on Collaborative Ontology Development (with Melanie Courtot, Melissa Haendel, Chris Mungall, Bjoern Peters, Alan Ruttenberg, Carlo Torniai and Jie Zheng), Concordia University, Montreal, Canada, July 7, 2013

[Information Artifact Ontologies Workshop](#), Rio de Janeiro, [Tutorial on the Information Artifact Ontology](#),
September 22, 2014

Tutorial: [Introduction to Basic Formal Ontology](#), Lisbon, Portugal, July 28, 2015

Tutorial: The Ontology for Biomedical Investigations, Lisbon, Portugal, July 28, 2015

Tutorial: Open Biomedical Ontologies, Corvallis, OR, August 1, 2016

European Conference on Computational Biology (ECCB), Basel, Switzerland

[Applications of Bio-Ontologies in Large-Scale Data-Driven Science](#), Tutorial, September 9, 2012

Semantic Technology for Intelligence, Defense and Security (STIDS), George Mason University, Fairfax, VA

[Ontology for Intelligence, Defense and Security](#), Tutorial, October 23, 2012

[Information Ontologies for the Intelligence Community](#), Tutorial, November 12, 2013

[Ontology of Military Planning and Operations Assessment](#), Tutorial, November 18, 2014

Quantitative Systems Immunology Summer School, Boston University, Boston, MA

[Immunology Ontology](#), Tutorial (with Lindsay Cowell), June 10-14, 2013. [Video](#)

Milan Polytechnic, Milan, Italy

Tutorial: An Introduction to Ontology for Mechanical Engineers, April 28-30, 2015

Air Force Research Laboratory, Rome, NY

[Ontology Bootcamp](#), July 7, 2015

Air Force Research Laboratory, Wright-Patterson Air Force Base, Dayton, OH

Ontology Bootcamp, February 25-26, 2016

[Aircraft Airworthiness & Sustainment \(AA&S\) Conference](#), Grapevine, TX
Digital Thread Training: Ontology Bootcamp, March 24, 2016

[Web Science and Technology \(WebST\) 2016](#), Bilbao, Spain
[Towards Ontological Foundations for Web Science](#), July 18-19, 2016

Aircraft Airworthiness & Sustainment (AA&S) Conference, Phoenix, AZ
Digital Thread Training: Ontology Bootcamp, May 21, 2017

STUDIES OF MY WORK

Festschrifts

1. Leo Zaibert (ed.), [The Theory and Practice of Ontology](#), London and New York: Palgrave/MacMillan, December 2016

Contributions by Jonathan P. Bona, Berit Brogaard, Roberto Casati, Werner Ceusters, Maurizio Ferraris, Ingvar Johansson, David Koepsell Kevin Mulligan, Alessandro Salice Peter Simons. Mariam Thalos. Achille Varzi

2. Gloria Zúñiga y Postigo and Gerald J. Erion (eds.), [Barry Smith an sich](#) (*Cosmos + Taxis. Studies in Emergent Order and Organization*, 4 (4), June 2017)

Contributions by Wolfgang Grassl, Nicola Guarino, John T. Kearns, Rudolf Lütke, Luc Schneider, Peter Simons, Jan Woleński, Wojciech Żelaniec

SOCIAL MEDIA

[HL7 Watch](#): HL7 (Health Level 7) is a collection of standards and proposals for healthcare-specific data exchange between computer applications. Considerable efforts are being invested by governments and industry to use HL7 as part of national health IT projects. Many claims are made on behalf of HL7 by its advocates. The goal of this blog is to investigate the merits of these claims, and to provide some needed independent perspective on the HL7 project.

[Youtube](#)

[iTunes University](#): National Center for Ontological Research

[iTunes University](#): How to Build an Ontology

[Philosophical Installations](#)

[Universidad Francisco Marroquín](#)

PRESENTATIONS AT DEPARTMENTAL COLLOQUIA (SINCE 2012)

- | | |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mar 2012 | Department of Orthopedics and Sports Medicine, University at Buffalo, March 6 (“Concussion ontology”) |
| Sep 2012 | University at Buffalo Philosophy Department Lunchtime Talks, September 14 (“Truthmakers for Time Series Graphs”) Department of Computer Science, Brunel University, London, England, September 20 (“BFO and Disease”) Buffalo Logic Colloquium, University at Buffalo, September 27 (“How to Do Things with Diagrams”) |
| Oct 2012 | Buffalo PANTC Colloquium, October 16 (“Discussion of 16 Days”) |

- Nov 2012 UB Clinical/Research Ethics Seminar. Buffalo General Medical Center, November 20 (“[Ethics, Informatics and Obamacare](#)”)
- Jan 2013 National Center for Biomedical Ontology (NCBO) Webinar, January 16 (“[HL7: An Ontologist’s Guide](#)”)
 Institut für Geoinformatik, University of Münster, Germany, January 30 (“Massively Shared Social Agency”)
- Feb 2013 Intelligence and Information Warfare Directorate (I²WD), US Army Communications-Electronics Research, Development and Engineering Center (CERDEC), Aberdeen Proving Ground, MD, February 5 (“Distributed Common Ground System-Army Cloud Ontology”)
- Mar 2013 Cognitive Science Colloquium, University at Buffalo, March 20 (“On the Ontology of Massively Planned Social Actions”)
- May 2013 Air Force Research Laboratory (AFRL) Information Directorate, Rome, NY, May 8 (“Ontology and Information Integration”)
- Jun 2013 Center for Multisource Information Fusion, University at Buffalo, June 7 (“A Survey of Military Ontologies”)
- Jul 2013 Buffalo Ontology Group, July 23 (“How to Advance Reusability of Immunology Data”)
- Aug 2013 ImmPort Science Group, August 1, Stanford University (“[How to make ImmPort data fit for secondary use](#)”)
 Center for Multisource Information Fusion, University at Buffalo and Pacific Northwest National Labs, August 28 (“The National Center for Ontological Research”)
 Department of Philosophy, University at Buffalo, August 30 (“The Ontology of Aging and Death”)
- Sep 2013 Institut für Philosophie, University of Rostock, Germany, September 19 (“e-Human Beings: The Contribution of Internet Ranking Systems to the Development of Human Capital”)
- Oct 2013 ImmPort Science Group, Stanford University October 17, (“[How to Enhance the Utility of Data in ImmPort](#)”)
- Nov 2013 Clinical and Translational Science Ontology Affinity Group, November 12 (“Precoordination of Clinical Trial Data in the ImmPort Project”)
- Jan 2014 UB Clinical and Research Ethics Seminar, Clinical and Translational Science Center, Buffalo, January 21 (“[Clinical Trial Data Wants to Be Free: Lessons from the ImmPort Immunology Data and Analysis Portal](#)”)
- Feb 2014 ImmPort Science Group, Stanford University, February 27 (“Enhancing the Quality of ImmPort Data”)
- Mar 2014 Department of Computer Science and Engineering, University at Buffao, March 6 (“Ontology of Graphs”)
 Department of Philosophy, University at Buffalo, March 14 (“[Speech Acts, Economic Acts, and Poker](#)”)
- May 2014 Department of Philosophy, University of Rijeka, Croatia, May 7 (“[Document Acts and the Ontology of Social Reality](#)”) (Video)
 School of Advanced Studies, University of Rijeka, Croatia, May 8 (“[Mind, Language and Emotions: From Austrian Philosophy to Contemporary Realist Ontology](#)”) (Video)
- Jun 2014 ImmPort Science Group, Stanford University, June 27 (“[The OBO Foundry Approach to Ontologies and Standards with Special Reference to Cytokines](#)”)
- Oct 2014 Department of Mechanical and Aerospace Engineering, Syracuse University, October 3 (“[An Introduction to Ontology for Engineers](#)”)
- Dec 2014 Artificial Intelligence (AI) Center at SRI International, Menlo Park, CA, December 2 (“Towards an Ontology of Military Plans and Planning”)

- Mar 2015 UB Clinical and Research Ethics Seminar, University at Buffalo, School of Medicine and Biomedical Sciences, March 17 ("[The Ontology of Aging](#)")
- Jun 2015 Leuven Social Ontology Reading Group, June 17 ("[Commanding and Other Speech Acts](#)" [Slides](#))
- Oct 2015 Buffalo Ontology Group, October 12 ("[Towards an Ontology of Deontic Entities](#)")
- Nov 2015 [Symposium on Military Codes of Ethics](#), University at Buffalo, November 2 ("[Building an Ethical Warfighter](#)")
Department of Biomedical Informatics Grand Rounds, University at Buffalo, November 25 ("Aboutness: Towards Foundations for the Information Artifact Ontology")
- Dec 2015 Department of Computer Science and Engineering, University at Buffalo, Dec 3 ("Ontology in Buffalo: An Overview")
- Mar 2016 [Penn Bioinformatics Forum](#), University of Pennsylvania, March 23 ("[The Glory and Misery of Electronic Health Records](#)")
- Apr 2016 Ontology Summit 2016: Semantic Integration – Health Sciences, April 7 ("[An Ontology Ecosystem Approach to Electronic Health Record Interoperability](#)", online presentation)
Department of Philosophy, University at Buffalo, April 14 ("Jobs for Philosophers")
- Sep 2016 Department of Mechanical and Aerospace Engineering, University at Buffalo, September 6 ("Ontology for Product Lifecycle Management")
Air Force Research Lab (AFRL), Wright-Patterson AFB, Dayton, OH, September 12 ("AFRL Ontology")
- Oct 2016 [Capen Lecture](#), Department of Philosophy, University at Buffalo, October 4 ("[The Future of the History of Philosophy](#)") ([Video](#))
Brown Box Lecture, Department of Philosophy, October 7 ("The Ontology of the Organigram")
Intelligence Support to Command and Control (ISC2) Working Group (WG), Pentagon (JS, J6 and J2), October 12 ("Joint Doctrine Ontology")
Paderborn University, Germany, Lecture in the series "Economy/Technology/Gender", October 24 ("[Digitale Umwelten](#)")
- Nov 2016 School of Oriental and African Studies, University of London, UK, November 9 ("[The Ontology of Terrorism](#)") ([Video](#))
- Dec 2016 Romanell Clinical and Research Ethics Lecture, School of Medicine, University at Buffalo, December 20 ("[How the NIH Plans to Solve the Replication Crisis](#)") ([Video](#))
- Jan 2017 School of Engineering, Swiss Federal Institute of Technology, Lausanne, January 31 ("Building Ontologies", Video: [Part 1](#), [Part 2](#))
- Feb 2017 National Institute of Standards and Technology (NIST) Industry Ontology Foundry Working Group, February 17 ("[BFO: An Overview](#)", online presentation)
- Mar 2017 ImmPort Science Group, University of California at San Francisco, March 9 ("[The Replication Crisis – and How ImmPort Could Help](#)")
National Institute of Standards and Technology (NIST) Industry Ontology Foundry Working Group, March 17 ("[Building Ontologies with BFO](#)", online presentation)
Jet Propulsion Laboratory, March 22 ("[The Engineering Ontology Landscape](#)", online presentation) ([Video](#))
Enterprise Data Modeling and Data Service Capability Coordination Working Group, Mitre Corporation, Maclean, VA, Mar 29, 2017
- May 2017 Los Alamos National Laboratory, Los Alamos, NM, May 23, ("The Evolving Ontology Landscape")
- Jun 2017 Japan Advanced Institute for Science and Technology, Kanazawa, Japan, June 16 ("What

is the Difference between Goods and services?”)

Keio University, Tokyo, Japan, June 21 (“Introduction to Applied Ontology” and “Foundations of the Ontology of Law”)

PRESENTATIONS AT PROFESSIONAL MEETINGS AND SYMPOSIA (SINCE 2012)

- Jan 2012 [What Are Artworks and How Do We Experience Them, Winter Symposium, Aarhus University, Denmark, January 26-28](#) (“The Emotion Ontology”)
- Feb 2012 [Interdisciplinary Ontology Conference \(InterOntology12\)](#), Keio University, Tokyo, February 23 (“On Classifying Material Entities in Basic Formal Ontology”)
[Ontology for Big Systems](#), Ontology Summit 2012, on-line symposium, February 9 (“Big Data that would benefit from ontological technology”)
- Mar 2012 [Financial Reference Data Management Conference \(FIMA 2012\)](#), New York, March 21 (“[Reference Data Integration: A Strategy for the Future](#)”)
Gradualist Approaches to Health and Disease: Philosophical, Medical and Legal Perspectives, Humboldt University, Berlin, March 23-25 (“[Disease, and Other Clinical Natural Kinds](#)”)
- Apr 2012 [UK Ontology Network. Connecting the UK Ontology Community](#), University of Manchester, April 12 (“Looming Ontology Chaos”)
- Jun 2012 [Conference on Immunology Ontologies and Their Applications in Processing Clinical Data](#), National Center for Biomedical Ontology, Buffalo, NY. June 11-13 (“[Bio-Ontologies for Immunology Research: An Introduction](#)”)
- Jul 2012 [Towards an Ontology of Mental Functioning, ICBO Workshop](#), Medical University of Graz, Austria, July 22 (“[Mental Functioning and the Ontology of Language](#)”)
[How to Deal with Sectarianism in Biomedical Ontologies](#), 3rd International Conference on Biomedical Ontology (ICBO), Medical University of Graz, Austria, July 23 (“What causes sectarianism in ontology development and how to alleviate it?”)
- Aug 2012 [Basic Formal Ontology 2.0 Preliminary Development Workshop](#), Center of Excellence in Bioinformatics and Life Sciences, National Center for Ontological Research. August 18-19 (“Main Features of BFO 2.0”)
- Sep 2012 [Genomic Standards Consortium 14th Annual Conference](#), Biocode Commons Hackathon, Oxford, September 18-20 (“Sample Ontology for Biodiversity Genomics”, “Critical Review of EnvO 2.0”)
- Oct 2012 [Semantic Technology for Intelligence, Defense and Security](#) (STIDS), George Mason University, Fairfax, VA, October 23-25 (“Horizontal Integration of Warfighter Intelligence Data”)
- Nov 2012 [Austrian Thought at the Turn of the 20th Century](#), University of Texas, Arlington, TX, November 1-3 (“Ontology and the Austrian Tradition”)
- Dec 2012 [Visual Learning: Communication – Cognition – Curriculum](#), International Conference, Budapest University of Technology and Economics, December 7-8 (“[Diagrams and Time](#)”
[Slides](#))
Briefing to Chief of Naval Operations Strategic Studies Group (SSG), Naval War College, Newport, RI, December 18 (“Towards Joint Doctrine for Military Informatics”)
- Feb 2013 [Building Ontologies to Meet Evaluation Criteria](#), Ontology Summit 2013, Session-04, February 7 (“Ontological Realism as a Strategy for Integrating Ontologies”)
[Clinical and Translational Science Ontology Workshop](#), Orlando, FL, February 11-12 (“[Limning the CTSA Ontology Landscape](#)”)
[Phenotype Ontology Research Coordination Network Summit](#), National Evolutionary Synthesis Center, Duke University, Durham, NC, February 24 (“On the Future of the Neuro

- Behavior Ontology and Its Relation to the Mental Functioning Ontology”)
- Apr 2013 [Ontologies for Information Integration](#), National Center for Ontological Research, Buffalo, NY, April 18 (“The Role of Ontology in the Era of Big (Military) Data”)
- May 2013 [Basic Formal Ontology 2.0 Development Workshop](#), National Center for Ontological Research, University at Buffalo, May 13 (“The BFO 2.0 Specification”)
- [PRO-PO-GO: Challenges of Ontology Coordination Across Organisms](#), Plant Ontology Consortium, Protein Ontology Consortium and National Center for Biomedical Ontology, Buffalo, NY, May 15-16 (“[Critique of the Phenotype Ontology and of the Trait Ontology](#)” and “[Species-Neutral vs. Multi-Species Ontology](#)”)
- [Information Systems and the Four-Category Ontology](#), University of Durham, May 21 (“[The Six Category Ontology: BFO and Its Applications](#)”)
- Talk About What You See: Objects, Colors, Sounds and Trajectories. Conference in Memory of Paolo Bozzi, University of Trento, Italy, May 30-31 (“Figure and Ground in Time”, “Applications of Bozzi’s Naïve Physics”)
- Jun 2013 Bioinformatics and Computational Biology in the Era of Big Data, University at Buffalo, June 6 (“Biomedical Ontology in Buffalo”)
- Jul 2013 [Workshop on Definitions in Ontologies](#), co-located with the International Conference on Biomedical Ontology, Montreal, Canada, July 7 (Keynote lecture: “An Introduction to the Logic of Definitions”)
- [International Conference on Biomedical Ontology](#), Montreal, Canada, July 8-9 (“Ontological-Based Annotation of Contextualized Vital Signs” (with Albert Goldfain); “What Constitutes a Result in Ontology Research?” (Panel); “Representing Disease Courses: An Application of the Neurological Disease Ontology to Multiple Sclerosis Typology” (Poster presentation))
- Aug 2013 [Bioethics and the Philosophy of Medicine](#), PANTC Conference, University at Buffalo, August 2-3 (“Diseases, Diagnoses, Signs and Symptoms”)
- Sep 2013 ImmPort Site Visit, NIAID Bioinformatics Integration Support Contract (BISC), Stanford University, September 3 (“Immune-Related Ontologies”)
- [ImmPort Ontology Conference](#), NIAID Bioinformatics Integration Support Contract (BISC), Stanford University, September 4-5 (“A Debate on Strategies for Use of Ontologies in ImmPort” (with Alan Ruttenberg))
- ImmPort External Advisory Board Meeting, NIAID, Bethesda, MD, September 12 (“The Rho Strategy for Empirical Testing of Ontology Methods”)
- Rostock Symposium on [Systems Biology and Bioinformatics in Aging Research](#), Institute for Biostatistics and Informatics in Medicine and Ageing Research, Rostock, Germany, September 20-21 (Keynote address: “[Ontology of Aging and Death](#)”)
- CUBRC – CMIF – NCOR Collaboration Meeting, CUBRC, Buffalo, 23 September (“Ontology Research and Opportunities”)
- Oct 2013 NCBO SAB Meeting, Stanford, CA, October 1-2 (“NCOR Dissemination”)
- [Training and Strategy for ImmPort Data Submitters](#), Rho Federal Systems Division, Chapel Hill, NC, October 9-10 (“A Practical Introduction to ImmPort and to NIH Mandates for Data Sharing and Reuse”, “Introduction to Allergy Ontology”)
- [Philosophy of Emerging Media](#), College of Communication, Boston University, October 25-27 (“[Towards Emerging Media Science](#)” and “Media and Agency”)
- Nov 2013 [Globalization and Documentality](#), Käte Hamburger Kolleg / Center for Advanced Study, University of Bonn, November 19 (on-line presentation: [Documents and Massive Social Agency](#))
- [8th International Conference on Semantic Technologies for Intelligence, Defense, and Security](#) (STIDS 2013), George Mason University, Fairfax, VA, November 12-15 (“[IAO-Intel:](#)

- Jan 2014 [An Ontology of Information Artifacts in the Intelligence Domain](#))
[Big Data and Semantic Web Meet Applied Ontology, Ontology Summit 2014 Launch Event](#), January 14 (“Introduction on behalf of the National Center for Ontological Research”; on-line presentation)
- Feb 2014 [Humanomics Research Centre Opening Seminar, University of Copenhagen](#), February 7, (“[The Philosophome: An Exercise in the Ontology of the Humanities](#)”)
- Apr 2014 [Ontologie und Zeit](#), Saarland University, Saarbrücken, Germany, April 26 (“Eine Korrespondenztheorie von Graphen”)
[Philosophy of Medicine Seminar Series](#), King’s College, London, April 29 (“The Ontology of Disease”) [Video](#)
- May 2014 [Consequences of Realism](#), Rome, May 4-6 (“[The Fifth Cycle of Philosophy](#)”)
[HIMA Imaging Science Workshop](#), Pathology Informatics 2014, Pittsburgh May 13 (“[A Guide to Ontology for the Pathologist of the Future](#)”)
- Jun 2014 [The Ends of Life – Deepening Reflections on Bioethical Issues at the Beginning and End of Life](#), Edmond J. Safra Center for Ethics, Tel Aviv University, Israel, June 8-10 (“[The Ontology of Aging and Death](#)”)
[Protein Ontology Workshop](#), Georgetown University, DC, June 19 (“[Introduction to the Relation Ontology](#)”)
[Ontology and Imaging Informatics](#), University at Buffalo, NY, June 23-25 (“Introduction to Ontology for Pathology Imaging”)
- Aug 2014 [Bioethics and the Philosophy of Medicine](#), 2014 PANTC Conference, University at Buffalo, August 1-2 (“[Ontology of Aging](#)”)
Clinical and Translational Science Ontology Group, August 12, Online Presentation on Imaging Ontologies
[American Society of Mechanical Engineers \(ASME\) International Design Engineering Technical Conference and Computers and Information in Engineering \(IDETC/CIE\)](#), Buffalo, August 17-20 (Keynote Lecture, “[Ontological Engineering](#)”)
- Sep 2014 [Inaugural Conference of the World Interdisciplinary Network for Institutional Research \(WINIR\)](#), Old Royal Naval College, Greenwich, London, September 12 (Keynote address: “[From Speech Acts to Document Acts: An Ontology of Institutions](#)”).
BISC Site Visit / External Advisory Board Meeting, Rockville, MD, September 18 (“The Role of Ontology in the ImmPort Project”, on-line presentation)
[Formal Ontology in Information Systems \(FOIS\)](#), Rio de Janeiro, September 21-25 (“[The Fifth Cycle of Philosophy: Eulogy for Nicola Guarino](#)”; “[Applying the Realism-Based Ontology-Versioning Method for Tracking Changes in the Basic Formal Ontology](#)”, with Selja Seppälä)
- Oct 2014 [International Conference on Biomedical Ontology \(ICBO\), Houston, TX](#), October 8-11 (MedDRA technical workshop and panel; “Creating a MedDRA ontology”; NASA Panel, “The Ontology for General Medical Science”; Presentation: “[Data Wrangling Clinical Research Datasets using Ontology and Referent Tracking](#)”, with Werner Ceusters; Lightning talk: “[Ontological Representation of CDC Active Bacterial Core Surveillance Case Reports](#)”)
[Truth, Image, Normativity](#), University of Cagliari, Sardinia, October 21-26 (“[The Division of Deontic Labor](#)”)
- Nov 2014 [Semantic Technology for Intelligence, Defense and Security](#) (STIDS 2014), George Mason University, Fairfax, VA, November 18-20 (“A Computational Framework for Living Plan Specification, Execution and Evaluation” (with Erik Thomsen); “[An Ontological Approach to Territorial Disputes](#)” (with Neil Otte and Brian Donohue); Panel: Semantics for Collaboration (“[Collaboration Through Military Doctrine](#)”))

- Leveraging Standards and Ontologies to Improve HIPC Data Submission and Analysis, National Institute of Allergy and Infectious Diseases (NIAID), Rockville, MD, November 19 ([“Leveraging Ontologies for Human Immunology Research”](#))
- Dec 2014 NCBO SAB Meeting, Stanford, CA, December 3 (“NCOR Dissemination”; Panel: “Lessons from the Past 10 Years”)
- Feb 2015 United Nations Environment Program, New York, Feb 27-Mar 1, Senior Expert Meeting on Ontology of Indicators for Sustainable Development (“Environment Ontology and Ecosystems: Basic Examples”)
- Mar 2015 Internet of Things: Toward Smart Networked Systems and Societies. Ontology Summit 2015. [Beyond Semantic Sensor Network Ontologies](#), March 5 (“[Ontology of Sensors: Some Examples from Biology](#)”)
- Apr 2015 American Philosophical Association, Pacific Division Meeting, Vancouver, BC, Canada, April 2 (“[Towards an Ontology of Philosophy](#)”)
[Philosophy as Science: A Key Idea of the 19th Century](#), Utrecht, Netherlands, April 9 (Keynote address: “[Metaphysics after Darwin](#)”)
Advanced Defense Studies Institute, Italian Ministry of Defense, Rome, April 24 (“New Foundations for Military Ethics”)
- May 2015 HIMA Imaging Science Workshop, Pathology Informatics 2015, Pittsburgh, May 5 (“[An Introduction to Biomedical Ontology for Imaging Informatics](#)”)
Briefing on “Ontology for Military Doctrine”, Department of Defense Training and Doctrine Command (TRADOC), May 11, Pentagon, Washington, DC
[The Role of Ontology in Big Cancer Data](#), National Cancer Institute, Bethesda, MD, May 12-13 (“[The Cancer Ontology Landscape](#)”)
United Nations Environment Programme, New York, May 16-18, Senior Expert Meeting on Ontology of Indicators for Sustainable Development (“The SDG Ontology Framework”)
[Medical Informatics Europe, Madrid, Spain](#), May 27-31 (Lecture: “Biomarkers in the Ontology for General Medical Science”; Panel: “[Basic Formal Ontology Meets Critics](#)”)
- Jun 2015 Joint CUBRC / Air Force Research Laboratory, Wright Patterson Air Force Base IT Summit, June 25 (“BFO and the Joint Doctrine Formalization Initiative”)
- Jul 2015 Workshop on the Ontology of Chemistry, Department of Chemistry, University of Southampton, United Kingdom, July 20 (“Introduction to BFO and OBI”; “Building a Chemical Image Ontology”)
[Taking Pregnancy Seriously in Metaphysics: The Foetus and The Maternal Organism](#), University of Southampton, United Kingdom, July 21 (“[Embryontology](#)”)
International Conference on Biomedical Ontology (ICBO), Lisbon, Portugal, July 27-31 (“[Aboutness: Towards Foundations for the Information Artifact Ontology](#)” with Werner Ceusters)
- Aug 2015 [Bioethics and Philosophy of Medicine](#), 2015 PANTC Conference, July 30-August 1 (“[The Emotion Ontology](#)”)
INCITS/DM32.8 Meeting, August 24 (“[On the Need for a Common Standard Upper Ontology](#)”)
Air Force Research Lab – Navy Distributed Operations Summit, August 26 (“[Joint Ontology](#)”)
[Federal Big Data Working Group](#) (on-line presentation), August 31 (“[Building Ontologies with Basic Formal Ontology](#)”)
- Sep 2015 Briefing to Joint Doctrine Staff, Pentagon, September 4 (“Joint Doctrine Ontology”)
[Information Meeting on Joint Doctrine Ontology](#), Multi-Agency Collaborative Environment (MACE) Center, Herndon, VA, September 16-17 (“Addressing DoD information and

- coordination needs”)
- BISC Site Visit / External Advisory Board Meeting, University of California at San Francisco, CA, September 18 (“ImmPort Ontology Update”)
- [Ontology in Practice: Fourth Clinical and Translational Science Ontology Workshop](#), Charleston, SC, September 23-25 (“[FHIR and Ontology](#)”)
- Oct 2015 [HelsIT: Health Information Technology](#), Trondheim, Norway, October 20 (Keynote lecture: “[The Glory and Misery of Electronic Health Records](#)”)
- Nov 2015 [Symposium on Military Codes of Ethics](#), University at Buffalo, November 2 (“Building an Ethical Warfighter”)
- [Planteome Curation Workshop: Ontology Curation and Data Annotation](#), Oregon State University, Corvallis, November 9-10 (“What do plant scientists need ontologies for?” and “Trait Ontology: Introductory discussion”)
- International Standards Organization (ISO) Committee on MetaData Standards, National Cancer Institute, Bethesda, MD, November 18 (“Common Ontology Standards”)
- [Semantic Technology for Intelligence, Defense and Security](#) (STIDS 2015), George Mason University, Fairfax, VA, November 18-20 (“Joint Doctrine Ontology: A Benchmark for Military Information Systems Interoperability”)
- 56th Joint Doctrine Planning Conference, Joint Warfighting Center, Suffolk, VA, November 5 (“Joint Doctrine Ontology: Interim Report”)
- Dec 2015 Digital Thread / Digital Twin Applications for Next Generation and Legacy Aerospace Systems and Engines, Kick-Off Meeting, Wright Brothers Institute, Dayton, OH, December 4 (“Ontology Development for Air Force Logistics”)
- [Federal Big Data Working Group](#) (on-line presentation), December 7 (“[Joint Doctrine Ontology](#)”)
- Jan 2016 [KAUST Research Conference on Computational and Experimental Interfaces of Big Data and Biotechnology](#), King Abdullah University of Science and Technology, Thuwal, Saudi Arabia, Jan 25-27 (“[The Glory and Misery of Electronic Health Records](#)”)
- Feb 2016 [Workshop on BFO and the Ontology of Deontic Entities](#), University of Florida School of Medicine, Gainesville, FL, February 17-19 (“[Developing a Framework of Ontologies for Social Entities](#)”)
- Apr 2016 [Completing the Model Based Development](#), Digital Manufacturing and Design Innovation Institute (DMDII) Technical Interchange Meeting, National Institute of Standards and Technology (NIST), Gaithersburg, April 11 (“[Coordinated Holistic Alignment of Manufacturing Processes \(CHAMP\)](#)”)
- May 2016 [Ontological Approaches to Sensor Data Analysis](#), National Center for Geographic Information and Analysis, Buffalo, NY, May 19-20 (“The Ontology of Sensors: A Critical Overview”)
- Jun 2016 57th Joint Doctrine Planning Conference, Joint Warfighting Center, Suffolk, VA, June 1-2 (“Joint Doctrine Ontology: Progress Report”)
- International Standards Organization (ISO/IEC JTC 1/SC 32/WG 2), Memphis, TN, June 14-15 (“Basic Formal Ontology: New Work Item Proposal”)
- Jul 2016 [Perspectives on Deontology from Early Phenomenology and Contemporary Philosophy. Workshop with Barry Smith](#), University of Geneva, July 6, 2016 (“[Deontology Ontology: Towards an Ontology of Deontic Entities](#)”) [Video](#)
- [9th International Conference on Formal Ontology in Information Systems](#) (FOIS 2016), Annecy, France, July 6-9 (“The Functions of Definitions in Ontologies”, with Selja Seppälä and Alan Ruttenberg; “[Permanent Generic Relatedness and Silent Change](#)”, with Niels Grewe and Ludger Jansen [winner of FOIS/IAOA Ontology Competition])
- [Bioethics and the Philosophy of Medicine](#), PANTC Conference, University at Buffalo, July

- 30 ([“The Metaphysics of the Embryo”](#))
- Aug 2016 [International Conference on Biological Ontology](#), Corvallis, OR, August 1-4 ([“The Ontology of the Organigram”](#), [“The United Nations Environment Program Sustainable Development Goals Ontology”](#), Panel: The Future of Ontology)
Addressing the Big Data Challenges of Pathology Imaging through Biomedical Ontology, National Cancer Institute, August 15 ([“Ontology and Quantitative Histopathology”](#), with Alan Ruttenberg)
- Sep 2016 [Clinical Terminology Shock and Awe](#), University at Buffalo, September 7-8 ([“Clinical Terminology: Shock and Awe”](#))
[Turbine Engine Technology Symposium](#) (TETS), Wright-Patterson AFB, Dayton, OH, September 12 ([“Propulsion Digital Thread/Digital Twin Spiral 0.1: Use of Ontology in Digital Thread”](#))
- Oct 2016 Intelligence Support to Command and Control Working Group (ISC2WG), Pentagon, October 12 ([“Joint Doctrine Ontology”](#))
Top-Level Ontologies, UB Ontology Group, October 21 ([“Proposed ISO Top Level Ontology Standard”](#))
[Big Data – Herausforderung für Wissenschaft und Gesellschaft](#), ZiF Zentrum for interdisziplinäre Forschung, Universität Bielefeld, October 25 ([“Die Datenwelt von Morgen”](#)) ([Video](#))
[Normative Drawings and Deontic Artifacts](#), University of Cagliari, Sardinia, October 27-28, 2016 ([“The Ontology of the Organigram”](#)) ([Video](#))
- Nov 2016 International Standards Organization (ISO) Committee on Metadata Standards, Oxford, UK, November 10 ([“Proposed Top Level Ontology Standard Parts 1 and 2”](#))
- Dec 2016 [First Industrial Ontology Foundry Workshop](#), Systems Integration Division, National Institute of Standards and Technology (NIST), Gaithersburg, MD, December 8 ([“How to Build the Industry Ontology Foundry”](#), [“Draft of a Product Lifecycle Management Ontology”](#)) (with Dimitris Kiritsis)
- Feb 2017 [The Metaphysics of Quantities](#), Istituto di Studi Filosofici, Facoltà di Teologia di Lugano, February 2-3 ([“Quantities as Fiat Universals”](#)) ([Video](#))
[FOUST Workshop on Foundational Ontologies](#), Bolzano, February 27-28 ([“BFO Ontology: An Overview”](#)) ([Video](#))
- Apr 2017 [Second Industry Ontology Foundry Workshop](#), National Institute of Standards and Technology (NIST), Gaithersburg, MD (Panel presentation: [“Comparing Upper Level Ontologies”](#))
- May 2017 [Ontology Summit 2017 Symposium](#), National Institute for Standards and Technology (NIST), Gaithersburg, MD, May 15-16 (Keynote address: [“The Industry Ontology Foundry”](#))
- June 2017 [Franz Brentano Centenary 1838–1917](#), University of Vienna, June 1 ([“Four Phases of Philosophy and Its Present State”](#))
International Standards Organization (ISO) Committee (JTC1/SC32/WG2) on Metadata Standards, Okayama, Japan, June 20 ([“Draft Top Level Ontology Standard, Parts 1 and 2”](#))

WORKSHOPS AND CONFERENCES ORGANIZED (SINCE 2012)

- Apr 2012 Ontology for the Intelligence Community, Training and Coordination Event for the US Army DSC Cloud, Aberdeen Proving Grounds, Aberdeen, MD, April 19-20, 2012
[First Clinical and Translational Science Ontology Workshop](#), National Center for Biomedical Ontology, Baltimore, MD, April 25-26, 2012
- May 2012 [Basic Formal Ontology and the Signature Discovery Ontology](#), UB Ontology Research Group and the Pacific Northwest National Laboratory, CUBRC, Buffalo, NY, May 1-2, 2012

- Jun 2012 [Immunology Ontologies and Their Applications in Processing Clinical Data](#), Workshop sponsored by the National Center for Biomedical Ontology, and by the Protein Ontology and Infectious Disease Ontology Consortia, Buffalo, NY, June 11-13, 2012.
- Jul 2012 [Towards an Ontology of Mental Functioning](#), Workshop organized in conjunction with the Third International Conference on Biomedical Ontology, Medical University of Graz, Austria, July 22, 2012
- Aug 2012 [Basic Formal Ontology 2.0 Preliminary Development Workshop](#), Center of Excellence in Bioinformatics and Life Sciences, National Center for Ontological Research. August 18-19
- Feb 2013 [Second Clinical and Translational Science Ontology Workshop](#), Orlando, FL, February 11-12, sponsored by the Translational Network of the University of Arkansas for Medical Sciences (with William Hogan and Melissa Haendel)
- Apr 2013 [Ontology for Information Integration: The Challenges of Big Data in Military, Security, and Intelligence Domains](#), NCOR Workshop, Buffalo, NY, April 18 (with Ron Rudnicki)
- May 2013 [Basic Formal Ontology 2.0 Development Workshop](#), National Center for Ontological Research, University at Buffalo, May 13-14
[PRO-PO-GO: Challenges of Ontology Coordination Across Organisms](#), Plant Ontology Consortium, Protein Ontology Consortium and National Center for Biomedical Ontology, May 15-16
- Sep 2013 [ImmPort Ontology Conference](#), NIAID Bioinformatics Integration Support Contract (BISC), Stanford University, September 4-5
- Oct. 2013 [Training and Strategy for ImmPort Data Submitters](#), Rho Federal Systems Division, Chapel Hill, NC, October 9-10
- June 2014 [Protein Ontology Workshop](#), Georgetown University, DC, June 18-19
[Ontology and Imaging Informatics; Third Clinical and Translational Science Ontology Workshop](#), University at Buffalo, NY, June 23-25
- Sep 2014 [Information Artifact Ontologies Workshop](#), co-located with [Formal Ontology in Information Systems 2014](#), Rio de Janeiro, September 22
- Oct 2014 [MedDRA and Ontology](#), Technical Workshop, [International Conference on Biomedical Ontologies](#), Houston, October 7
- May 2015 [The Role of Ontology in Big Cancer Data](#), National Cancer Institute, Bethesda, MD, May 12-13
- Sep 2015 [Information Meeting on Joint Doctrine Ontology](#), Multi-Agency Collaborative Environment (MACE) Fusion Center, Herndon, VA, September 16-17
[Ontology in Practice: Fourth Clinical and Translational Science Ontology Workshop](#), Charleston, SC, September 23-25 (with Jahid Obeid and William Hogan)
- Nov 2015 [Symposium on Military Codes of Ethics](#), University at Buffalo, November .
- Feb 2016 [Workshop on BFO and the Ontology of Deontic Entities](#), University of Florida School of Medicine, Gainesville, FL, February 17-19 (with William Hogan)
- May 2016 [Ontological Approaches to Sensor Data Analysis](#), National Center for Geographic Information and Analysis, Buffalo, NY, May 19-20 (with Ling Bian and Werner Kuhn)
- Sep 2016 [Clinical Terminology Shock and Awe](#), University at Buffalo, September 7-8 (with William Hogan)
- Apr 2017 [MatOnto Ontology Meetings](#), University at Buffalo, April 3-5.
- Aug 2017 [IAOA Summer Institute on Upper Ontologies](#), University of Toronto, August 8-11 (with Michael Grüninger, Stefano Borgo and Nicola Guarino)