

# Werner Ceusters

## Curriculum Vitae

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Department of Biomedical Informatics  
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**Languages:** Dutch, English, French

**Citizenship:** Belgium / USA

### Education

- MD in Medicine, Surgery and Obstetrics, State University of Ghent, 1977-1984.
- Royal Officers Academy, Belgian Army Medical Service, 1977-1990.
- MSc in Informatics and Software Engineering, Technical University of Ghent, 1987-1990.
- Board Certified in Neurology and Psychiatry, Belgium, 1990.
- Advanced Certificate in Knowledge Engineering, Babbage Institute for Knowledge and Information Technology, State University of Ghent, 1993.
- Board Certified in Management of Healthcare Data / Medical Informatics, Belgium, 2004.
- Certificate of Completion for the 2007 Fundamentals of the Bioscience Industry Program (Product development, Regulatory Affairs and The Business of Bioscience); Center for Biotechnology, State University of New York at Stony Brook, 2007.

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<sup>1</sup>For most recent version, see [http://www.referent-tracking.com/RTU/ceusters\\_vita.html](http://www.referent-tracking.com/RTU/ceusters_vita.html)

## Honors and Awards

- 1990 Egmond Prize for Medical Informatics (1990) (for automated observation scale for psychiatric in-patients).
- 1990 Dutch and Belgian Medical Informatics Conference Prize of the Belgian Society for Medical Informatics (for best paper and presentation).
- 1998 Flanders Technology International's '*Startup Company of the Year*' award.
- 2003 Frost and Sullivan Healthcare Information Technology and Life Sciences Product-of-the-Year Award (for LinkFactory biomedical ontology authoring system).
- 2008 *Outstanding Achievements in Research* Award, Department of Psychiatry, SUNY at Buffalo.
- 2008 Tenure as Full Professor, Department of Psychiatry, SUNY at Buffalo.
- 2009 '*VUB Leerstoel 2009-2010*' (Free University of Brussels – Distinguished Visiting Professor – Honorary Chair 2009-2010), Brussels, Belgium.
- 2010 Incentive Award of MITRE's Best Paper Awards 2010 for the paper *Janssen, Terry, Leo J. Obrst, and Werner Ceusters, 2010, "Ontologies, Semantic Technologies, and Intelligence," in Leo J. Obrst, Terry Janssen, and Werner Ceusters, eds., Ontologies and Semantic Technologies for Intelligence, Volume 213, Frontiers in Artificial Intelligence and Applications, Amsterdam, The Netherlands: IOS Press.*
- 2013 *Outstanding Contributions to Research* Award, Department of Psychiatry, SUNY at Buffalo.
- 2014 Best Paper Award offered by the National Center for Biomedical Ontology (NCBO) to *Ceusters W. Pain Assessment Terminology in the NCBO BioPortal: Evaluation and Recommendations*. International Conference on Biomedical Ontologies, ICBO 2014, Houston, Texas, Oct 6-9, 2014.
- 2017 2<sup>nd</sup> Best Paper Award for *Jarrar M, Ceusters W. Classifying process and Basic Formal Ontology*. International Conference on Biomedical Ontology (ICBO 2017), Newcastle upon Tyne, UK, Sept 13-15, 2017.

## Employment

- 1990-1991 Head of Department of Neuropsychiatry, Military Hospital Soest, Germany.
- 1990-1993 Consultant in Medical Informatics, Department of Psychiatry, University Hospital of Ghent.
- 1991-1999 Neuropsychiatrist, Queen Astrid Military Hospital of Brussels.
- 1998-2004 Founder, Chief Technical Officer, Director of R&D and Vice-President for Research of the company *Language & Computing nv* (Belgium and Philadelphia).
- 2004-2006 Executive Director, European Center for Ontological Research, Saarland University, Germany.
- 2006- Professor of Psychiatry, School of Medicine and Biomedical Sciences, Department of Psychiatry, SUNY at Buffalo NY, USA.

- 2006- Director, Ontology Research Group, New York State Center of Excellence in Bioinformatics and Life Sciences, Buffalo NY, USA.
- 2012-2020 Director of Research, Institute for Healthcare Informatics, SUNY at Buffalo, Buffalo NY, USA
- 2014- Professor of Biomedical Informatics, School of Medicine and Biomedical Sciences, Department of Biomedical Informatics, SUNY at Buffalo NY, USA.
- 2014- Chief, Division of Biomedical Ontology, Dept. of Biomedical Informatics, SUNY at Buffalo NY, USA.
- 2023- Affiliate Professor, Department of Philosophy, SUNY at Buffalo NY, USA.

## **Grants Awarded**

### ***1. Research projects funded by the European Union***

- 1991-1993 MIMI (COMETT-2 3042-Cb): Development of advanced courseware, applying optical disk and integrated imaging technologies to the management of medical records. PI. (20%, total funding: \$250,000)
- 1993-1995 MULTI-TALE (MLAP 93/04): Generation of MULTI-lingual specialised lexicons by using augmented TAgger-LEmmatizers. PI. (22%, total funding: \$400,000)
- 1993-1995 MEDIREC (A2103): Concerted Action on the Electronic Medical Record. Co-PI. (20%, total funding: \$180,000)
- 1994-1995 DOME (MLAP 63-211): Document Management in Healthcare Informatics Systems. Co-PI. (10%, total funding: \$100,000)
- 1993-1996 ANTHEM (LRE 62-007): Advanced Natural Language Interface for Multilingual Text Generation in Healthcare. PI. (20%, total funding: \$700,000)
- 1995-1999 GALEN-IN-USE (HC 1018 HC): development of a large scale medical terminologic knowledge base. Co-PI. (2%, total funding: \$2,400,000)
- 1996-1999 ToMeLo (HC 3108 HC): Implementing the Missing Link; Towards a Strategic Alliance between Developers of Medical Terminology and Health Care Record Systems. PI. (30%, total funding: \$50,000)
- 1996-1999 PROREC (HC 1110 HC): Promotion Strategy for European Electronic Healthcare Records. Co-PI (20%, total funding: \$650,000)
- 1998-2000 SELECT (RE-4008): Intelligent Document Filtering. Co-PI. (7%, total funding: \$210,000)
- 2000-2002 C-CARE (IST-1999-10217). Development of a medical voice-server to access web-pages by means of the phone. Co-PI (1%, total funding: \$1,600,000)
- 2001-2003 LIQUID (IST-2000-25324): Language Independent Querying for Information Discovery. Co-PI. (10%, total funding: \$1,000,800)
- 2001-2003 Mobi-dev (IST-2000-26402): Mobile devices for healthcare. Co-PI. (6%, total funding: \$2,100,000)

2001-2004	HOMEY (IST 2001-32434): Home Monitoring through Intelligent Dialog System. Co-PI. (7%, total funding: \$2,600,000)
2001-2004	OntoWeb (IST-2000-29243): Ontology-based information exchange for knowledge management and electronic commerce. PI for StarLab-L&C subcontract (2%, total funding: \$2,150,000).
2002-2004	FF-POIROT (IST-2001-38248) Financial Fraud Prevention-Oriented Information Resources using Ontology Technology. Co-PI. (5%, total funding: \$2,000,000)
2001-2004	INFACE (IST-2001-38187) Advanced Visual InterFACEs for timely Retrieval of Patient Related Information. Co-PI. (6%, total funding: \$2,600,000)
2004-2006	SEMANTICMINING (NoE 507505). Semantic Interoperability and Data Mining in Biomedicine. Co-PI. (8%, total funding: \$5,800,000)
2005-2006	KnowledgeWeb (EU-IST-2004-507482) Co-PI. (0.1%, total funding: \$6,000,000)
2006	ACGT (IST-2005-026996): Advancing Clinico-Genomic Clinical Trials on Cancer. Co-PI. (1.7%, total funding: \$13,800,000)
2006-2007	RIDE (027065): Roadmap for Interoperability of eHealth Systems. Co-PI (12.0%, total funding: \$1,400,000)
2010-2011	ARGOS -eHealth: Transatlantic Observatory for Meeting Global Health Policy Challenges through ICT-enabled Solutions. co-PI for subcontract at UB.

## ***2. Regional funded research projects***

1996-1999	PATIENT & DOSSIER: feasibility study for online access of patients to their medical record. IWT (Flemish Institute for the Promotion of Scientific and Technological Research). Co-PI. (8%, total funding: \$400,000)
1999-2002	ACAMED: Automatic Content Analyser for Medical Documents. IWT (Flemish Institute for the Promotion of Scientific and Technological Research) PI (100%, total funding: \$550,000)
2000-2004	PharmaSpeech: Automated analysis of dictated pharmact prescriptions. IWT (Flemish Institute for the Promotion of Scientific and Technological Research). Co-PI (20%, total funding: \$250,000)
2002-2004	SCOP IWT (Grant 020020): Semantic Connection of Ontologies to Patient Data. PI (100%, total funding: \$450,000)
2008-2010	Ontology for Risks against Patient Safety (PI for local subcontract at UB: \$191,897)

## ***3. US funded research projects***

2006 – 2009	Referent Tracking Unit. Startup grant from the NYS Center of Excellence in Bioinformatics & Life Sciences. PI. (100%, total funding: \$450,000)
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2007 – 2010	UB Task force for Ontology-based IT Support for Large Scale Field Studies in Psychiatry. PI (100%, total funding from John R. Oishei Foundation: \$148,328)
2009 – 2014	Medication Management Research Network. co-PI (total funding from anonymous donor: \$880,000)
2009 – 2011	Realism-based versioning for biomedical ontologies. PI (total funding: \$285,300 from the National Library of Medicine, NIH)
2009	Biometrics Upper Ontology (CUBRC, Inc.)
2009	U-Core SLX Biometrics (CUBRC, Inc.)
2009	Command & Control Core Ontology (CUBRC, Inc)
2010 – 2012	ISTARE: Intelligent Spatio-Temporal Activity Reasoning Engine. co-PI (DARPA and Army Research Laboratory, W911NF-10-2-0062, total funding: \$2,208,368)
2011 – 2014	OPMQoL: An ontology for pain and related disability, mental health and quality of life. PI (total funding: \$793,571 from the National Institute of Dental and Craniofacial Research, NIH)
2014 – 2015	Planning Grant to Produce a Road Map to the Creation of the SUNY-Wide Centralized “Big Data” Repository (CIDR) of SUNY Electronic Health Record Data. Co-PI, \$149,912 from SUNY Research Foundation.
2015 – 2019	Clinical and Translational Science Award. Co-PI, (total funding: \$16,000,000; 10% effort)
2017	Identifying clinical and logical shortcomings in SNOMED CT. PI (Department of Veterans Affairs, VA-IPA-Werner Ceusters, Award# 80307, Project# 1144333, total funding: \$10,775 (one month), 45% effort)
2018	Identifying clinical and logical shortcomings in SNOMED CT. PI (Department of Veterans Affairs, VA-IPA-Werner Ceusters, Award# 82013, Project# 18114806, total funding: \$19,513.86 (4 months), 20% effort)
2018 – 2019	SOLOR: SNOMED CT, LOINC and RxNorm. PI (Department of Veterans Affairs, VA-IPA-Werner Ceusters, Award# 83382, Project# 1151122, total funding: \$28,959.06 (6 months), 20% effort)
2020 – 2025	University of Buffalo Clinical and Translational Science Institute. NCATS Award UL1 TR001412. Co-PI, (total funding: \$21,700,000; 10% effort)
2023 – 2024	Traumatic Events and Injury: Etiologic Mechanisms for Temporomandibular Disorders. NIDCR 1R34DE033592-01. Co-I, (total funding: \$339,268; 5% effort)

## Teaching

### 1. Undergraduate courses

2006 - 2009	Discovery seminar on <i>Referent Tracking</i> , University at Buffalo.	Course director
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2008 - 2015	Discovery seminar on <i>Translational Pharmacogenomics: Linking Genetic Testing to Drug Treatment</i> , University at Buffalo.	Guest faculty
2016 - 2018	<i>New Frontiers in Biomedical Sciences: Everyday medicine</i> (BMS199). Jacobs School of Medicine and Biomedical Sciences, University at Buffalo.	Core faculty
2018 - 2020	<i>Biomedical Informatics: science and enabling technology</i> (BMI402). Jacobs School of Medicine and Biomedical Sciences, University at Buffalo.	Course director
2018 - 2020	<i>Biomedical Informatics Senior Capstone</i> (BMI494). Jacobs School of Medicine and Biomedical Sciences, University at Buffalo.	Course director
2019	<i>Collaborative Learning and Integrated Mentoring in the Biosciences (CLIMB) – Undergraduate Biomedical Informatics and Data Science (UBIDS)</i> . University at Buffalo.	Core faculty
2019 - 2023	<i>What is Biomedical Informatics?</i> (BMI199). Jacobs School of Medicine and Biomedical Sciences, University at Buffalo.	Core faculty
<b>2. Graduate courses</b>		
2010 - 2023	<i>Medical Informatics for 3rd year Medical Students</i> , School of Medicine and Biomedical Sciences, University at Buffalo.	Core faculty
2012 - 2013	<i>Problems in Ontology</i> . Master course PHI358, Department of Philosophy, University at Buffalo.	Core faculty
2013	<i>Ontological Engineering</i> . Dept of Industrial and Systems Engineering IE 500 and Dept of Philosophy PHI 598. University at Buffalo.	Guest faculty
2014	<i>Ontological Engineering</i> . Dept of Industrial and Systems Engineering IE 500, Dept of Computer Science CSE510, and Dept of Philosophy PHI 598. University at Buffalo.	Guest faculty
2015 -	<i>Survey of Biomedical Informatics</i> , Department of Biomedical Informatics BMI501. University at Buffalo.	Guest faculty
2016	<i>Research Methods</i> . Department of Biomedical Informatics BMI504. University at Buffalo.	Guest faculty
2016 -	<i>Biomedical Ontology</i> . Master course BMI508/PHI548, Departments of Biomedical Informatics and of Philosophy, University at Buffalo.	Course director for BMI

2016 -	<i>Mentored research rotations in biomedical informatics.</i> PhD course BMI710, Department of Biomedical Informatics, University at Buffalo.	Core faculty
2017 -	<i>Research Methods.</i> Master Course BMI504, Department of Biomedical Informatics. University at Buffalo.	Course director
2017 -	<i>Advanced Topics in Biomedical Ontology.</i> PhD Course BMI708, Department of Biomedical Informatics. University at Buffalo.	Course director
2017 -	<i>Biomedical Ontology Special Topics Elective.</i> Master/PhD Course BMI699, Department of Biomedical Informatics. University at Buffalo.	Course director
2018 -	<i>Biomedical Ontology.</i> Master course BMI508, Department of Biomedical Informatics, University at Buffalo.	Course director
2018 -	<i>Principles of Referent Tracking in Biomedical Informatics.</i> PhD course BMI714, Department of Biomedical Informatics, University at Buffalo.	Course director
2019 – 2021	<i>Fundamentals of Biomedical Research I.</i> PhD course BMS515, University at Buffalo.	Core faculty
2019 – 2021	<i>Fundamentals of Biomedical Research II.</i> PhD course BMS516, University at Buffalo.	Core faculty
2021 -	<i>Biomedical Informatics Thesis Research.</i> Master course BMI610, University at Buffalo.	Core faculty
2023 -	<i>Logic Programming for Biomedical Informatics,</i> Master course BMI521, University at Buffalo	Course director

### 3. Postgraduate courses

1989	Postgraduate Course in <i>Neurology</i> , University Hospital Gent, Belgium.	Faculty
2002	PhD Course on <i>representation formalisms for ontologies</i> , Copenhagen, Denmark.	Guest faculty
2004	<i>Advanced Graduate Certificate in Medical &amp; Health Informatics</i> , School of Informatics, University at Buffalo.	Guest faculty
2006 - 2013	<i>Advanced Graduate Certificate in Medical &amp; Health Informatics</i> (MHI501), School of Medicine and Biomedical Sciences, University at Buffalo.	Core faculty
2009 - 2010	Distinguished Visiting Professor, Lecture Series in <i>Ontology</i> , Free University of Brussels, Belgium.	Honorary Chair

2017

Clinical and Translational Science Institute  
(CTSI) Core Competencies Lectures in  
Biomedical Informatics, University at Buffalo.

Core faculty

#### 4. Lectures

1. *The implementation of medical knowledge in expert systems in neurology*. Postgraduate Course in Neurology, University Hospital Gent, Belgium, February 1989.
2. *Dropfoot, clinico-pathological aspects*. Postgraduate Course in Neurology, University Hospital Gent, Belgium, March 1989.
3. *An introduction to neural networks*. Postgraduate Course in Neurology, University Hospital Gent, Belgium, June 1989.
4. *Introduction to medical informatics*. Course on Medical Informatics for physicians, organized by Ely Lilly. St Truiden, Belgium, May, 1990.
5. *How to buy medical software*. Course on Medical Informatics for physicians organized by Ely Lilly. St Truiden, Belgium, June, 1990.
6. *Informatics for cardiologists*. Informatics training course for clinicians. Department of Medical Informatics, University of Leuven, Belgium, April 16, 1991.
7. *Natural Language Processing in Healthcare*. Continued Medical Education Workshop for MDs, Dendermonde, Belgium, October 28, 1999.
8. *Ontology management for NLU: the L&C approach*. Ph.D. Course on Representation Formalisms for Ontologies, Copenhagen Business School, Copenhagen, Denmark, October 30 - November 1, 2002.
9. *Realist Ontology for Electronic Patient Record Systems*. Guest lecture as part of the Advanced Graduate Certificate in Medical/Health Informatics, School of Informatics, SUNY at Buffalo. Buffalo, Health Sciences Library, UB South Campus, NY, September 15, 2004.
10. *Ontology for Natural language Processing*. Guest teaching at the University Hospital of Gent, Belgium, Master in Hospital Sciences, November, 2004.
11. *Realist Ontology for the Semantic Web: Applications in Biomedical Informatics*. Guest teaching at the University of Diepenbeek, Belgium, Master in Informatics. December, 2004.
12. *Introduction to Ontology*. Tutorial for Semantic Mining in Biomedicine 2005 (SMBM 2005), European Bioinformatics Institute, Hinxton, UK. April 10, 2005.
13. *Practical implementations of realism-based ontologies*. MIE 2005 Tutorial on Ontology Design, University of Geneva, Switzerland, August 28, 2005.
14. *Requirements for natural language understanding in referent-tracking based electronic health records*. Guest lecturing in the Computer Science Seminar Series, Free University of Bozen-Bolzano, Italy, December 6-7, 2005.
15. Training Course in Biomedical Ontologies. Dagstuhl, Germany, May 21-24, 2006. Lectures on 'Role of Terminologies and Ontologies in the Context of Electronic Health Records', 'Referent Tracking: The New Paradigm', and 'Ontology and the Future of Evidence-Based Medicine'.

16. *Reforming SNOMED CT through a Coherent Upper Level Ontology of Biomedical Reality*. Tutorial on Standards and Ontology. Medical Informatics Europe 2006 (MIE2006), Maastricht, The Netherlands, August 27, 2006.
17. *Ontology and the Future of Psychiatric Diagnosis*. Fall 2006 Public Lectures Showcase Series on *Ontology, Bioinformatics and the Life Sciences*. UB North Campus, Baldy Hall 101, Buffalo NY, USA, October 19, 2006.
18. *Difficult Problems, Easy Solutions: Referent Tracking in Biomedicine*. UB Discovery Seminar Program – Fall 2007 – UE 141 CC.
19. *Introduction to Medical Informatics (Part 1)*. UB Advanced Graduate Certificate Program in Medical/Health Informatics – Fall 2007 – MHI501.
20. *Ontology-based Research in eHealth*. Invited keynote lecture as Thought Leader for the World of Health IT 2007 Conference & Exhibition, Vienna, Austria, October 23, 2007.
21. *Introduction to Medical Informatics (Part 2)*. UB Advanced Graduate Certificate Program in Medical/Health Informatics – Spring 2008 – MHI502.
22. *Solving Crimes using Referent Tracking*. UB Discovery Seminar Program – Spring 2008.
23. *Ontology: Developing a Systematic Approach to Translational Pharmacogenomic Research Data Collection*. Lecture part of the course *Translational Pharmacogenomics: Linking Genetic Testing to Drug Treatment*, UB - C239, April 16, 2008.
24. *Advancing Translational Research in Psychiatry through Realism-based Ontology* – Grand Rounds in Psychiatry, University of Vermont, Burlington VT – August 15, 2008.
25. *Solving Crimes Using Referent Tracking* – UB Discovery Seminar Program – Fall 2008
26. *Advanced Graduate Certificate Program in Medical & Health Informatics* – Fall 2008.
27. *Introduction to Realism-based Ontology Development*. Tutorial organized by the European Institute for Health Records; University Hospital, Gent, Belgium – Jan 5, 2009.
28. *Solving Crimes Using Referent Tracking* – UB Discovery Seminar Program – Spring 2009.
29. *Advancing Translational Research in Psychiatry through Realism-based Ontology and Referent Tracking*. University Grand Rounds, UB, Buffalo NY – February 13, 2009.
30. *Ontology: Developing a Systematic Approach to Translational Pharmacogenomic Research Data Collection*. Lecture part of the course *Translational Pharmacogenomics: Linking Genetic Testing to Drug Treatment*, UB - C239, April 15, 2009.
31. *Introduction to Referent Tracking*. Tutorial co-located with the International Conference on Biomedical Ontology, Buffalo NY and part of the 2-day class *From Basic Formal Ontology to the Information Artifact Ontology* – July 22, 2009.
32. *Solving Crimes Using Referent Tracking* – UB Discovery Seminar Program – Fall 2009.
33. *Biomedical Ontologies: the State of the Art*. Tutorial at *Medical Informatics Europe 2009* (MIE 2009), Sarajevo, Bosnia and Herzegovina, August 30 - September 2, 2009.
34. *Introduction to Medical Informatics (Part 1)*. UB Advanced Graduate Certificate Program in Medical/Health Informatics – Fall 2009 – MHI501.
35. *Principles of Referent Tracking and its application in biomedical informatics*. Rochester Clinical & Translational Research Curriculum Seminar Series, University of Rochester Medical Center, NY - October 20, 2009.

36. *Ontology: Developing a Systematic Approach to Translational Pharmacogenomic Research Data Collection*. Lecture part of the course *Translational Pharmacogenomics: Linking Genetic Testing to Drug Treatment*, UB - C239, April 7, 2010.
37. *Ontology for Ontologies: theory and applications*. Lecture series at the Free University of Brussels as Distinguished Visiting Professor – Honorary Chair 2009-2010, May 17-21, 2010, Brussels, Belgium.
38. *Foundations for a Realist Ontology of Mental Disease*. Academic Development Symposium, Department of Psychiatry, UB, August 25, 2010.
39. *Introduction to Medical Informatics (Part 1)*. UB Advanced Graduate Certificate Program in Medical/Health Informatics – Fall 2010 – MHI501.
40. *Defining Mental Disease*. Lecture as part of PHI548 - Biomedical Ontology, Philosophical Aspects of Health and Disease. University at Buffalo, October 18, 2010.
41. *Terminology and Ontology Challenges*. Informatics sessions for year-3 medical students, University at Buffalo, Dec. 13, 2010.
42. *Ontology: Developing a Systematic Approach to Translational Pharmacogenomic Research Data Collection*. Lecture part of the course *Translational Pharmacogenomics: Linking Genetics Research to Drug and Diagnostics Development and New Treatment Approaches*, 186569/SS1, February 9, 2011.
43. *Spatiotemporal Reasoning in Referent Tracking Systems: Why Is It So Hard?* Spring 2011 Colloquia of the UB Center for Cognitive Science, University at Buffalo, February 16, 2011.
44. *Foundations for an Ontology of Mental Disease*. Psychiatry Grand Rounds. BPC - Auditorium, Rehabilitation Building, Buffalo Psychiatric Center, 8:00 am - 9:30 am, April 1, 2011.
45. *Improving Structured Electronic Health Record Data through Ontological Realism*. Tutorial as part of the International Conference on Biomedical Ontology, ICBO 2011, Buffalo NY, July 26-30, 2011.
46. *Ontological Realism for Biomedical Ontologies and Electronic Health Records*. Tutorial as part of the Medical Informatics Europe Conference, MIE 2011, Oslo, Norway, August 28-31, 2011.
47. *Introduction to Medical Informatics (Part 1)*. UB Advanced Graduate Certificate Program in Medical/Health Informatics – Fall 2011 – MHI501.
48. *Improving Structured Electronic Health Record Data for Secondary Research*. Informatics sessions for year-3 medical students, University at Buffalo, Dec. 12, 2011.
49. *How to Overcome the Lack of Data Interoperability and Data Quality*. Lecture as part of *Utilization of Electronic Health Record (EHR) Data for Clinical Research*, short pre-conference course for the 3rd Annual Summit for Clinical Trials Operations Executives (SCOPE), Miami, FL, February 6, 2012.
50. *Ontologies for the bio-science industry: development and use*. Short course at the Molecular Medicine Tri-Con 2012 conference, San Francisco, CA, February 20, 2012.
51. *Pain and Mental Health: a Case-Study in Information Driven Research*. Lecture as part of the Core Curriculum in Clinical And Translational Research Seminar Series, Buffalo, NY, February 22, 2012.

52. *Ontology: Developing a Systematic Approach to Translational Pharmacogenomic Research Data Collection*. Lecture part of the course Translational Pharmacogenomics: Linking Genetics Research to Drug and Diagnostics Development and New Treatment Approaches, 19975/SS1, April 18, 2012.
53. *Realism-Based Ontology for Integrating Individually Compiled Biomedical Data Repositories*. 3-Hour tutorial as part of the Medical Informatics Europe Conference (MIE 2012), Pisa, Italy, August 26, 2012.
54. *Referent Tracking: focus on particulars*. Lecture for PHI 531 Problems in Ontology, class 23893, University at Buffalo, Sept. 10, 2012.
55. *Ontology and Data Abstraction*. Lecture for the UB Advanced Graduate Certificate Program in Medical/Health Informatics *Introduction to Medical Informatics (Part 1)* – Fall 2012 – MHI501, University at Buffalo, Nov. 14, 2012.
56. *SNOMED and the UMLS: an Introduction to Biomedical Terminology*. Lecture for the UB Advanced Graduate Certificate Program in Medical/Health Informatics *Introduction to Medical Informatics (Part 1)* – Fall 2012 – MHI501, University at Buffalo, Nov. 14, 2012.
57. *Proposed definitions for the Information Artifact Ontology*. Lecture for PHI 531 Problems in Ontology, class 23893, and for Symposium on the Information Artifact Ontology: Part 2, University at Buffalo, Nov. 19, 2012.
58. *A Realism-Based Approach to the Evaluation of Ontologies*. Lecture for PHI 531 Problems in Ontology, class 23893, University at Buffalo, Dec. 3, 2012.
59. *Structured Electronic Health Records and Patient Data Analysis: Pitfalls and Possibilities*. Informatics sessions for year-3 medical students, University at Buffalo, Jan. 7, 2013.
60. *Ontological Perspectives on Data*. Informatics sessions for year-3 medical students, University at Buffalo, Jan. 11, 2013.
61. *Biomedical Ontology and Referent Tracking: Introduction to Basic Principles*. IADR Satellite Workshop on Orofacial Pain, March 20, 2013, Seattle, WA.
62. *Ontology: Developing a Systematic Approach to Translational Pharmacogenomic Research Data Collection*. Lecture part of the course Translational Pharmacogenomics: Linking Genetics Research to Drug and Diagnostics Development and New Treatment Approaches, 213118641, April 10, 2013.
63. *Referent Tracking: Use of Ontologies in Tracking Systems*. Lecture part of the course Ontological Engineering, Department of Industrial and Systems Engineering IE 500 and Department of Philosophy: PHI 598. SUNY at Buffalo, Sept. 23, 2013.
64. *Making Electronic Healthcare Record Data Useful for Research*. Informatics sessions for year-3 medical students, University at Buffalo, Jan. 10, 2014.
65. *The principles of high quality ontology design*. Applied Mathematics Seminar, University at Buffalo, April 15, 2014.
66. *Ontology: Developing a Systematic Approach to Translational Pharmacogenomic Research Data Collection*. Lecture part of the course Translational Pharmacogenomics: Linking Genetics Research to Drug and Diagnostics Development and New Treatment Approaches, #17803, April 23, 2014.
67. *Referent Tracking: Use of Ontologies in Tracking Systems*. Lecture part of the course Ontological Engineering, Dept of Industrial and Systems Engineering IE 500, Dept of

- Computer Science CSE510, and Dept of Philosophy PHI 598. SUNY at Buffalo, Sept. 22, 2014.
68. *Ontology: Developing a Systematic Approach to Translational Pharmacogenomic Research Data Collection*. Lecture part of the course *Translational Pharmacogenomics: Linking Genetics Research to Drug and Diagnostics Development and New Treatment Approaches*, #17336, April 22, 2015.
  69. *Biomedical ontologies: current examples and a principled method for their enrichment and integration*. Lecture part of the course BMI501 (2159\_24752): *Survey of Biomedical Informatics*, Department of Biomedical Informatics, University at Buffalo, Oct 14, 2015.
  70. *Patient Data Analysis and Ontologies*. Informatics sessions for year-3 medical students, University at Buffalo, Jan. 7-8, 2016.
  71. *Ontological Realism in Research: Principles and Application*. Lecture for BMI504: Data Analysis, and Research Methods in Biomedical Informatics, University at Buffalo, April 6, 2016.
  72. *Ontology of Clinical Practice – The diagnostic process and the Ontology for General Medical Science (part 1: entities on the side of the patient)*. Lecture for BMI508/PHI548: Biomedical Ontology, University at Buffalo, September 12, 2016.
  73. *Ontology of Clinical Practice – The Ontology for General Medical Science (part 2: representations)*. Lecture for BMI508/PHI548: Biomedical Ontology, University at Buffalo, September 19, 2016.
  74. *Biomedical ontologies: current examples and a principled method for their enrichment and integration*. Lecture part of the course BMI501: *Survey of Biomedical Informatics*, Department of Biomedical Informatics, University at Buffalo, Oct 5, 2016.
  75. *Some principles for building ontologies*. Lecture for BMI508/PHI548: Biomedical Ontology, University at Buffalo, October 10, 2016.
  76. *e-Cigarettes and the International Classification of Diseases (ICD-10-CM)*. Recitation part of BMS199 (24536), *New Frontiers in Biomedical Sciences: Everyday medicine*, University at Buffalo, October 13, 2016.
  77. *Diagnosis, misdiagnosis, lucky guess, hearsay, and more*. Lecture for BMI508/PHI548: Biomedical Ontology, University at Buffalo, October 17, 2016.
  78. *Referent Tracking*. Lecture for BMI508/PHI548: Biomedical Ontology, University at Buffalo, October 24, 2016.
  79. *Medical Terminologies*. Lecture for BMI508/PHI548: Biomedical Ontology, University at Buffalo, November 7, 2016.
  80. *Perception and Reality*. Recitation part of BMS199 (24536), *New Frontiers in Biomedical Sciences: Everyday medicine*, University at Buffalo, November 10, 2016.
  81. *Introduction to SNOMED CT*. Lecture for BMI508/PHI548: Biomedical Ontology, University at Buffalo, November 14, 2016.
  82. *Internet of Things*. Lecture for BMI508/PHI548: Biomedical Ontology, University at Buffalo, November 21, 2016.
  83. *Patient Data Analysis and Ontologies*. Informatics sessions for year-3 medical students, University at Buffalo, Dec 19/22, 2016.
  84. *Fundamentals of Research - Introduction*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 1, 2017.
  85. *Philosophy of science and Ontology*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 8, 2017.

86. *Qualitative Research Methods: theory and data collection methods*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 15, 2017.
87. *Introduction to data analysis of quantitative and qualitative variables*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 22, 2017.
88. *Descriptive and elementary statistics*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, March 8, 2017.
89. *Mixed methods: integration of quantitative and qualitative methods*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, April 19, 2017.
90. *Systems and techniques for (1) representing biomedical data, and (2) information and knowledge in ontologies*. Lecture for BMI708: Advanced topics in Biomedical Ontology. University at Buffalo, August 31, 2017.
91. *Using ontology to analyze a domain*. Lecture in the CTSI Core Competency Biomedical Informatics Workshop Series, University at Buffalo, September 5, 2017.
92. *Structure of research data files; how to do it right and wrong*. Lecture in the CTSI Core Competency Biomedical Informatics Workshop Series, University at Buffalo, September 5, 2017.
93. *Biomedical Ontologies: what they are and what they should be*. Lecture in BMI501: Survey of Biomedical Informatics, Department of Biomedical Informatics, University at Buffalo, Oct 2, 2017.
94. *Using Referent Tracking for building ontologies*. Lecture for BMI708: Advanced topics in Biomedical Ontology. University at Buffalo, October 5, 2017.
95. *Psychiatric disorders and their (?) classification*. Lecture in BMS199: New Frontiers in Biomedical Sciences: everyday medicine, University at Buffalo, October 12, 2017.
96. *Perception and Reality*. Lecture in BMS199: New Frontiers in Biomedical Sciences: everyday medicine, University at Buffalo, October 19, 2017.
97. *Principles for ontology change management in biomedical information systems*. Lecture for BMI708: Advanced topics in Biomedical Ontology. University at Buffalo, October 26, 2017.
98. *Ontological principles for maximally explicit and self-explanatory data repositories*. Lecture for BMI708: Advanced topics in Biomedical Ontology. University at Buffalo, November 2, 2017.
99. *Biomedical Informatics*. Lecture in BMS199: New Frontiers in Biomedical Sciences: everyday medicine, University at Buffalo, November 14, 2017.
100. *Evolutionary ontology evaluation*. Lecture for BMI708: Advanced topics in Biomedical Ontology. University at Buffalo, November 16, 2017.
101. *e-Cigarettes and the International Classification of Diseases (ICD-10-CM)*. Lecture in BMS199, New Frontiers in Biomedical Sciences: Everyday medicine, University at Buffalo, November 30, 2017.
102. *Biomedical Ontology in action*. Lecture for IDM730, Biomedical Informatics Sessions. University at Buffalo. January 8 and 11, 2018.
103. *Introduction to principles of Referent Tracking in Biomedical Informatics*. Lecture for PhD course BMI714, Principles of Referent Tracking in Biomedical Informatics, University at Buffalo, January 29, 2018.
104. *Fundamentals of Research - Introduction*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 1, 2018.

105. *The Ontological Basis of Referent Tracking*. Lecture for PhD course BMI714, Principles of Referent Tracking in Biomedical Informatics, University at Buffalo, February 6, 2018.
106. *The value of Philosophy of Science and Ontology in biomedical research*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 8, 2018.
107. *Qualitative Research Methods: Theory and Data Collection Methods*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 15, 2018.
108. *Building Referent Tracking Systems*. Lecture for PhD course BMI714, Principles of Referent Tracking in Biomedical Informatics, University at Buffalo, February 20, 2018.
109. *Introduction to data analysis of qualitative and quantitative variables*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 22, 2018.
110. *Descriptive and elementary statistics*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, March 1, 2018.
111. *Representing negative findings in Referent Tracking*. Lecture for PhD course BMI714, Principles of Referent Tracking in Biomedical Informatics, University at Buffalo, March 2, 2018.
112. *Clinical Epidemiology (I): Research designs*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, March 15, 2018.
113. *Mixed methods: integration of quantitative and qualitative methods*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, March 29, 2018.
114. *Ontology and Information Engineering in the Healthcare Domain*. Lecture for BMI508/PHI598: Biomedical Ontology. University at Buffalo, September 17, 2018.
115. *Ontology of disease*. Lecture for BMI508/PHI598: Biomedical Ontology. University at Buffalo, September 24, 2018.
116. *Biomedical Ontology for Biomedical Informaticists*. Lecture for BMI501: Survey of Biomedical Informatics, Department of Biomedical Informatics, University at Buffalo, Sept 26, 2018.
117. *Using BFO relations in biomedical ontologies*. Lecture for BMI508: Biomedical Ontology. University at Buffalo, October 29, 2018.
118. *Using Referent Tracking for ontology development and use*. Lecture for BMI508: Biomedical Ontology. University at Buffalo, November 5, 2018.
119. *Principles for Change Management in Ontologies*. Lecture for BMI508: Biomedical Ontology. University at Buffalo, November 12, 2018.
120. *Biomedical Informatics*. Lecture for BMS199: New Frontiers in Biomedical Sciences: everyday medicine. 125 Kapoor Hall, University at Buffalo, November 13, 2018.
121. *Principles for upgrading to new (versions of) ontologies in biomedical information systems*. Lecture for BMI508: Biomedical Ontology. University at Buffalo, November 19, 2018.
122. *Evaluation of Ontologies*. Lecture for BMI508: Biomedical Ontology. University at Buffalo, November 26, 2018.
123. *e-Cigarettes and the International Classification of Diseases (ICD-10)*. Lecture for BMS199: New Frontiers in Biomedical Sciences: everyday medicine. University at Buffalo, November 29, 2018.
124. *Fundamentals of Science and Research*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, January 31, 2019.
125. *The Essence of Referent Tracking*. Lecture for BMI714: Principles of Referent Tracking. University at Buffalo, February 5, 2019.

126. *Bias*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 7, 2019.
127. *Parameters for Research Designs*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 14, 2019.
128. *Elements of Team Science*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 21, 2019.
129. *Data Collection Methods for Qualitative Research*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 28, 2019.
130. *Elements of Epidemiology*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, March 7, 2019.
131. *Introduction to data analysis of quantitative and qualitative variables*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, March 14, 2019.
132. *Referent tracking Tuples*. Lecture for BMI714: Principles of Referent Tracking. University at Buffalo, March 26, 2019.
133. *Descriptive and Elementary Statistics*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, March 28, 2019.
134. *Clinical Trial Designs*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, April 11, 2019.
135. *Mixed methods: Integration of quantitative and qualitative methods*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, April 18, 2019.
136. *Theoretical Aspects of Biomedical Ontology*. Lecture for CLIMB-UBIDS Summer 2019: Bio-informatics and Data Science Skills Course. University at Buffalo, July 17, 2019.
137. *Introduction to Referent Tracking Theory*. Lecture for the tutorial ‘An introduction to Referent Tracking’, ICBO 2019, July 30, 2019.
138. *Biomedical Informatics*. Lecture for BMI199: What is Biomedical Informatics? University at Buffalo, Sept 12, 2019.
139. *Being successful with assignments*. Lecture for BMI199: What is Biomedical Informatics? University at Buffalo, Sept 12, 2019.
140. *Perception and Reality*. Lecture for BMI199: What is Biomedical Informatics? University at Buffalo, Sept 19, 2019.
141. *‘Disorder’, ‘Disease’, ‘Sickness’, and ‘Illness’: is there a difference?* Lecture for BMI199: What is Biomedical Informatics? University at Buffalo, Sept 26, 2019.
142. *Clarity in medical language: terminologies and classification systems*. Lecture for BMI199: What is Biomedical Informatics? University at Buffalo, Oct 3, 2019.
143. *Biomedical Ontology for Biomedical Informaticists*. Lecture for BMI501: Survey of Biomedical Informatics, Department of Biomedical Informatics, University at Buffalo, Oct 9, 2019.
144. *Do mental disorders exist? Explorations through biomedical ontology*. Lecture for BMI199: What is Biomedical Informatics? University at Buffalo, Oct 10, 2019.
145. *Research in Biomedical Informatics: methods and techniques*. Lecture for BMI199: What is Biomedical Informatics? University at Buffalo, Oct 17, 2019.
146. *Biomedical Informatics I: The discipline of biomedical informatics*. Lecture for BMS515: Fundamentals of Biomedical Research I, University at Buffalo, Nov 20, 2019.
147. *Biomedical Informatics I: Data collection principles and ontology*. Lecture for BMS515: Fundamentals of Biomedical Research I, University at Buffalo, Nov 22, 2019.

148. *Biomedical Informatics I: How to structure data files*. Lecture for BMS515: Fundamentals of Biomedical Research I, University at Buffalo, Nov 25, 2019.
149. *Introduction to research and research proposals*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, January 30, 2020.
150. *Fundamentals of science and research*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 6, 2020.
151. *Types of Bias*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 13, 2020.
152. *Parameters for research designs*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 20, 2020.
153. *Planning of research projects*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 27, 2020.
154. *Qualitative research methods: theory and data collection methods*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, March 5, 2020.
155. *Introduction to data analysis of quantitative and qualitative variables*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, March 12, 2020.
156. *Elements of epidemiology*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, March 26, 2020.
157. *Descriptive and elementary statistics*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, April 2, 2020.
158. *Clinical trial design*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, April 16, 2020.
159. *Mixed methods: Integration of quantitative and qualitative methods*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, April 23, 2020.
160. *Fundamentals of research: quality of research proposals*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, April 30, 2020.
161. *Ontology and representational systems*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, September 2, 2020.
162. *What is an ontology?* Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, September 9, 2020.
163. *Biomedical Informatics as a discipline: technologies and applications*. Lecture for BMI199: What is Biomedical Informatics? University at Buffalo, September 10, 2020.
164. *Basic formal ontology: continuants*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, September 16, 2020.
165. *How to distinguish science from pseudoscience, and opinions from arguments?* Lecture for BMI199: What is Biomedical Informatics? University at Buffalo, September 17, 2020.
166. *Basic formal ontology: occurrents*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, September 23, 2020.
167. *Disorder, disease, illness, sickness: is there a difference? Introduction to biomedical ontology*. Lecture for BMI199: What is Biomedical Informatics? University at Buffalo, September 24, 2020.
168. *General principles for realism-based ontology development*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, September 30, 2020.
169. *Elements of epidemiology*. Lecture for BMI199: What is Biomedical Informatics? University at Buffalo, October 1, 2020.

170. *Relations in biomedical ontologies*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, October 7, 2020.
171. *Clarity in biomedical language I*. Lecture for BMI199: What is Biomedical Informatics? University at Buffalo, October 8, 2020.
172. *Using referent tracking for ontology development*. Lecture for BMI508: Introduction to Biomedical Ontology s. University at Buffalo, October 14, 2020.
173. *Clarity in biomedical language II*. Lecture for BMI199: What is Biomedical Informatics? University at Buffalo, October 15, 2020.
174. *Ontology for general medical science*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, October 21, 2020.
175. *Fallacies in argumentation*. Lecture for BMI199: What is Biomedical Informatics? University at Buffalo, October 22, 2020.
176. *Principles for change management in ontologies*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, October 28, 2020.
177. *Biomedical Ontology for Biomedical Informaticists*. Lecture for BMI501: Survey of Biomedical Informatics, Department of Biomedical Informatics, University at Buffalo, Oct 28, 2020.
178. *Informatics for outbreak detection*. Lecture for BMI199: What is Biomedical Informatics? University at Buffalo, October 29, 2020.
179. *Evaluation of ontologies*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, November 4, 2020.
180. *Basic evaluation techniques for artificial intelligence: FPR, TPR and ROC curves*. Lecture for BMI199: What is Biomedical Informatics? University at Buffalo, November 5, 2020.
181. *Ontology merging and matching*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, November 11, 2020.
182. *Wearable devices and the Internet of Things*. Lecture for BMI199: What is Biomedical Informatics? University at Buffalo, November 12, 2020.
183. *What makes a chemical compound a medicinal drug and why are they so expensive?* Lecture for BMI199: What is Biomedical Informatics? University at Buffalo, November 19, 2020.
184. *Biomedical Informatics I: The discipline of biomedical informatics*. Lecture for BMS515: Fundamentals of Biomedical Research I, University at Buffalo, Nov 30, 2020.
185. *Water quality reporting in Buffalo NY*. Lecture for BMI199: What is Biomedical Informatics? University at Buffalo, December 1, 2020.
186. *Biomedical Informatics II: Ontology and data gathering*. Lecture for BMS515: Fundamentals of Biomedical Research I, University at Buffalo, December 2, 2020.
187. *Axioms in ontologies*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, December 2, 2020.
188. *Is there a job market for biomedical informaticists?* Lecture for BMI199: What is Biomedical Informatics? University at Buffalo, December 3, 2020.
189. *Biomedical Informatics III: How to structure data files*. Lecture for BMS515: Fundamentals of Biomedical Research I, University at Buffalo, December 4, 2020.
190. *Introduction to research and research proposals*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 4, 2021.
191. *Fundamentals of science and research*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 11, 2021.

192. *Parameters for research designs*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 18, 2021.
193. *Planning of research projects*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 25, 2021.
194. *Types of Bias*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, March 4, 2021.
195. *Qualitative research methods: theory and data collection methods*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, March 11, 2021.
196. *Mixed methods: Integration of quantitative and qualitative methods*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, March 18, 2021.
197. *Introduction to data analysis of quantitative and qualitative variables*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, March 25, 2021.
198. *Elements of epidemiology*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, April 1, 2021.
199. *Descriptive and elementary statistics*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, April 8, 2021.
200. *Clinical trial design*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, April 22, 2021.
201. *Fundamentals of research: quality of research proposals*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, April 29, 2021.
202. *Principles of Realism-based Biomedical Ontology*. Lecture for the 2021 Biomedical Informatics Bootcamp, July 12 – August 26, University at Buffalo, July 14, 2021.
203. *Biomedical Informatics Research Methods*. Lecture for the 2021 Biomedical Informatics Bootcamp, July 12 – August 26, University at Buffalo, July 21, 2021.
204. *Gentle introduction to Logic, Prolog and BFO's axiomatization*. Lecture for BMI708: Advanced Topics in Biomedical Ontology. University at Buffalo, September 15, 2021.
205. *Biomedical Informatics as a discipline: technologies and applications*. Lecture for BMI199: What is Biomedical Informatics? University at Buffalo, September 17, 2021.
206. *Comparing BFO's, SNOMED CT's and ICD's basic ontological assumptions*. Lecture for BMI708: Advanced Topics in Biomedical Ontology. University at Buffalo, September 15, 2021.
207. *How to distinguish science from pseudoscience, and opinions from arguments?* Lecture for BMI199: What is Biomedical Informatics? University at Buffalo, September 24, 2021.
208. *Disorder, disease, illness, sickness: is there a difference?* Lecture for BMI199: What is Biomedical Informatics? University at Buffalo, October 1, 2021.
209. *Mixing BFO, OGMS and Snomed in Prolog representations*. Lecture for BMI708: Advanced Topics in Biomedical Ontology. University at Buffalo, October 6, 2021.
210. *Elements of epidemiology*. Lecture for BMI199: What is Biomedical Informatics? University at Buffalo, October 8, 2021.
211. *Clarity in language I*. Lecture for BMI199: What is Biomedical Informatics? University at Buffalo, October 15, 2021.
212. *SNOMED CT and the principles of the Information Artifact Ontology*. Lecture for BMI708: Advanced Topics in Biomedical Ontology. University at Buffalo, October 20, 2021.
213. *Clarity in language II – International Classification of Diseases*. Lecture for BMI199: What is Biomedical Informatics? University at Buffalo, October 22, 2021.

214. *Fallacies in argumentation*. Lecture for BMI199: What is Biomedical Informatics? University at Buffalo, October 29, 2021.
215. *Biomedical Ontology for Biomedical Informaticists*. Lecture for BMI501: Survey of Biomedical Informatics, Department of Biomedical Informatics, University at Buffalo, November 4, 2021.
216. *Informatics for outbreak detection and tracking*. Lecture for BMI199: What is Biomedical Informatics? University at Buffalo, November 5, 2021.
217. *Basic evaluation techniques for artificial intelligence: FPR, TPR and ROC curves*. Lecture for BMI199: What is Biomedical Informatics? University at Buffalo, November 12, 2021.
218. *Wearable devices and the Internet of Things*. Lecture for BMI199: What is Biomedical Informatics? University at Buffalo, November 19, 2021.
219. *Biomedical Informatics I: The discipline of biomedical informatics*. Lecture for BMS515: Fundamentals of Biomedical Research I, University at Buffalo, Nov 29, 2021.
220. *Biomedical Informatics II: Ontology and data gathering*. Lecture for BMS515: Fundamentals of Biomedical Research I, University at Buffalo, December 1, 2021.
221. *Biomedical Informatics III: How to structure data files*. Lecture for BMS515: Fundamentals of Biomedical Research I, University at Buffalo, December 3, 2021.
222. *What makes a chemical compound a medicinal drug and why are they so expensive?* Lecture for BMI199: What is Biomedical Informatics? University at Buffalo, December 3, 2021.
223. *Assessing the quality of BMI research papers*. Lecture for BMS516: Fundamentals of Biomedical Research II, University at Buffalo, December 6, 2021.
224. *The place of Referent Tracking in Ontological Realism*. Lecture for BMI714: Principles of Referent Tracking in Biomedical Informatics, University at Buffalo, February 1, 2022.
225. *Introduction to research and research proposals*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 3, 2022.
226. *Elements of logic useful for Referent Tracking*. Lecture for BMI714: Principles of Referent Tracking in Biomedical Informatics, University at Buffalo, February 8, 2022.
227. *Fundamentals of science and research*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 10, 2022.
228. *Approaches related to Referent Tracking: semantic web, linked data, knowledge graphs*. Lecture for BMI714: Principles of Referent Tracking in Biomedical Informatics, University at Buffalo, February 15, 2022.
229. *Parameters for research designs*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 17, 2022.
230. *Faithfulness to reality and second-hand information*. Lecture for BMI714: Principles of Referent Tracking in Biomedical Informatics, University at Buffalo, March 1, 2022.
231. *Bias*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, March 3, 2022.
232. *Implementing data structures for Referent Tracking tuples (1)*. Lecture for BMI714: Principles of Referent Tracking in Biomedical Informatics, University at Buffalo, March 8, 2022.
233. *Qualitative research methods: theory and data collection methods*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, March 10, 2022.
234. *Implementing data structures for Referent Tracking: Common mistakes found in assignments*. Lecture for BMI714: Principles of Referent Tracking in Biomedical Informatics, University at Buffalo, March 15, 2022.

235. *Mixed methods: Integration of quantitative and qualitative methods*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, March 17, 2022.
236. *Problem list management in EHRs: basics and problems*. Lecture for BMI714: Principles of Referent Tracking in Biomedical Informatics, University at Buffalo, March 29, 2022.
237. *Introduction to data analysis of quantitative and qualitative variables*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, March 31, 2022.
238. *Elements of epidemiology*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, April 7, 2022.
239. *Descriptive and elementary statistics*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, April 14, 2022.
240. *Clinical trial design*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, April 28, 2022.
241. *Elements of Logic for (biomedical) Ontologies*. Lecture for the 2022 Biomedical Informatics Bootcamp, July 11 – August 25, University at Buffalo, July 13, 2022.
242. *Principles of realism-based (biomedical) Ontologies*. Lecture for the 2022 Biomedical Informatics Bootcamp, July 11 – August 25, University at Buffalo, July 20, 2022.
243. *Biomedical Ontology for Biomedical Informaticists*. Lecture for BMI501: Survey of Biomedical Informatics, Department of Biomedical Informatics, University at Buffalo, September 15, 2022.
244. *Introduction to research and research proposals*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 2, 2023.
245. *Fundamentals of science and research*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 9, 2023.
246. *Parameters for research designs*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 16, 2023.
247. *Bias*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, March 2, 2023.
248. *Qualitative research methods: theory and data collection methods*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, March 9, 2023.
249. *Mixed methods: Integration of quantitative and qualitative methods*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, March 16, 2023.
250. *Introduction to data analysis of quantitative and qualitative variables*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, March 30, 2023.
251. *Elements of epidemiology*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, April 6, 2023.
252. *Descriptive and elementary statistics*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, April 13, 2023.
253. *Clinical trial design*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, April 27, 2023.
254. *Elements of Logic for (biomedical) Ontologies*. Lecture for the 2023 Biomedical Informatics Bootcamp, July 5 – August 21, University at Buffalo, July 26, 2023.
255. *Principles of realism-based (biomedical) Ontologies*. Lecture for the 2023 Biomedical Informatics Bootcamp, July 5 – August 21, University at Buffalo, July 27, 2023.
256. *Referent Tracking for Biomedical Informatics*. Lecture for the 2023 Biomedical Informatics Bootcamp, July 5 – August 21, University at Buffalo, August 14, 2023.

257. *Ontology and representational systems*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, August 30, 2023.
258. *What is an ontology?* Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, September 6, 2023.
259. *Basic Formal Ontology: continuants*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, September 13, 2023.
260. *Basic Formal Ontology: occurrents*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, September 20, 2023.
261. *General principles for realism-based ontology development*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, September 27, 2023.
262. *Relations in biomedical ontologies*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, October 4, 2023.
263. *Using Referent Tracking for ontology development*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, October 11, 2023.
264. *Biomedical Ontology for Biomedical Informaticists*. Lecture for BMI501: Survey of Biomedical Informatics, Department of Biomedical Informatics, University at Buffalo, October 12, 2023.
265. *Ontology for general medical science*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, October 18, 2023.
266. *Principles for change management in ontologies*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, October 25, 2023.
267. *Evaluation of ontologies*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, November 1, 2023.
268. *Ontology merging and matching I*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, November 8, 2023.
269. *Axioms in ontologies*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, November 29, 2023.
270. *Introduction to research and research proposals*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, January 25, 2024.
271. *Fundamentals of science and research*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 1, 2024.
272. *Parameters for research designs*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 8, 2024.
273. *Bias*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 22, 2024.
274. *Qualitative research methods: theory and data collection methods*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 29, 2024.
275. *Mixed methods: Integration of quantitative and qualitative methods*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, March 7, 2024.
276. *Introduction to data analysis of quantitative and qualitative variables*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, March 14, 2024.
277. *Elements of epidemiology*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, March 28, 2024.
278. *Descriptive and elementary statistics*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, April 4, 2024.

279. *Clinical trial design*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, April 11, 2024.
280. *Elements of Logic for (biomedical) Ontologies*. Lecture for the 2024 Biomedical Informatics Bootcamp, University at Buffalo, July 16, 2024.
281. *Principles of realism-based (biomedical) Ontologies*. Lecture for the 2024 Biomedical Informatics Bootcamp, University at Buffalo, July 17, 2024.
282. *Referent Tracking for Biomedical Informatics*. Lecture for the 2024 Biomedical Informatics Bootcamp, University at Buffalo, July 18, 2024.
283. *Ontology and representational systems*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, August 28, 2024.
284. *Logic Essentials for Understanding Prolog*. Lecture for BMI521: Logic Programming for Biomedical Informatics. University at Buffalo, August 28, 2024.
285. *What is an ontology?* Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, September 4, 2024.
286. *Basic Formal Ontology: continuants*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, September 11, 2024.
287. *Basic Formal Ontology: occurrents*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, September 18, 2024.
288. *General principles for realism-based ontology development*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, September 25, 2024.
289. *Relations in biomedical ontologies*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, October 2, 2024.
290. *Using Referent Tracking for ontology development*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, October 9, 2024.
291. *Ontology for general medical science*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, October 16, 2024.
292. *Biomedical Ontology for Biomedical Informaticists*. Lecture for BMI501: Survey of Biomedical Informatics, Department of Biomedical Informatics, University at Buffalo, October 17, 2024.
293. *Principles for change management in ontologies*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, October 23, 2024.
294. *Evaluation of ontologies*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, October 30, 2024.
295. *Ontology merging and matching I*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, November 6, 2024.
296. *Axioms in ontologies*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, November 20, 2024.
297. *Introduction to research and research proposals*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, January 23, 2025.
298. *Fundamentals of science and research*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, January 30, 2025.
299. *Parameters for research designs*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 6, 2025.
300. *Mixed methods: Integration of quantitative and qualitative methods*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 20, 2025.

301. *Introduction to data analysis of quantitative and qualitative variables*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, February 27, 2025.
302. *Clinical trial design*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, March 6, 2025.
303. *Qualitative research methods: theory and data collection methods*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, March 13, 2025.
304. *Types of Bias*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, March 27, 2025.
305. *Elements of epidemiology*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, April 3, 2025.
306. *Descriptive and elementary statistics*. Lecture for BMI504: Statistical data analysis and research methods. University at Buffalo, April 10, 2025.
307. *Ontology and representational systems*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, August 27, 2025.
308. *Logic Essentials for Understanding Prolog*. Lecture for BMI521: Logic Programming for Biomedical Informatics. University at Buffalo, August 29, 2025.
309. *What is an ontology?* Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, September 3, 2025.
310. *Basic Formal Ontology: continuants*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, September 10, 2025.
311. *Basic Formal Ontology: occurrents*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, September 17, 2025.
312. *General principles for realism-based ontology development*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, September 24, 2025.
313. *Relations in biomedical ontologies*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, October 1, 2025.
314. *Using Referent Tracking for ontology development*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, October 8, 2025.
315. *Ontology for general medical science*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, October 15, 2025.
316. *Principles for change management in ontologies*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, October 22, 2025.
317. *Evaluation of ontologies*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, October 29, 2025.
318. *Ontology merging and matching I*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, November 5, 2025.
319. *Axioms in ontologies*. Lecture for BMI508: Introduction to Biomedical Ontology. University at Buffalo, November 19, 2025.

## **5. Student and post-doc mentoring**

1. Köhler J. SEMEDA (Semantic Meta-Database): Ontology Based Semantic Integration of Biological Databases. PhD Thesis, Technischen Fakultät der Universität Bielefeld, Germany, 2003.

2. Jarrar M. Towards Methodological Principles for Ontology Engineering. PhD Thesis, Vrije Universiteit Brussel, Belgium, 2005.
3. Ning Yu. Semi-Supervised Learning For Identifying Opinions In Web Content. Thesis submitted to the faculty of the University Graduate School in partial fulfillment of the requirements for the degree Doctor of Philosophy in the School of Library and Information Science, Indiana University, April 2011.
4. Chiun yu Hsu. Effect of Obesity and Depression on ANS Reactivity in Asthma: A Neuro-Informatics Approach. University at Buffalo, Buffalo NY, USA, 2012 – 2014
5. Olivia Helfer. Towards an ontology for the International Classification of Headache Disorders. LIS 527 Special Project, Department of Library and Information Studies, University at Buffalo Graduate School of Education, 2013.
6. Paola Russo. PhD student, Biomedical Informatics Laboratory ‘Mario Stefanelli’, University of Pavia, Pavia, Italy, 2013 – 2015.
7. Winta Aklok. Information Technology Doctoral Program, Addis Ababa University, Addis Ababa, Ethiopia, 2013 – 2016.
8. Mark Jensen. PhD student in Biomedical Informatics, University at Buffalo, 2016 – 2017.
9. Alexander Cox. PhD student in Biomedical Informatics, University at Buffalo, 2016 – 2019.
10. Jonathan Blaisure. PhD student in Biomedical Informatics, University at Buffalo, 2016 – 2023.
11. Brian Donohue. PhD Student in Philosophy, University at Buffalo. Member of the PhD dissertation committee 2016 – 2019. PhD thesis: *Social Ontology and Social Normativity*. (Degree obtained 2019)
12. Isabella Lydia Ann Schember. PhD student in Biomedical Sciences, University at Buffalo, 2016 – 2017.
13. Rasmus Rosenberg-Larsen. PhD student in Philosophy, University at Buffalo. Member of the PhD dissertation defense committee, 2017 (Degree obtained 2017).
14. Ashley White. PhD student in Biomedical Sciences, University at Buffalo, 2017 – 2018.
15. Pearl Guerin. MSc student in Biomedical Informatics, University at Buffalo, Summer 2018.
16. Carlos Rosado-Ortiz. PhD student in Biomedical Informatics, University at Buffalo, 2018.
17. Sarah Mullin. PhD student in Biomedical Informatics, University at Buffalo, Member of the PhD dissertation defense committee, 2018 – 2021 (Degree obtained 2021).
18. Shyamashree Sinha. PhD student in Biomedical Informatics, University at Buffalo, 2018 – (Spring 2019).
19. Dominic Romero. Undergraduate student, CLIMB-UBIDS Undergraduate Program, University at Buffalo, Summer 2019.
20. Lauren Mabe Wishnie. PhD student in Biomedical Informatics, University at Buffalo, 2019 – 2023.
21. James Schuler. PhD student in Biomedical Informatics. Member of the PhD dissertation defense committee, 2019 – 2020 (Degree obtained 2020).
22. William Mangione, PhD student in Biomedical Informatics. Member of the PhD dissertation defense committee, 2021 – 2022 (Degree obtained 2022).

23. Scott Luan. PhD student in Philosophy, University at Buffalo. Member of the PhD dissertation defense committee, 2020 – 2024 (Degree obtained 2024).
24. Eric Merrell. PhD student in Philosophy, University at Buffalo. Member of the PhD dissertation defense committee (interim), 2020 - 2021.
25. Anuwat Pengput. PhD student in Biomedical Informatics, University at Buffalo, Member of the PhD dissertation defense committee, 2020 – 2024 (Degree obtained 2024).
26. Irshad Ally, MD. MSc student in Biomedical Informatics, University at Buffalo, 2021 - 2022.
27. Vanessa Nanevie. MSc student in Biomedical Informatics, University at Buffalo, 2022.
28. Michael Rabenberg. National Library of Medicine, University-based Biomedical Informatics and Data Science Research Training Program (T15) post-doctoral fellow awardee, 2023 – 2024.
29. Chi Hua Lu, PharmD. Research Scientist, Department of Pharmacy Practice, University at Buffalo. MSc student in Biomedical Informatics, 2023 - ...
30. Saha Udassi. MSc student in Biomedical Engineering, University at Buffalo, 2025 - ... . Member of the Dissertation Committee 2026.
31. Federico Donato. MSC student in Biomedical Informatics, PhD student in Philosophy, University at Buffalo, 2025 - ...

**6. Other mentoring and scholarly assistance (where publicly acknowledged)**

1. VISION Consortium. Next-Generation Knowledge Management; Deliverable D4.2 - Final Version of Strategic Roadmap. June 30, 2003.
2. Kerremans K, Temmerman Rita, Tummers J. Discussion on the Requirements for a Workbench supporting Termontography. In: Proceedings of the XIth Euralex International Congress 2004, 6-10 July, Lorient, France, p. 559-570.
3. Smith B and Fellbaum C. Medical WordNet: A New Methodology for the Construction and Validation of Information Resources for Consumer Health. COLING 2004, Geneva, Switzerland.
4. Johansson I. Qualities, Quantities, and the Endurant-Perdurant Distinction in Top-Level Ontologies. Althoff K-D et al (eds.) WM 2005 : Professional Knowledge Management Experiences and Vision. DFKI, Kaiserslautern 2005, 543-550.
5. Johansson I. Four Kinds of “Is\_A” Relations: genus-subsumption, determinable-subsumption, specification, and specialization. In Ingvar Johansson and Bertin Klein (Eds.) WSPI 2006: Contributions to the Third International Workshop on Philosophy and Informatics, Saarbrücken, May 3-4, 2006.
6. Smith B. From concepts to clinical reality: An essay on the benchmarking of biomedical terminologies. Journal of Biomedical Informatics 2006;39(3):288-298.
7. Simon J, Dos Santos M, Fielding J, Smith B. Formal ontology for natural language processing and the integration of biomedical databases. International Journal of Medical Informatics 2006;75(3-4):224-31.
8. Köhler J, Philippi S, Specht M, Rüegg A. Ontology based text indexing and querying for the semantic web. Knowledge-Based Systems 2006;19:744–754.

9. The Innovative Medicines Initiative (IMI). Strategic Research Agenda: Creating Biomedical R&D Leadership for Europe to Benefit Patients and Society. Version 2.0, 15 Sept. 2006.
10. Munn K and Smith B. Applied Ontology, an Introduction. Ontos Verlag, Frankfurt, Paris, Lancaster, New Brunswick, 2008.
11. Arp R. Ontology: Not Just for Philosophers Anymore. *Practical Philosophy*, 2010;10:1:80-102.
12. Hastings J and Schulz S. Ontologies for human behavior analysis and their application to clinical data. *Int Rev Neurobiol*. 2012;103:89-107.
13. Smith B. Classifying Processes: An Essay In Applied Ontology. *Ratio (Oxf)*. 2012 Dec 1;25(4):463-488. doi: 10.1111/j.1467-9329.2012.00557.x. PMID: 23888086; PMCID: PMC3718480.
14. Russo P. The SMART-Amy Project: a Smart Guide towards the Diagnosis of Systemic Amyloidosis. Accepted for the Doctoral Consortium of the 14th Conference on Artificial Intelligence in Medicine (AIME 2013), Murcia, Spain, May 29, 2013.
15. Elkin PL, Beuscart-Zephir MC, Pelayo S, Patel V, Nohr C. The Usability-Error Ontology. Context Sensitive Health Informatics (CSHI 2013), Copenhagen, Denmark, August 17-18, 2013.
16. Smith B et al. IAO-Intel: An Ontology of Information Artifacts in the Intelligence Domain. Semantic Technology for Intelligence, Defense and Security (STIDS 2013), George Mason University Fairfax, 12 - 15 November, 2013.
17. Sugarman RC. Health Care Research in a Virtual World. Human Factors and Ergonomics Society 2014 International Symposium on Human Factors and Ergonomics in Health Care, Chicago, IL, March 17, 2014.
18. He Y, Sarntivijai S, Lin Y, Xiang Z, Guo A, Zhang S, Jagannathan D, Toldo L, Tao C and Smith B. OAE: The Ontology of Adverse Events. *Journal of Biomedical Semantics* 2014, 5:29.
19. Arp R, Smith B, Spear AD. Building ontologies with Basic Formal Ontology. MIT Press, 2015.
20. Aydede M. Defending the IASP Definition of Pain. *The Monist*, 2017;100(4):439-464.
21. Jansen L. Functions, malfunctioning and negative causations. In: Christian A., Hommen D., Retzlaff N., Schurz G. (eds) *Philosophy of Science. European Studies in Philosophy of Science*, vol 9. Springer, Cham, 2018:117-135.
22. Christian J. Stoeckert Jr., David L. Birtwell, Hayden Freedman, Mark A. Miller, Heather Williams: Transforming and Unifying Research with Biomedical Ontologies: The Penn TURBO Project. ICBO 2018.
23. Babcock S, Beverley J, Cowell LG, Smith B. The Infectious Disease Ontology in the Age of COVID-19. OSF Preprint: az6u5, 2020.
24. James Schuler. Rigorous Evaluation of Comparability and Fidelity of Drug Repurposing Technologies. PhD thesis, June 17, 2020.
25. Mullin S. Sending AI Algorithms to Medical School: Transfer Learning in Medicine Towards Enhanced Model Performance and Bias Reduction. ProQuest Dissertations Publishing, 2021. 28315014.

26. Pengput A. and Diehl A.D. Ontology Representation for Cholangiocarcinoma. ICBO 2022: International Conference on Biomedical Ontology.
27. Pengput A. and Diehl A.D. Development of Axiomatization for the Cholangiocarcinoma Ontology Using Common Logic Interchange Format. ICBO 2022: International Conference on Biomedical Ontology.
28. Vogt L. Extending FAIR to FAIRER: Cognitive Interoperability and the Human Explorability of Data and Metadata. January 2023. (<https://arxiv.org/ftp/arxiv/papers/2301/2301.04202.pdf>).
29. Schulz S, Case JT, Hendler P, Karlsson D, Lawley M, Cornet R, Hausam R, Solbrig H, Nashar K, Martínez-Costa C and Gao Y. SNOMED CT and Basic Formal Ontology –convergence or contradiction between standards? The case of “clinical finding”. *Applied Ontology -1* (2023) 1–31, IOS Press, DOI 10.3233/AO-230018.
30. Pengput, A., Diehl, A. Ontology development and use for cholangiocarcinoma risk factors and predictions: a term enrichment data analysis and machine learning classification. *J Biomed Semant* 17, 2 (2026). <https://doi.org/10.1186/s13326-025-00345-2>.

## Services to the Profession

### 1. University community services

- |             |   |
|-------------|---|
| 2006 - 2007 | Member of the <i>Promotions Policy Committee</i> of the School of Medicine and Biomedical Sciences of the University at Buffalo.  |
| 2006 - 2010 | Ad hoc Member of the <i>UBA IT Committee</i> , responsible for determining overall IT strategy for UBA Inc. as it relates to UBA, UB MD, and the Practice Plan relationships with affiliated hospitals. |
| 2007 - 2008 | Member of the <i>UB MD Project Team Electronic Healthcare Record Subcommittee</i> , charged to deliver a recommendation for a single EMR application to the Project Team for UB MD.                     |
| 2007 - 2010 | Member of UB’s <i>Research Computing Focus Group</i> .  |
| 2008 - 2010 | Member of the <i>HealthLink Research Subcommittee</i> .   |
| 2008 - 2011 | Member of the Project Team ‘ <i>Building an Electronic Health Record for Ambulatory Services</i> ’ within the Women and Children’s Hospital of Buffalo.   |
| 2008 - 2019 | Member of the <i>Research Forum</i> , Department of Psychiatry.   |
| 2009 - 2021 | Member of the <i>Bioinformatics and Biomedical Informatics Research Core Group</i> , NY State Center of Excellence in Bioinformatics & Life Sciences, Buffalo NY.                                       |
| 2009 - 2010 | Chair of the Clinical and Translational Data Warehouse Committee.   |
| 2009 - 2010 | Ad hoc member of the Academic Health Center (AHC) Curriculum Committee to assist in the development of an interprofessional (AHC) course in health informatics.   |
| 2009 - 2010 | Member of the search committee for Knowledge Management positions at the Department of Library and Information Studies, Graduate School of Education, SUNY at Buffalo.                                  |

- 2010 - 2013 Key Function Director *Clinical and Translational Ontology*, Clinical and Translational Science Awards.
- 2010 - 2011 Advisor to the UB Department of Library and Information Studies to obtain re-accreditation by the American Library Association.
- 2012 - 2013 Member of the search committee for a Chair for the Department of Biomedical Informatics, University at Buffalo.
- 2012 - 2019 Committee on Appointments, Promotion and Tenure, Department of Psychiatry, SUNY at Buffalo.
- 2013 - PhD Program Director for the UB Department of Biomedical Informatics.
- 2013 - 2021 Volunteer appointment, University at Buffalo Associates (UBA) Inc.
- 2014 - Alternate Member of the School of Medicine and Biomedical Sciences Faculty Council.
- 2014 - 2017 Member of the Ad Hoc Committee on Promotions to Clinical Ranks, School of Medicine and Biomedical Sciences.
- 2015 - 2019 Member of the Institutional Review Board, University at Buffalo.
- 2015 - 2016 Chair of the Ad Hoc Committee on Promotions to Clinical Ranks, School of Medicine and Biomedical Sciences.
- 2016 - 2021 Member of the Steering Committee of the UB PhD Program in Biomedical Sciences, Jacobs School of Medicine and Biomedical Sciences.
- 2016 - 2019 Alternate Member of the Admissions Committee of the UB PhD Program in Biomedical Sciences, Jacobs School of Medicine and Biomedical Sciences.
- 2018 Ad hoc member of the Ad Hoc Committee on Promotions to Clinical Ranks, School of Medicine and Biomedical Sciences.
- 2020 - Member of the Academic Integrity and Grievance Committee of the Department of Biomedical Informatics, Jacobs School of Medicine and Biomedical Sciences.

**2. Consultancies**

- 2005 Innovative Medicines Initiative (established the ontology requirements for the Knowledge Management Infrastructure)
- 2005 Roswell Park Cancer Institute (authored 120 page implementation plan to enable incorporation of structured clinical documentation into RPCI's Eclipsis Electronic Health Record System).
- 2005-2006 STARLab, Free University of Brussels.
- 2005-2006 NCBO: National Center for Biomedical Ontology.
- 2008-2010 National Eye Institute, NIH, Bethesda, MD, USA (assessing eyeGENE from a bioinformatics perspective).
- 2014-2015 The MITRE Corporation, consultant for the VistA Evolution GUI Research (VEGR) Scientific Merit Panel.

### ***3. Commissions and advisory boards***

- 1991-1992 Member, Belgian Ministry of Health Working Group on the Registration of Psychiatric Patients.
- 1991-1998 Member of RAMIT (Research in Advanced Medical Informatics and Telematics), research institute of the Department of Medical Informatics, University Hospital, Ghent.
- 1992-2004 Member, Management Board of the Belgian Society for Medical Informatics.
- 1992-1995 Mandated Expert in CEN\TC251\Project Team PT003 Model for the Representation of Semantics.
- 1992-2006 Expert in CEN/TC251/WG2, Healthcare Terminology, Semantics and Knowledge Bases.
- 1993-2006 Member, Belgian CEN/TC251 Mirror Group.
- 1993-1994 Convenor of MIM Special Interest Group on Evaluation of Medical Software.
- 1994-1995 Project Team Leader of CEN\TC251\PT017: Time Standards for Healthcare-Specific Problems (on successful termination authorized by CEN as European Standard EN 12381:2005 in 2005).
- 1994-1998 Member, Mental Health Standards Working Group of WHO, Division of Mental Health.
- 1994-1996 Member, MEDI Workgroup of BIRA (Belgisch Instituut voor Regeltechniek en Automatisering).
- 1994-1997 Co-founder and Member of the Management Board, MediBRIDGE NV (market leader for biomedical data exchange in Belgium).
- 1995-1997 Active member of the Working Group on Medical Telematics of the Belgian Ministry of Health.
- 1995-1998 Founder and President of PROREC-Belgium, National Centre for the promotion of electronic health records in Belgium.
- 1997-1998 Co-founder and Member, Board of Kermanog BV (Knowledge-based applications for healthcare, The Netherlands).
- 1997-2004 Member of the Board of the Galen Organization Ltd (UK).
- 1998-2006 Belgian Representative in ISO TC 215, WG2.
- 2001-2003 Co-Chair of Working Group 6, Medical Concept Representation, of the International Medical Informatics Association.
- 2002-2004 Member of the Industry Forum of SWSI (Semantic Web Services Initiative).
- 2002-2005 Member of the Advisory Board for ONTOBASIS, research project funded by the Flemish Government.
- 2002- Member of the Advisory Board of IFOMIS (Institute for Formal Ontology and Medical Information Science), Leipzig and Saarbrücken, Germany.
- 2005- Board Member of the Committee on Ontology for Healthcare Informatics of the US National Center for Ontological Research.
- 2006 - Member of the Advisory Board for the European Centre for Ontological Research.

- 2006-2010 Member of the Scientific Advisory Board of the European Union's Marie Curie Research Thematic Network "3D Anatomical Human" (3D anatomical functional models for the human musculoskeletal system).
- 2007-2010 Founding Member of the Ontology Outreach Advisory, an international organization for ontology promotion and certification.
- 2007-2010 Member of the Steering Committee for the New York State Medication Management Research Network.
- 2020 - 2021 Member of the Informatics Working Group in support of the Coordinated Registry Network for Temporomandibular Disorders (TMD/TMJ-CRN) of TMJ Association, Ltd.

***4. Offices held***

- 1993 - 1998 Secretary, Belgian Society for Medical Informatics.
- 1993 - 1996 Vice-President of the Postgraduates in Knowledge Technology (PKT) Alumnae Association.
- 1993 - 1995 International Secretary, AIM (Advanced Informatics in Medicine) Concerted Action on Medical Records.
- 1996 - 1999 International Secretary, EUROREC: Promotion Strategy for Electronic Healthcare Records.
- 1996 - 1999 Founding President, Belgian National Center for the Promotion of Electronic Health Records; member of the EUROREC association.
- 2007 - 2010 Chair, Healthcare & Life Sciences Chapter of the Ontology Outreach Advisory.
- 2010 - 2016 Member of the Steering Committee of the Buffalo Center for Clinical and Translational Research.

***5. Scientific Associations***

- 1988-2007 Member, Belgian Society for Medical Informatics.
- 1992-2006 Member, Belgian Association for Artificial Intelligence.
- 1994-2019 Member, International Medical Informatics Association (IMIA), Working Group 6 on Medical Concept Representation.
- 1994-2019 Member, European Federation for Medical Informatics (EFMI), Working Group 8 on Medical Natural Language Processing.
- 1997-2003 IEEE Full Member.
- 2006-2011 Member, American Medical Informatics Association (intermittently).

***6. Scientific program and organizing committees***

1. Organizer and coordinator of the Medical Section of the Fifth Multidisciplinary Symposium on Computers in Education, Research, and Medicine. University of Leuven, Belgium, October 27, 1990.

2. Organizer and coordinator of the Medical Section of the Sixth Multidisciplinary Symposium on Computers in Education, Research, and Medicine. Belgium 1991.
3. Session Chair, Medical Records and Departmental Systems of the Belgo-Dutch Medical Informatics Congress MIC 1991. Leuven, Belgium, Nov 10-11, 1991.
4. Co-organizer of the AIM-CEN European Workshop on the Medical Record, Brussels, Belgium, March 31-April 2, 1993.
5. President of the Organizing Committee and Member of the Program Commission of the Belgo-Dutch Medical Informatics Congress MIC 1993, Gent, Belgium, November 11-12, 1993.
6. Scientific Chair of the 2nd Introductory Workshop for the AIM Concerted Action on Medical Records of the European Union, Brussels, October 26, 1993.
7. Member of the Organizing Committee for the WHO/EFMI/AIM Working Conference on Case-Based Telematic Systems, Brussels, June 22-24, 1994.
8. Member of the Organizing Committee for AMICE 1995, Amsterdam.
9. Session Chair of the BIRA Symposium on Applications of Virtual Reality in Medicine, Antwerp, Belgium, November 19, 1994.
10. Session Chair, MIM Symposium on Health Telematics in Primary Care, Ostend, March 18, 1995.
11. Scientific Coordinator and Chair of the BIRA Symposium on Natural Language Processing in Medicine, Ghent, April 22, 1995.
12. Member of the Scientific and Program Committees of the First EMD-DMI Congress on Electronic Healthcare Records, Brussels, April 13-14, 1996.
13. Reviewer for MIE-96 (Medical Informatics Europe), Copenhagen, August 1996.
14. Member of the Organizing Committee of MIC-1996 (Medical Informatics Congress), Brussels, November 15, 1996.
15. Faculty Member of TEHRE'96, Towards an Electronic Healthcare Record Europe 1996, London, November 14-17, 1996.
16. Member of the Program Committee MIC 1997 (Medical Informatics Congress), Velthoven, The Netherlands.
17. Member of the Steering Committee for the 2nd European Workshop on the Electronic Healthcare Record, Thessaloniki, May 23-24, 1997.
18. Organizer of the PROREC-BE General Assembly Seminar, Zonnegem, Belgium, June 27, 1997.
19. Member of the Program Committee of EuroREC'97, 27-29/11/97, Paris, France.
20. Co-organizer of Electronic Medical Records Seminar, Belgian Ministry of Health, Brussels, June 27, 1998.
21. Reviewer for the MEDINFO 1998 Congress, Seoul, August 18-22, 1998.
22. Member of the Program Committee and Chair of the EuroRec'98 sessions of EPRIMP/EuroREC'98, October 7-10, 1998, Rotterdam, The Netherlands.
23. Member of the International Program Committee of ESEM 99, Fifth Conference of the European Society for Engineering and Medicine, May 30-June 2 1999, Barcelona, Spain.

24. Co-organizer and Session Chair, EUROREC 1999, Sevilla, May 6-7 1999.
25. Member of the Scientific Committee, Ms-HUGe 1999 Conference, Brugge, December 3-4, 1999.
26. Member of the Program Committee, EFMI Workshop on Natural Language Processing in Biomedical Applications, Nicosia, Cyprus, March 8-9, 2002.
27. Member of the Program Committee for OntoLex'02 : Ontologies and Lexical Knowledge Bases, Las Palmas, Spain, 27-28 May 2002.
28. Member of the Industry Program Board of Federated event co-locating DOA'02 (Distributed Objects and Applications), ODBASE'02 (Ontologies, Databases and Applied Semantics) and CoopIS '02 (Cooperative Information Systems), Irvine, California, October 30 - November 1, 2002.
29. Reviewer for ACM-SAC'03 (Symposium on Applied Computing) Special Track on Computer Applications in Health Care (COMPAHEC), Melbourne, Florida, USA, March 9-12, 2003.
30. Reviewer for MIE-2003 (Medical Informatics Europe), St. Malo, France May 4-7, 2003.
31. Co-organizer of the Workshop on Ontology for the Medical Domain, MIE-2003, St. Malo, France, May 5, 2003.
32. Session Chair for Knowledge Representation in Biomedical Terminology, MIE-2003, St. Malo, France, May 6, 2003.
33. Member of the Scientific Committee, Workshop on Reference Ontologies vs. Applications Ontologies during the 26th German Conference on Artificial Intelligence, the University of Hamburg, September 15-18, 2003.
34. Board Member of the Workshop: Industry Program Case Study: Best Practices and Industry Vision Reports, co-federated with DOA '03: Distributed Objects and Applications, ODBASE '03: Ontologies, Databases and Applied Semantics, and CoopIS '03: Cooperative Information Systems, Catania, Sicily, November 3, 2003.
35. Invited keynote-speaker for 2nd CoLogNET (Network of Excellence in Computational Logic) & ElsNET (Network of Excellence in Human Language Technologies) Symposium, December 18, 2003, Amsterdam, the Netherlands.
36. Member of Reviewing Committee for COMPAHEC (Computer Applications in Health Care) 2004, March 14-17, 2004, Nicosia, Cyprus.
37. Member of Program Committee of the OntoLex 2004, Workshop in Lisbon, Portugal, May 29, 2004.
38. Member of the Scientific Committee of Workshop on The Formal Architecture of the Gene Ontology, IFOMIS and Max Planck Institute, Leipzig, Germany, May 29, 2004.
39. Member of Program Committee of FOIS-2004 (International Conference on Formal Ontology in Information Systems), November 4-6, 2004 in Turin, Italy.
40. Co-Organizer of IMIA WG6 Conference Ontology and Biomedical Informatics, Rome, Italy, April 29-May 2, 2005.
41. Member of the Industry Forum Committee of the ESWC'05 Industry Forum 'Business applications of Semantic Web challenge Research', Iraklion, Crete, May 30, 2005.

42. Session Chairman for S21: Terminologies, ontologies, standards and knowledge engineering, MIE-2005, Geneva, Switzerland, August 30, 2005.
43. Member of the Program Committee of the ISWC Workshop ‘Semantic Web Case Studies and Best Practices for eBusiness (SWCASE05), Galway, Ireland, November 7, 2005.
44. Member of the Program Committee of the Australasian Ontology Workshop (AOW 2005), UTS, Sydney, Australia, December 6, 2005.
45. Chairman for the session Interoperability of Ontologies, Image Ontology Workshop, Stanford, USA, March 24-25, 2006.
46. Member of the Scientific Program Committee of the Workshop on Foundations of Clinical Terminologies and Classifications (FCTC 2006), Timișoara, Romania, April 8, 2006.
47. Member of the Program Committee of the Third International Workshop on Philosophy and Informatics (WSPI 2006), Saarbrücken, Germany, May 3-4, 2006.
48. Member of the Program Committee of the Semantic Mining Conference on SNOMED-CT (SMCS 2006), Copenhagen, Denmark, October 1-3, 2006.
49. Reviewer for the 11<sup>th</sup> World Congress on Internet in Medicine (MedNET 2006), Toronto, Canada, October 13-20, 2006.
50. Member of the Organizing Committee of the *1st International Workshop on Ontology content and evaluation in Enterprise* (With two tracks on Human Resources and eHealth) OnToContent'06, Montpellier, France, Oct 29 - Nov 3, 2006.
51. Member of the Program Committee of the *International Workshop on Knowledge Systems in Bioinformatics* (KSinBIT'06), Montpellier, France, Oct 29 - Nov 3, 2006.
52. Member of the Program Committee of *Formal Ontology in Information Systems 2006* (FOIS-2006), University of Maryland in Baltimore, USA, November 9-11, 2006.
53. Reviewer for *AMIA 2006 Annual Symposium*, Washington DC, USA, November 11-15, 2006.
54. Session chairman for the AMIA workshop ‘*Toward Genomics Knowledge Representation for Clinical Trials*’, Washington DC, USA, November 12, 2006.
55. Member of the Program Committee of the *Australasian Ontology Workshop AOW 2006*, Hobart, Tasmania, Australia, December 4-5, 2006.
56. Member of the Program Committee of the *2007 IEEE Workshop on Biomedical Applications for Digital Ecosystems* (BADE 2007), Cairns, Australia, February 20, 2007.
57. Session Chairman for the *Workshop on Clinical Trial Ontology*, May 16-17, 2007 at the NIH Campus in Bethesda, MD.
58. Member of the Program Committee of the *NETTAB 2007 Workshop on A Semantic Web for Bioinformatics: Goals, Tools, Systems, Applications*, Pisa, Italy, June 12-15, 2007.
59. Member of the Scientific Committee of *Ontology for the Intelligence Community II* (OIC II), Columbia, MD, November 27-28, 2007.
60. Member of the Organizing Committee of the *2nd International Workshop on Ontology content and evaluation in Enterprise* (With two tracks on Human Resources and eHealth) OnToContent'07, Albufeira, Portugal Oct 28 - Nov 2 2007.
61. Reviewer for *AMIA 2007 Annual Symposium*, Chicago IL, USA, November 10-14, 2007.

62. Member of the Program Committee of *Approaches and Architectures for Web Data Integration and Mining in Life Sciences* (WebDIM4LS), Nancy, France, December 3, 2007.
63. Member of the Program Committee of the *Australasian Ontology Workshop AOW 2007*, Gold Coast, Queensland, Australia, December 2-6, 2007.
64. Member of the Program Committee of the *2nd International Symposium on Languages in Biology and Medicine* (LBM 2007), Singapore, December 6-7, 2007.
65. Member of the Scientific Committee of *InterOntology08*, Tokyo, Japan, February 26-27, 2008.
66. Member of the Program Committee of *The International Workshop on Security and Privacy in e-Health* in conjunction with *The Third International Conference on Availability, Reliability and Security*, Polytechnic University of Catalonia, Barcelona, Spain, March 4th – 7th, 2008.
67. Member of the Program Committee of the *Fifth International Workshop on Philosophy and Informatics* (WSPI 2008), Kaiserslautern, Germany, April 1-2, 2008.
68. Member of the Program Committee of the *First international workshop on Identity and Reference on the Semantic Web* (IRSW2008) hosted by the *Fifth European Semantic Web Conference* (ESWC-08), Tenerife (Spain), June 1, 2008.
69. Member of the Program Committee of the *3rd Special Track on Ontologies for Biomedical Systems* for the *21<sup>st</sup> IEEE International Symposium on Computer-Based Medical Systems* (CBMS 2008), Jyväskylä, Finland, June 17-19, 2008.
70. Member of the Program Committee of the *Knowledge Representation Ontology Workshop* (KROW 2008), Sydney, Australia, September 16 - 19, 2008.
71. Member of the Program Committee of *Formal Ontology in Information Systems 2008* (FOIS-2008), Saarland University, Saarbrücken, Germany, October 31-November 3, 2008.
72. Reviewer for *AMIA 2008 Annual Symposium*, Washington DC, USA, November 8-12, 2008.
73. Co-organizer of the 6th international workshop on *Ontology Content in Enterprise* (OntoContent 2008) with Special Tracks on Web 3.0, Human Resources, and E-Health. Monterrey, Mexico, November 9 - 14, 2008.
74. Member of the Scientific Committee of the *Semantic Web Applications and Tools for Life Sciences* (SWAT4LS) workshop, UK National e-Science Center (NeSC), Edinburgh, UK, November 28, 2008.
75. Member of the International Program Committee of the Workshop *3D Physiological Human*, Zermatt, Switzerland, December 1-4, 2008.
76. Member of the Scientific Committee of *Ontology for the Intelligence Community 2008* (OIC 2008), Fairfax, Virginia, December 3-4, 2008.
77. Member of the International Scientific Committee of *InterOntology09*, Tokyo, Japan, February 27-March 1, 2009.
78. Member of the Program Committee of the workshop on *Identity and Reference in web-based Knowledge Representation* (IR-KR2009) co-located with the Twenty-first International Joint Conference on Artificial Intelligence (IJCAI-09), Pasadena, CA, July 11, 2009.

79. Member of the Scientific Committee and chairman of *Session 3: Disease Ontologies* of the *International Conference on Biomedical Ontologies* (ICBO), Buffalo, NY, July 23-26, 2009.
80. Reviewer for *Medical Informatics Europe 2009*, Sarajevo, Bosnia and Herzegovina, August 30 - September 2, 2009.
81. Member of the Program Committee of the workshop *Biomedical Information Extraction*, held in conjunction with the *International Conference on Recent Advances in Natural Language Processing* (RANLP 2009), Borovets, Bulgaria, 14-16 September 2009.
82. Member of the Technical Program Committee of the *Fourth Conference on Ontologies for the Intelligence Community* (OIC2009), George Mason University Fairfax, 21 - 23 October 2009.
83. Member of the Program Committee of the *Semantic Web Applications and Tools for Life Sciences* (SWAT4LS-09) workshop, Amsterdam, Science Park, November 20, 2009.
84. Member of the International Program Committee of the Workshop *3D Physiological Human*, Zermatt, Switzerland, November 29 – December 1, 2009.
85. Member of the Program Committee of the *Fifth Australasian Ontology Workshop* (AOW 2009), held in conjunction with the 22nd Australian Joint Conference on Artificial Intelligence (AI'09), Melbourne, Australia, December 1, 2009.
86. Member of the Program Committee of the sixth International Conference on *Formal Ontology in Information Systems* (FOIS 2010), Toronto, Ontario, Canada, May 11-14, 2010.
87. Member of the Scientific Committee of *Semantic Technology for Intelligence, Defense and Security* (STIDS 2010), George Mason University Fairfax, 27 - 28 October 2010.
88. Member of the Program Committee of the *Semantic Web Applications and Tools for Life Sciences* (SWAT4LS-2010) workshop, Berlin, Germany, December 10, 2010.
89. Member of the Program Committee of the *Sixth Australasian Ontology Workshop* (AOW 2010), held in conjunction with the 23rd Australian Joint Conference on Artificial Intelligence (AI 2010), Adelaide, Australia, December 7, 2010.
90. Member of the Scientific Committee of the *International Conference on Biomedical Ontologies* (ICBO-2011), Buffalo, NY, July 25-30, 2011.
91. Reviewer for *Medical Informatics Europe 2011*, Oslo, Norway, August 28 - 31, 2011.
92. Reviewer for the *AMIA 2011 Annual Symposium*, Washington, DC, October 22-26, 2011.
93. Member of the Scientific Program Committee of *Semantic Technology for Intelligence, Defense and Security* (STIDS 2011), George Mason University Fairfax, 15 - 18 November 2011.
94. Member of the Program Committee for the *Seventh Australasian Ontology Workshop 2011*, Perth, Western Australia, 5 December 2011.
95. Co-organizer of the *Workshop on Interoperability for Mental Functioning Ontologies*, International Conference on Biomedical Ontologies (ICBO-2012), Graz, Austria, July 22, 2012.
96. Member of the Program Committee of the *International Conference on Biomedical Ontologies* (ICBO-2012), Graz, Austria, July 22-25, 2012.

97. Member of the Program Committee of the seventh International Conference on *Formal Ontology in Information Systems* (FOIS 2012), Graz, Austria, July 25-27, 2012.
98. Reviewer for *Medical Informatics Europe (MIE) MIE 2012*, Pisa, Italy, August 26-29, 2012.
99. Member of the Scientific Program Committee of *Semantic Technology for Intelligence, Defense and Security* (STIDS 2012), George Mason University Fairfax, 23 - 26 October 2012.
100. Member of the Program Committee of the *Semantic Web Applications and Tools for Life Sciences* (SWAT4LS-2012) workshop, Paris, France, November 29, 2012.
101. Member of the Program Committee for the *Eight Australasian Ontology Workshop 2012*, Sydney, Australia, 4 December 2012.
102. Reviewer for *MEDINFO 2013*, Copenhagen, Denmark, August 20-23, 2013.
103. Member of the Scientific Program Committee of *Semantic Technology for Intelligence, Defense and Security* (STIDS 2013), George Mason University Fairfax, 12 - 15 November, 2013.
104. Member of the Program Committee of the *Semantic Web Applications and Tools for Life Sciences* (SWAT4LS-2013) workshop, Edinburgh, Scotland, December 9, 2013.
105. Member of the Program Committee of the Conference on Semantics in Healthcare and Life Sciences 2014 (CSHALS2014), Boston MA, 26-28 February 2014.
106. Member of the Program Committee of the eight International Conference on *Formal Ontology in Information Systems* (FOIS 2014), Rio de Janeiro, Brazil, Sept 22-24, 2014.
107. Member of the Program Committee of the Information Artifact Ontology Workshop, Rio de Janeiro, Brazil, Sept 22, 2014.
108. Member of the Program Committee for the International Conference on Biomedical Ontologies, ICBO 2014, Houston, Texas, Oct 6-9, 2014.
109. Member of the Scientific Program Committee of *Semantic Technology for Intelligence, Defense and Security* (STIDS 2014), George Mason University Fairfax, 18 - 21 November, 2014.
110. Reviewer for *Medical Informatics Europe (MIE) MIE 2015*, Madrid, Spain, May 27-29, 2015.
111. Member of the Program Committee of the third edition of the International Workshop on Definitions in Ontologies (IWOOD 2015) at the 6th International Conference on Biomedical Ontologies (ICBO 2015), Lisbon, Portugal, July 27-30.
112. Member of the Program Committee of the 6th International Conference on Biomedical Ontologies (ICBO 2015), Lisbon, Portugal, July 27-30.
113. Reviewer for the 15<sup>th</sup> World Congress on Health and Biomedical Informatics (*MEDINFO 2015*), Sao Paulo, Brazil, August 19-23, 2015.
114. Member of the Scientific Program Committee of the *Artificial Intelligence in Medicine Track* of the 17<sup>th</sup> Portuguese Conference on Artificial Intelligence (EPIA 2015), Coimbra, Portugal, Sept 8-11, 2015.
115. Reviewer for the *American Medical Informatics Association (AMIA) 2015 Annual Symposium*, San Francisco, USA, Nov. 14-18, 2015.

116. Member of the Scientific Program Committee of *Semantic Technology for Intelligence, Defense and Security* (STIDS 2015), George Mason University Fairfax, 18 - 20 November, 2015.
117. Reviewer for the Program Committee of the European Federation for Medical Informatics' (EFMI) Special Topic Conference 'Transforming Healthcare with the Internet of Things' (EFMI-STC2016), Paris, France, April 17-19, 2016.
118. Member of the Program Committee of the ninth International Conference on Formal Ontology in Information Systems (FOIS 2016), Annecy, France, July 6-9, 2016.
119. Member of the Program Committee of the Fourth International Workshop on Definitions in Ontologies (IWOOD 2016, Oregon State University, Corvallis, OR, USA, August 1-4, 2016
120. Reviewer for the *American Medical Informatics Association (AMIA) 2016 Annual Symposium*, Chicago, USA, Nov. 12-16, 2016.
121. Member of the Scientific Program Committee of the *Artificial Intelligence in Medicine Track of the 18<sup>th</sup> Portuguese Conference on Artificial Intelligence (EPIA 2017)*, Porto, Portugal, Sept 5-8, 2017.
122. Member of the Program Committee of the JDCL Workshop on *Rich Semantics and Direct Representation for Digital Collections* (RICH 2017), Toronto, Canada, June 22-23, 2017.
123. Member of the *Scientific Committee for the 2nd Workshop on Representing Social and Legal Entities in Biomedicine*, Newcastle, UK, Sept. 14-16, 2017.
124. Reviewer for the *American Medical Informatics Association (AMIA) 2017 Annual Symposium*, Washington DC, USA, Nov. 4-8, 2017.
125. Session Chair for *Assessing Semantic Applications* (F4/330), Medical Informatics Europe (MIE) 2018, Gotheborg, Sweden, Apr 24-26, 2018.
126. Member of the Program Committee of the 'Bad Ontology' workshop, part of the Joint Ontology Workshops (JOWO 2018), Cape Town, South Africa, 17-18 September 2018.
127. Member of the Program Committee of the tenth *International Conference on Formal Ontology in Information Systems* (FOIS 2018), Cape Town, South Africa, 19-21 September 2018.
128. Reviewer for the *American Medical Informatics Association (AMIA) 2018 Annual Symposium*, San Francisco, CA, USA, Nov. 3-7, 2018.
129. Member of the ICBO 2019 Organization and Program Committees (resigned from both for reasons of disagreement with paper reviewing and acceptance principles and procedures).
130. Member of the Scientific Program Committee of the Artificial Intelligence in Medicine Track of the 19th Portuguese Conference on Artificial Intelligence, Vila Real, Portugal, Sept 3-6, 2019.
131. Member of the Program Committee of the 'Bad or Good Ontology' workshop, part of the Joint Ontology Workshops (JOWO 2019), Graz, Austria, Sept 23-25, 2019.
132. Reviewer for Medical Informatics Europe MIE2021, May 29 – 31, 2021.
133. Reviewer for Medical Informatics Europe MIE2022, Nice, France, May 27 – 30, 2022.
134. Reviewer for Artificial Intelligence in Medicine (AIME 2022), Halifax, Canada, June 14-17, 2022.

135. Reviewer for the International Conference on Biomedical Ontologies (ICBO) 2022, University of Michigan, Ann Arbor, MI, USA, September 25-28, 2022.

### ***7. Reviewer of grant applications***

- 1992 Reviewer for Health Telematics Projects, Commission of the European Communities.
- 1996 Evaluator of INCO-COPERNICUS proposals related to Health Telematics, CEC-DG XIII, European Commission.
- 1996-2006 Domain expert for IWT (Flemish Institute for the Promotion of Scientific and Technological Research).
- 2006 Evaluator for the Natural Sciences and Engineering Research Council of Canada's Discovery Grant program.
- 2007 Evaluator for the National Research Agency's (Agence Nationale de la Recherche, France) Technology for Health Program.
- 2007 Evaluator for the Austrian Science Fund's Funding Program for Natural and Technical Sciences.
- 2010 Stage 1 reviewer for ZRG1 BST-K (52) R - RFA RM09-002: National Centers for Biomedical Computing.
- 2011 Ad hoc member of the Biodata Management and Analysis Study Section (BDMA) of the Center for Scientific Review of the National Institutes of Health (NIH).
- 2012 External reviewer for the Nova Scotia Health Research Foundation's *2012-13 grant competition*.
- 2016 External reviewer for the Wellcome Trust UK.
- 2016 External reviewer for the Swiss National Science Foundation (SNSF)'s National Research Program (NRP75) on Big Data.
- 2022 External reviewer for the King Abdullah University of Science and Technology (KAUST) Competitive Research Funding program, Saudi-Arabia.
- 2023 External reviewer for the King Abdullah University of Science and Technology (KAUST) Opportunity Fund Program, Saudi-Arabia.

### ***8. Membership in judging committees***

1. Youth Prize for Informatics, Biomedical Software (Belgian Ministry of Education), 1990, 1991 and 1992.
2. Egmond Prize of the Belgian Society for Medical Informatics, 1994 and 1996.
3. STEVIN Program Commission. 2004-2005.

## **9. Patents and Patent Applications**

1. Ceusters W. *et al.* *Conceptual World-Representation Natural Language Understanding System and Method*, filed by Buchanan Ingersoll P.C. (Philadelphia) through Docket No 47310.1 Nov 2002. Accepted as United States Patent 7,493,253, February 17, 2009.
2. Ceusters W, Smith B, Manzoor S. R-6182 *Referent Tracking*. Provisional patent application filed by Hodgon Russ LLP under Docket No 011520.00632; Priority Application Serial No. 60/963,736 filed August 7, 2007.
3. Ceusters W, Smith B, Manzoor S. *Referent Tracking of Portions of Reality*. Patent pending, application filed by Heslin Rothenberg Farley & Mesiti P.C., Docket No. 1097.015A, August 6, 2008.
4. Ceusters W. *et al.* *Conceptual World-Representation Natural Language Understanding System and Method*. United States Patent 7,917,354, March 29, 2011.
5. Ceusters W. *et al.* *Conceptual World-Representation Natural Language Understanding System and Method*. United States Patent 8,442,814, May 14, 2013.
6. Ceusters W. *et al.* *Conceptual World-Representation Natural Language Understanding System and Method*. United States Patent 8,812,292, August 19, 2014.
7. Ceusters W. *et al.* *Conceptual World-Representation Natural Language Understanding System and Method*. United States Patent 9,292,494, March 22, 2016.

## **10. Editorial**

1989-1991	Member of Editorial Board of the Dutch AMDP-System for Psychiatry Documentation.
1990-1998	Editor for Medical Informatics, <i>Artsenkrant/Le journal du Medecin</i> (Brussels).
1993-1996	Editor-in-Chief, <i>MIM-News: Journal of the Belgian Society for Medical Informatics</i> .
1995-1997	Medical Informatics Editor, <i>De Huisarts / Le Généraliste</i> .
2000	Referee for <i>IMIA Yearbook on Medical Informatics</i> .
2006-2008	Member of the Editorial Board of Biological Knowledge (Biomed Central Journal).
2009-2010	Co-editor of the Journal of Biomedical Informatics' <i>Special Issue on Ontologies for Clinical and Translational Research</i> . (Resigned for lack of quality in too many accepted papers).
2014-2017	Advisory Editor for <i>The Monist</i> , Vol. 100, Issue 4, October 2017: <i>Pain</i> .
2017	Reviewer for <i>Journal of Clinical Cancer Informatics</i> .
2017	Reviewer for <i>Neuroinformatics</i> .
2017	Reviewer for the <i>Journal of Biomedical Informatics</i> .
2018/01-03	Member of the Editorial Board of the <i>European Journal for Biomedical Informatics</i> (resigned for lack of quality in too many accepted papers).
2018-2019	Reviewer for the <i>International Journal of Computer Assisted Radiology and Surgery</i> .

2018	Reviewer for <i>Cognitive Processing</i> .
2019	Reviewer for <i>Artificial Intelligence in Medicine</i> .
2020	Reviewer for <i>Applied Ontology</i> .
2023	Reviewer for <i>European Heart Journal - Digital Health</i> .
2024	Reviewer for book proposal, CRC Press - Taylor & Francis.

## **Publications**

### ***Books***

1. van der Lei J, Beckers WPA, Ceusters W, van Overbeeke JJ (eds.), Proceedings van het XVIIe Medisch Informatica Congres Gezondheidszorg en Informatica, Veldhoven, 21-22 november 1997, VMBI/TMI-bureau, Meppel, 1997.
2. Ceusters W, Spyns P, De Moor G, Martin W (eds.) Syntactic-Semantic Tagging of Medical Texts: the Multi-TALE Project. Studies in Health Technologies and Informatics, IOS Press Amsterdam, 1998.
3. Jarrar, M., Ostyn, C., Ceusters, W., Persidis, A. (eds.) Workshop on Ontology Content and Evaluation in Enterprise (OnToContent 2006). Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics) 4278, 2006.
4. Jarrar M, Schmidt A, Ostyn C, Ceusters W (eds.). Workshop on Ontology Content and Evaluation in Enterprise; On the Move to Meaningful Internet Systems 2007 (OnToContent 2007). Lecture Notes in Computer Science 4805, 2007;:509-575.
5. Obrst L, Janssen T, Ceusters W. Ontologies and Semantic Technologies for the Intelligence Community. Frontiers in Artificial Intelligence and Applications. IOS Press Amsterdam, 2010.

### ***Papers in refereed journals***

1. Ceusters W, De Bleeker J, De Reuck J. Hemiballism, a clinico pathological conference. Acta neurol. belg., 1987;87:229-233,.
2. De Bleeker J, De Reuck J, Vingerhoets G, Ceusters W, Thiery E. The syndrome of the anterior choroideal artery. Clin. Neurol. Neurosurg. 1987;89(4):299.
3. Ceusters W, Van Ooteghem P, Vakaet A, Claeys G, Verschraegen J, De Reuck J. La méningite du charcutier. Clin. Neurol. Neurosurg. 1987;89(4):300.
4. Lenders MB, de Wit P, Castelein P, Schuddinck L, Vanhooren G, Dehaene I, van Zandijcke M, Marchau M, De Bleeker J, de Reuck J, Vingerhoets G, Thiery E, van Calenbergh F, Dom R, Goffin J, Plets C, van den Bergh R, de Koninck J, Ceusters W, van Ooteghem Ph, Vakaet A, Claeys G, Verschraegen J, van Orshoven M, van Orshoven F, Gouban P, Carton H, Taelman H, Druyts-Voets E, De Smyter J, Picssesn F, Meyer B, van den Bergh V, Hoogenraad TU, Triaud E, Malfroid M, Baro F, Mercelis R, de Jonghe P, Gheuens J, Martin JJ. Scientific Meeting of the Flemish Society of Neurology-Psychiatry held in Aalst, May 9th 1987. Clinical Neurology and Neurosurgery. 1987;89(4):298-302.

5. Van Ooteghem P, Ceusters W, Vakaet A, Claeys G, Verschraegen J, De Reuck J. Streptococcus suis meningitis. Tijdsch. Geneesk., 1988;44(2):119-122,
6. De Bleeker J, De Reuck J, Vingerhoets G, Ceusters W, Thiery E. Het arteria choroidea anterior syndroom. Tijdsch. Geneesk., 1988;44(4): 259-262.
7. Ceusters W. AI/EMG, een kennis systeem voor computerbegeleid elektromyografisch onderzoek. [AI/EMG: a knowledge based system for computer-assisted electromyography]. Ann Med Milit Belg 1989; 3(3) : 93-100.
8. Ceusters W. The neurologist's contributions to modern informatics. Ann Med Milit Belg 1990; 4 (3): 127-129.
9. De Reuck, W. Ceusters, A. Dallenga, J.P. Kalala, D. Decoo, E. Tack, J. De Bleecker, P. Boon. A prospective and double blind study on Neurotropin in patients with ischaemic stroke. Neurology 1989; suppl. 37: 248-9.
10. Decoo, W. Ceusters, J. De Reuck, J. Van Aken, P. Boon, P. Vanderdonckt, I. Lemahieu, K. Strijckmans. Frontal type dementia. From NeuroPET to NeuroPATH. Acta Neurol Belg, 1987;90:285-286.
11. European Carotid Surgery Trialist's Collaborative Group. MRC European Carotid Surgery Trial: interim results for symptomatic patients with severe (70-99%), or with mild (0-29%) carotid stenosis. The Lancet 1991; 337:1235-1243.
12. Ceusters W, De Moor G., Bonneu R., Schilders L. Training of health care personnel towards the implementation and use of electronic healthcare records using integrated imaging technology. Medical Informatics 1992; 17(4): 215-223.
13. Buekens F, Ceusters W, De Moor G. The explanatory role of events in causal and temporal reasoning in medicine. Meth Inform Med 1993; 32: 274-8.
14. Ceusters W, Deville G, Mommaerts JL. Medical Concepts, Natural Language Processing, and formal representations of coding systems: an introduction (Dutch). Ann Med Milit Belg; 1993;7(4):191-196.
15. De Reuck J, Decoo D, Vanderdonckt P, Dallenga A, Ceusters W, Kalala JP, De Meulemeester K, Abdullah J, Santens P, Huybrechts J, et al. A double-blind study of neurotropin in patients with acute ischemic stroke. Acta Neurol Scand. 1994;89(5):329-35.
16. Mertens R, Ceusters W. Quality Assurance, Infection Surveillance and Hospital Information Systems: avoiding the Bermuda Triangle. Infect Control Hosp Epidemiol 1994;15:203-209.
17. Mertens R, Ceusters W, Ronveaux O. Epidémiologie, qualité des soins et système d'information hospitalier: la troisième dimension. L'Hôpital Belge, 1994;2:52-59.
18. Ceusters W, Michel C, Penson D, Mauclet E. Semi-automated encoding of diagnoses and medical procedures combining ICD-9-CM with computational-linguistic tools. Ann Med Milit Belg; 1994;8(2):53-58.
19. Spyns P and Ceusters W. Document Management in Healthcare: the Electronic Healthcare Record DOMEsticated, MIM-News, 1995;3:17-24.
20. Maréchal C., Ceusters W. La télématique médicale. Revue de la Médecine Générale, 1996;134:37-39.

21. Ceusters W, Buekens F, De Moor G, Bernauer J, De Keyser L, Surjan G. TSMI: a CEN/TC251 Standard for time specific problems in healthcare informatics and telematics. *International Journal of Medical Informatics* 1997;46:87-101.
22. De Cuyper G, Hoes M, Pluymakers J, Jannes C, Ceusters W, Theunis D. L'analyse factorielle de l'AMDP néerlandophone [Factor analysis of the Belgo-Dutch AMDP system]. *Acta Psychiatrica Belgica* 1997;97(suppl. I):30-40.
23. Ceusters W. Common sense as a key requirement for promoting the electronic healthcare record: two years of experience in the Belgian National PROREC Centre. *Stud Health Technol Inform.* 1998;56:155-62.
24. Ceusters W, Steurs F, Zanstra P, Van der Haring E, Rogers J. From a time standard for medical informatics to a controlled language for health. *International Journal of Medical Informatics* 1998;48: 85-101.
25. Zanstra P, Rector A, Ceusters W, de Vries Robbé P. Coding systems and Classifications in Healthcare: the link to the record. *International Journal of Medical Informatics* 1998;48:103-109.
26. Ceusters W. Good characteristics for electronic healthcare records and systems. *Journal of the Belgian Medical Informatics Association (MIM-News)* 1998;4:12-8.
27. Ceusters W, Spyns P, De Moor G. From Syntactic-semantic Tagging to Knowledge Discovery in Medical Texts. *International Journal of Medical Informatics* 1998;52:149-157.
28. Rector AL, Zanstra P, Solomon D, Rogers J, Baud R, Ceusters W, Claassen W, Kirby J, Rodrigues JM, Rossi-Mori A, van der Haring J, Wagner J. Reconciling Users' Needs and Formal Requirements: Issues in Developing a Reusable Ontology for Medicine. *IEEE Transactions on Information Technology in Biomedicine*, 1998; 4: 229-242.
29. Ceusters W, Buekens F, De Moor G, Waagmeester A. The distinction between linguistic and conceptual semantics in medical terminology and its implications for NLP-based knowledge acquisition. *Meth Inform Med* 1998; 37:327-33.
30. Ceusters W, Rogers J, Consorti F, Rossi-Mori A. Syntactic-semantic tagging as a mediator between linguistic representations and formal models: an exercise in linking SNOMED to GALEN. *Artificial Intelligence in Medicine* 1999; 15: 5-23.
31. Ceusters W, Bouquet L. Language Engineering and Information Mapping in Pharmaceutical Medicine. *Journal of the Belgian Medical Informatics Association*, 2000;7(1):26-34.
32. Smith B, Ceusters W. Towards Industrial-Strength Philosophy; How Analytical Ontology Can Help Medical Informatics. *Interdisciplinary Science Reviews*, 2003;28(2):106-111.
33. Smith B, Ceusters W, Verso una filosofia al servizio dell'industria: l'utilità dell'ontologia analitica per l'informatica medica. *Sistemi Intelligenti* 2003;15(3):407-417.
34. Smith B, Siebert D, Ceusters W. Was die philosophische Ontologie zur biomedizinischen Informatik beitragen kann. *Information Wissenschaft und Praxis*, 2004;55(3):143-146.
35. Smith B, Ceusters W, Klagges B, Koehler J, Kumar A, Lomax J, Mungall C, Neuhaus F, Rector A, Rosse C. Relations in biomedical ontologies, *Genome Biology* 2005, 6:R46.
36. Van Buggenhout C, Ceusters W. A novel view on information content of concepts in a large ontology and a view on the structure and the quality of the ontology. *International Journal of Medical Informatics* 2005;74(2-4):125-32

37. Vershelde JL, Casella Dos Santos M, Deray T, Smith B and Ceusters W. Ontology-assisted database integration to support natural language processing and biomedical data-mining. *Journal of Integrative Bioinformatics*, 2005;:39-48.
38. Ceusters W, Smith B, Goldberg L. A Terminological and Ontological Analysis of the NCI Thesaurus. *Methods of Information in Medicine* 2005; 44: 498-507.
39. Smith B, Kumar A, Ceusters W, Rosse C. On carcinomas and other pathological entities. *Comparative and Functional Genomics*, Volume 6, Issue 7-8 (October - December 2005), p 379-387.
40. Ceusters W, Smith B. Strategies for Referent Tracking in Electronic Health Records. *Journal of Biomedical Informatics*. 2006 Jun; 39(3):362-78.
41. Ceusters W, Smith B. Referent Tracking for Treatment Optimisation in Schizophrenic Patients. *Journal of Web Semantics* 4(3) 2006: 229-36; Special issue on semantic web for the life sciences.
42. Ceusters W, Smith B. Referent Tracking for Digital Rights Management. *International Journal of Metadata, Semantics and Ontologies* 2007;2(1):45-53.
43. Ceusters W, Elkin P, Smith B. Negative Findings in Electronic Health Records and Biomedical Ontologies: A Realist Approach. *International Journal of Medical Informatics*, 2007;76(Sup 3):S326-S333. (PMC2211452)
44. Manzoor S, Ceusters W, Rudnicki R. Implementation of a Referent Tracking System. *International Journal of Healthcare Information Systems and Informatics* 2007;2(4):41-58.
45. Smith B, Ashburner M, Rosse C, Bard J, Bug W, Ceusters W, Goldberg LJ, Eilbeck K, Ireland A, Mungall CJ, the OBI Consortium, Leontis N, Rocca-Serra P, Ruttenberg A, Sansone SA, Shah N, Whetzel PL, Lewis S. The OBO Foundry: Coordinated Evolution of Ontologies to Support Biomedical Data Integration. *Nature Biotechnology* 2007;25:1251-1255. (PMC2814061)
46. Ceusters W. Applying Evolutionary Terminology Auditing to the Gene Ontology. *Journal of Biomedical Informatics* 2009;42:518–529.
47. Morse GD, Ceusters W, Bessette R, Furlani T, Singh R, Hayward A, Notaro J, Catanzaro L, Fiebelkorn K, Billittier A, Porreca D, Holm BA. Developing a Bioinformatics and Medication Management Research Network. *California Pharmacist* 2009;56(3):58-61.
48. Smith B, Ceusters W. Ontological Realism as a Methodology for Coordinated Evolution of Scientific Ontologies. *Applied Ontology*, 2010;5(3-4):139-188.
49. Ceusters W, Smith B. Foundations for a realist ontology of mental disease. *Journal of Biomedical Semantics*, 2010 Dec 9;1(1):10. (PMC3017014)
50. Ceusters W, Capolupo M, De Moor G, Devlies J, Smith B. An Evolutionary Approach to Realism-Based Adverse Event Representations. *Methods of Information in Medicine*, 2011;50(1):62-73. (PMC3103706)
51. Brochhausen M, Burgun-Parenthoine A, Ceusters W, Hasman A, Leong TY, Musen M, Oliveira J, Peleg M, Rector A, Schulz S. Discussion of “Biomedical Ontologies: Toward Scientific Debate”, *Methods of Information in Medicine*, 2011 May 13;50(3):217-36.

52. Nixdorf D, Drangsholt M, Ettlin D, Gaul C, de Leeuw R, Svensson P, Zakrzewska J, DeLaat A, Ceusters W. Classifying orofacial pains: a new proposal of taxonomy based on ontology. *Journal of Oral Rehabilitation* 2012;39(3):161-169 (PMC3383028).
53. Schiffman E, Ohrbach R, Truelove E, Look J, Anderson G, Goulet J-P, List T, Svensson P, Gonzalez Y, Lobbezoo F, Michelotti A, Brooks S.L, Ceusters W, Drangsholt M, Ettlin D, Gaul C, Goldberg L, Haythornthwaite J, Hollender L, Jensen R, John M.T, deLaat A, deLeeuw R, Maixner W, van der Meulen M, Murray G.M, Nixdorf D.R, Palla S, Petersson A, Pionchon P, Smith B, Visscher C.M, Zakrzewska J, Dworkin SF. Diagnostic Criteria for Temporomandibular Disorders (DC/TMD) for Clinical and Research Applications: Recommendations of the International RDC/TMD Consortium Network and Orofacial Pain Special Interest Group. *Journal of Orofacial Pain and Headache* 2014;28(1):6-27.
54. Ceusters W, Michelotti A, Raphael KG, Durham J, Ohrbach R. Perspectives on Next Steps in Classification of Orofacial Pain – Part 1: Role of Ontology. *Journal of Oral Rehabilitation* 2015;42(12):926-41. (PMC4741295)
55. Durham J, Raphael KG, Benoliel R, Ceusters W, Michelotti A, Ohrbach R. Perspectives on Next Steps in Classification of Orofacial Pain – Part 2: Role of psychosocial factors. *Journal of Oral Rehabilitation* 2015;42(12):942-55. (PMC4715752)
56. Ceusters W, Cibele Nasri-Heir C, Alnaas D, Cairns BE, Michelotti A, Ohrbach R. Perspectives on Next Steps in Classification of Orofacial Pain - Part 3: Biomarkers of Chronic Orofacial Pain - From Research to Clinic. *Journal of Oral Rehabilitation* 2015;42(12):956-66. (PMC4715524)
57. Spear AD, Ceusters W, Smith B. Functions in Basic Formal Ontology. *Applied Ontology* (special issue on biological and artifactual functions) 2016;11(2):103-128.
58. Hogan WR and Ceusters W. Diagnosis, misdiagnosis, lucky guess, hearsay, and more: an ontological analysis. *Journal of Biomedical Semantics* 2016;7(54). (PMC5025551)
59. Dubovsky SL, Antonius D, Ellis DG, Ceusters W, Sugarman RC, Roberts R, Kandifer S, Phillips J, Daurignac EC, Leonard KE, Butler LD, Castner JP and Braen GR. A preliminary study of a novel emergency department nursing triage simulation for research applications. *BMC Research Notes* 2017;10:15.
60. Bona JP, Ceusters W. Mismatches between major subhierarchies and semantic tags in SNOMED CT. *Journal of Biomedical Informatics* 2018;81:1-15.
61. Sharma S, Slade G, Grol-Prokopczyk H, Rindal BD, Durham P, Ceusters W, Smith B, Ohrbach R. Rates of Injury Across the Disease Course of a Chronic Overlapping Pain Condition. *The Journal of Pain*, Volume 29, Supplement, April 2025, 104830.

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121. Ceusters W, Pengput A. Axiomatizing SNOMED CT Disorders: Should there be Room for Interpretation? Formal Ontology in Information Systems (FOIS 2023), Sherbrooke, Quebec, Canada, July 19, 2023.
122. Rabenberg M, Pengput A, Ceusters W. An Extendible Realism-Based Ontology for Kinship. 14<sup>th</sup> International Conference on Biomedical Ontology, Brasilia, Brazil, August 30 – September 1, 2023.
123. Rabenberg M, Ceusters W. Fiat Surfaces in Basic Formal Ontology. 14th International Conference on Formal Ontology in Information Systems (FOIS 2024), July 08 - 09, 2024 online, and July 15 – 19, 2024, Enschede, The Netherlands. *Frontiers in Artificial Intelligence and Applications*, Volume 394: Formal Ontology in Information Systems, p268 – 282. doi: 10.3233/FAIA241313.
124. Ceusters W, Rabenberg M. Semantic Difficulties in FHIR ‘Conditions’. Medical Informatics Europe 2025 (MIE2025), Glasgow, Scotland, May 19-21, 2025.
125. Ceusters W, Ruttenberg A. Towards Representing Change in the BFO. 15th International Conference on Formal Ontology in Information Systems (FOIS-2025), Catania, Italy, September 8-12, 2025. *Frontiers in Artificial Intelligence and Applications*, Volume 409: Formal Ontology in Information Systems p94 – 108. doi:10.3233/FAIA250486.
126. Ceusters W, Ruttenberg A. History in the Basic Formal Ontology. 16th International Conference on Biomedical Ontology (ICBO 2025), Online, November 9, 2025.
127. Lu CH, Leonard KE, Ceusters W. Refining Substance Use Classification: An Ontological Framework for Enhancing Large-Scale Data Collection. AMIA 2025 Annual Symposium, Atlanta GA, Nov 15-19, 2025. *AMIA Annu Symp Proc. 2025; 2025: ...* (accepted).

### ***Reports***

1. Ceusters W. An object oriented analysis of conceptual knowledge in medicine. CEN\TC251\PT003 internal report 1992. 4pp
2. Ceusters W, Deville G, Herbigniaux E, Mousel P, Streiter O, Thienpont G. The ANTHEM Prototype. IAI Working Papers 31, Saarbrücken, Sept 1994. 30pp
3. PROREC-Belgium vzw - Annual Report 1998. 125pp
4. Ceusters W, Beveridge MA, Milward D, Falavigna D. HOMEY: Specification for Semantic Dictionary Integration, Deliverable D9, HOMEY Project, IST-2001-32434, July 31, 2002. 34pp
5. Ceusters W, Smith B, De Moor G. Ontology-Based Integration of Medical Coding Systems and Electronic Patient Records. IFOMIS report, 2004. 11pp.

6. Jarrar M, Ceusters W, Maynard D, Shearer R, Nixon L, Paslaru E, Mochol M. Ontology Outreach Advisory Requirements. Deliverable D3: KWEB EU-IST-2004-507482, Jan 31, 2006.
7. Rudnicki R, Ceusters W. Emerging medical information standards as applicable to clinical research data. A study performed in the context of the project 'Exploring eyeGENE, an International Genotype / Phenotype Database, from a Bioinformatics Perspective', July 16, 2008. 104pp
8. Ceusters W, Capolupo M, Devlies J. D4.2 – RAPS Domain Ontology (M12 Version). Background materials and methodology used to develop the Domain Ontology for Risks against Patient Safety, January 11, 2009, 55p.
9. Ceusters W, Capolupo M, Devlies J. D4.3 – RAPS Application ontology (Version 1). Background materials and methodology used to develop Application Ontologies for Risks against Patient Safety, January 11, 2009, 53p.
10. Ceusters W, Smith B. Semantic Interoperability in Healthcare - State of the Art in the US - a Position Paper, March 2010, 33p.
11. Ceusters W. Realism-based versioning for biomedical ontologies; final report on grant 1R21LM009824-01A1 from the National Library of Medicine, June 21, 2011, 93p.
12. Ceusters W. An Ontology for Pain and related disability, Mental health and Quality of Life (OPMQoL). Final Report for grant R01DE021917 from the National Institute of Dental and Craniofacial Research, NIH), September 27, 2014, 141p.
13. Van Poucke S, Tvenstrup B, Vander Laenen M, Ceusters W. Ontology Preludes Data Science: A COVID-19 Use Case. TowardsAI.net, June 9, 2020.

### ***Chapters in books***

1. Rossi-Mori A, Bernauer J, Pakarinen V, Rector AL, De Vries-Robbé P, Ceusters W, Hurlen P, Ogonowski A, Olesen H. Models for Representation of Terminologies and Coding Systems in Medicine. In: De Moor G, McDonald C, Noothoven van Goor J. (eds) Progress in Standardization in Health Care Informatics. IOS Press, Amsterdam, 1993;;92-104.
2. Ceusters W, Harding N, Hurlen P, Lavelle S, Lloyd D, Menharat F, Mummery C, Pakarinen V, Ogonowski A, Tervo R. Roles of AIM-projects, CEN, and Concerted Action. In: Commission of the European Communities DG XIII, AIM-CEN Workshop on the Medical Record, Volume I, 1993;;147-157.
3. Ceusters W, De Moor G, Thienpont G, Lapeer R, Bonneu R, Schilders L, De Rouck F. MIMI: Computer-Based Training on the Use of Integrated Imaging in the Hospital. In De Moor G (ed.), Communication and Integration in Healthcare Informatics, 1993;;303-313.
4. Redondo JR, Ceusters W, González JM, Iakovidis I. European Electronic Healthcare Records: towards the future. In: Laires MF, Ladeira MJ, Christensen JP (eds.) Health in the New Communications Age, IOS Press, 1995;;671-675.
5. Ceusters W, Cimino J, Rector A. Medical Language and Terminologies. In: Sosa-Iudicissa M, Oliveri N, Gamboa CA, Roberts J (eds.) Internet, Telematics and Health, IOS Press, Amsterdam, 1997;;197-203.

6. Ceusters W. Harmonisation and formalisation of nursing terminology: a three-dimensional approach. In RA Mortensen (ed.) *ICNP and Telematic Applications for Nurses in Europe*, IOS PRESS Amsterdam, 1999;:164-173.
7. Ceusters W. Medical natural language understanding as a supporting technology for data mining in healthcare. In: KJ Cios (ed.) *Medical Data Mining and Knowledge Discovery*, Physica-verlag Heidelberg, New York, 2001;:41-67.
8. Ceusters W. Formal terminology management for language-based knowledge systems: resistance is futile. In Temmerman R. (ed) *Trends in Special Language and Language Technology*, 2001;:135-53.
9. Obrst L, Ceusters W, Mani I, Ray S, Smith B. The Evaluation of Ontologies: toward Improved Semantic Interoperability. In: Baker, Christopher J.O.; Cheung, Kei-Hoi (Eds.) *Semantic Web: Revolutionizing Knowledge Discovery in the Life Sciences*. Springer, Heidelberg, 2007;:139-58.
10. Ceusters W, Smith B. Referent Tracking for Corporate Memories. In: Rittgen P. (ed.) *Handbook of Ontologies for Business Interaction*. Information Science Reference, Hershey, New York and London;: 2007, 34-46.
11. Janssen T, Obrst L, Ceusters W. Ontologies, Semantic Technologies and Intelligence. In: Obrst L, Janssen T, Ceusters W (eds.) *Ontologies and Semantic Technologies for the Intelligence Community*. *Frontiers in Artificial Intelligence and Applications*. IOS Press Amsterdam, 2010;:1-12.
12. Ceusters W, Manzoor S. How to track absolutely everything? In: Obrst L, Janssen T, Ceusters W (eds.) *Ontologies and Semantic Technologies for the Intelligence Community*. *Frontiers in Artificial Intelligence and Applications*. IOS Press Amsterdam, 2010;:13-36.
13. Obrst L, Ceusters W, Janssen T. Ontologies, Semantic Technologies and Intelligence: Looking Toward the Future. In: Obrst L, Janssen T, Ceusters W (eds.) *Ontologies and Semantic Technologies for the Intelligence Community*. *Frontiers in Artificial Intelligence and Applications*. IOS Press Amsterdam, 2010;:213-224.
14. Ceusters W, Smith B. Switching Partners: Dancing with the Ontological Engineers. In: Bartscherer Th and Coover R (eds.) *Switching Codes: thinking through digital technology in the humanities and the arts*, University of Chicago Press, Chicago, 2011;:103-124.
15. Kalra D, Musen M, Smith B, Ceusters W, De Moor G. ARGOS Policy Brief on Semantic Interoperability. In De Moor G. (ed.) *Transatlantic Cooperation Surrounding Health Related Information and Communication Technology*. *Studies in Health Technology and Informatics* 2011;:170:1-15. (PMC4896070)
16. Smith B, Vizenor L, Ceusters W. Human Action in the Healthcare Domain: A Critical Analysis of HL7's Reference Information Model. In Svennerlind C, Almäng J, Ingthorsson R (eds.) *Johanssonian Investigations: Essays in Honour of Ingvar Johansson on His Seventieth Birthday*. Ontos Verlag, Frankfurt 2013: 554-573.
17. Ceusters W, Bona J. Pain in SNOMED CT: is there an anesthetic? In Zaibert, Leo (ed.) *The Theory and Practice of Ontology*. Palgrave MacMillan, 2016: 157-185.
18. Ceusters, W. (2023). The Place of Referent Tracking in Biomedical Informatics. In: Elkin, P.L. (eds) *Terminology, Ontology and their Implementations*. Health Informatics. Springer, Cham. [https://doi.org/10.1007/978-3-031-11039-9\\_6](https://doi.org/10.1007/978-3-031-11039-9_6)

19. Elkin, P.L., Ceusters, W. (2023). Ontology and Terminological Systems Research. In: Elkin, P.L. (eds) Terminology, Ontology and their Implementations. Health Informatics. Springer, Cham. [https://doi.org/10.1007/978-3-031-11039-9\\_23](https://doi.org/10.1007/978-3-031-11039-9_23)

#### **Presentations at scientific meetings (where not listed above)**

1. *La méningite du charcutier*. Vereniging van Vlaamse Zenuwartsen. O.L.V. Kliniek, Aalst, Belgium, May 9, 1987.
2. *Anxiety and stress in business*. Guest lecture at the Instituut Elégance, Aalst, Belgium, April 24, 1988.
3. *The AMDP as part of an electronic healthcare record: possibilities and applications*. AMDP Introduction symposium. Deltaziekenhuis Rotterdam, The Netherlands, February 23, 1990.
4. *Informatics in medicine: a state of the art*. Fifth Multidisciplinary Symposium on Computers in Education, Research and Medicine, University of Leuven, Campus Gasthuisberg, Leuven, Belgium, October 27, 1990.
5. *Informatics for the general practitioner*. Round table discussion at Medica '91, Universiteitshallen Leuven, Belgium, February 7, 1991.
6. *Storage media of the future*. Evening workshop medical informatics. Medisch Centrum Huisartsen, Leuven, Belgium, March 20, 1991.
7. *The management of electronic healthcare records in Psychiatry: the AMDP-system*. Psychiatrische kliniek van het Universitair Ziekenhuis van de Vrije Universiteit Amsterdam, The Netherlands, April 18, 1991.
8. *Automatic data-capture with the AMDP-system*. Avondcolloquium organized by Dept. of Psychiatry, University Hospital Gasthuisberg, Leuven, Belgium, April 22, 1991.
9. *Inter-observer-variability in Psychiatry: the good, the bad or the ugly?* St-Dymphna viering, Military Hospital Queen Astrid, Brussels, Belgium, June 14, 1991.
10. *Efficient data-management through computers in prospective clinical studies in Psychiatry*. Terugkomdag Corsendonckcursus Akademisch Ziekenhuis Maastricht, The Netherlands, November 7, 1991.
11. *The automated AMDP-system as an electronic psychiatric record*. Vakgroep klinische Psychiatrie, Akademisch Ziekenhuis Maastricht, The Netherlands, January 9, 1992.
12. *An overview of temporal models in medical temporal reasoning*. CEN\TC251\WG2-meeting, Copenhagen, Denmark, May 1, 1992.
13. *Development of advanced courseware, applying optical disk and integrated imaging technologies to the management of medical records*. MediaNet '92, Euro-forum, Munich, Germany, July 10, 1992.
14. *Medical Information Management through Imaging: Systems Architecture*. Kolloquium Medizinische Biometrie, Informatik und Epidemiologie, Heidelberg University, Germany, July 13, 1992.
15. *Managing inter-observer variability: are standards a solution?* AIM/WHO Workshop on Telematics in Mental Health Care, Brussels, Belgium, October 9, 1992.

16. ***Medical Record Modeling, the start of reliable systems.*** Camirema / Phare Workshop. Sofia, Bulgaria, June 10-13, 1993.
17. ***The Computer-Based Patient Record: from idea to implementation.*** Seminar on process re-engineering. Wang, The Netherlands, September 7, 1993.
18. ***The future of the AIM Concerted Action on the Medical Record: a platform for realising Managed Convergence?*** Preparatory meeting for the Concerted Action on the Medical Record, Brussels, Belgium, October 26, 1993.
19. ***Is a Common European Medical Record useful? The vision of the European electronic medical record users and developers.*** Preparatory meeting for the Concerted Action on the Medical Record, Brussels, Belgium, October 26, 1993.
20. ***The AIM Concerted Action on Medical Records, an overview.*** Invited Speech at the AIMCOM Joint Meeting between Project Lines 1 & 2: Medical Data Recording and Multimedia. Brussels, Palace Hotel, Belgium, April 26, 1994.
21. ***Health Care Telematics in Belgium: an overview.*** Annual Congress of the Belgian Association for Medical Informatics, Ostend, Thermae Palace, Belgium, March 18, 1995.
22. ***Working principles of CEN\TC251\WG2.*** Mental Health Standards Working Group for Health Care Informatics, PAHO, Washington DC, May 1-2, 1995.
23. ***Scientific and Political Issues with respect to the Electronic Medical Record.*** Medidoc national user group conference, Zemst, Belgium, November 18, 1995.
24. ***The PROREC Project.*** AMICE '95 4th Framework Session, Amsterdam, The Netherlands, December 28, 1995.
25. ***The PROREC national and international institutes for Electronic Healthcare Records.*** AMICE '95 Workshop "User group Clinicians", The Netherlands, December 28, 1995.
26. ***MEDWAY and the Electronic Healthcare Record of the Future.*** MEDWAY product information days, IBM, Brussels, December 13-14, 1995.
27. ***The Use of Mono- and Multilingual Lexicons in Healthcare.*** CLIF (Computational Linguistics in Flanders) Seminar: Has Language Technology a future in Flanders ?, Antwerp, Belgium, December 30, 1995.
28. ***Medical Telematics.*** Royal Medical Association of Bruges, Brugge, Belgium, March 28, 1996.
29. ***PROREC-Belgium VZW, a non for profit organization for managed convergence towards high quality electronic records in Belgium.*** EMD-DMI '96 Conference, Brussels, April 14, 1996.
30. ***Time standards for Healthcare specific problems.*** CEN/TC251-joint conference, Madrid, Spain, May 9-12, 1996.
31. ***Telematics for Health.*** Huisartsenkring Tessenderlo, Belgium, May 23, 1996.
32. ***PROREC: telematics in the healthcare sector and the quality of electronic healthcare records; from standardisation to accreditation.*** Health Kempen Evenementendag, Kasterlee, Belgium, June 1, 1996.
33. ***The formalisation of ICD-10 in the ANTHEM Project.*** ANTHEM Final Workshop, Medical Informatics Europe '96, Copenhagen, Denmark, August 21, 1996.

34. ***Towards Common Resources for Medical Language Processing.*** EFMI WG8 workshop, Medical Informatics Europe '96, Copenhagen, Denmark, August 22, 1996.
35. ***Promoting the use of electronic healthcare records.*** Workshop on Federating Electronic Healthcare Records; Medical Informatics Europe '96, Copenhagen, Denmark, August 22, 1996.
36. ***The Electronic Healthcare Record in Europe and Belgium: current situation.*** Dodeka working group of general practitioners, Ronse, Belgium, April 24, 1997.
37. ***The significance of the GALEN initiative from the PROREC point of view.*** ToMeLo Workshop 1, Porto Carras, Greece, May 24, 1997.
38. ***From a Time Standard for Medical Telematics to a Controlled Language for Health.*** International Medical Informatics Association WG 16 Conference on Standardisation in Medical Informatics: Towards International Consensus and Cooperation, Bermuda, September, 11-13, 1997.
39. Panel discussion: ***“And what about privacy ?”*** Symposium on electronic patient records, Kijk- & Contactdagen, Elisabeth Ziekenhuis Sijsele-Damme, Belgium, April 23, 1998.
40. ***Formal Medical Terminology and Language Engineering for an Effective Use of Information Technology in Pharmaceutical Medicine.*** 10th International Conference on Pharmaceutical Medicine, Boston, MA, May 3-6, 1998.
41. ***Terminology, Semantics and Knowledge Bases.*** CEN-TC251 Workshop, Expomed, Brussels, Belgium, October 16, 1998.
42. ***Formalisation en terminologie clinique: la CISP et les systèmes de troisième génération*** [Formalisation of clinical terminology: the ICPC and third generation systems], ICPC-Workshop, St-Etienne, France, November 1998.
43. ***Machine Translation in Healthcare: a case for linguistic ontologies.*** STC-event on Machine Translation; Electrabel Auditorium, Mechelen, Belgium, December 9, 1998.
44. ***From Idea to Successful SME: 8 years Experience in European R&D.*** Fifth Framework Information Days, EUROMAP Workshop, Leuven, Belgium, January 12, 1999.
45. ***The Main Principles of Medical Language Technology and its Expected Developments.*** Open Wisecare Workshop, Leuven, Belgium, June 11, 1999.
46. ***A contrastive analysis of the semantic and syntactic structures of surgical procedure expressions and empirical validation of the Cassandra tagging technique.*** (Wermuth C, Ceusters W, Decruyenaere J. ) Symposium on Contrastive Linguistics and Translation Studies: Empirical Approaches, Université Catholique de Louvain, Belgium, February 6, 1999.
47. ***Medical Natural Language Understanding Applications.*** Praktijk 2005 seminar, Leuven, Belgium, November 21, 1999.
48. ***Natural Language Processing.*** MS-Huge Conference, Bruges, Belgium, December, 4-5, 1999.
49. ***Talking to computers: natural language understanding for user-friendly interfaces.*** Proceedings of the Third Convincing Cases in Healthcare Informatics Conference, Thessaloniki, Greece, December 10-12, 1999.

50. *Medical Natural Language Understanding Now and Tomorrow*. Workshop Medical Language Technology, Medical Informatics Congress (MIC) 2000, Brugge, Belgium, November 10, 2000.
51. *Success stories in Human Language Technology: the case of L&C*. National Euromap Seminar, Eindhoven, The Netherlands, March 22, 2001.
52. *Terminology supported semantic indexing*. MEDINFO 2001, IMIA WG6 Workshop, London, UK, September 4, 2001.
53. *Een formeel ontologiesysteem als intermediair tussen natuurlijke taal en (verrichtingen-) classificaties*. CBV symposium “Van referentiebestand naar terminologiesysteem voor de zorg”, Leiden, The Netherlands, September 6, 2001
54. *Formal Ontology Management Systems*. Industry Seminar, Zonnegem, Belgium, September 28, 2001.
55. *Terminology and Ontology Management Systems*. Semantic Web and Applications 2002, Katholieke Hogeschool Sint-Lieven, Gent, Belgium, March 6, 2002.
56. *Language, terminology and ontology in a medical context: theory and reality in industrial applications*, NL-TERM symposium, Rotterdam, The Netherlands, May 24, 2002.
57. *Medical natural language understanding as a therapy for arachnidism and arachnophobia*. Keynote presentation at the 5th Bio-Ontologies Workshop, ISMB2002, Edmonton, Canada, August 8, 2002.
58. *Understanding the message: patient eligibility for clinical trials*. Keynote presentation, (co-authored by Barry Smith), MIE2002, Budapest, Hungary, August 25-29, 2002.
59. *LinkBase: an ontology for medical natural language understanding*. Workshop on Ontology and WordNet, University of Leipzig, Germany, November 27, 2002.
60. *Ontology for Multilingual Terminography* (co-authored by Barry Smith), Seminar on Multilingual Terminography: Towards Intelligent Dictionaries ? Brussels, Belgium, February 28, 2003.
61. *A realist ontology for natural language understanding* (co-authored by Barry Smith), Colloquium Taal en Spraak, University of Nijmegen, Erasmusgebouw, April 2, 2003.
62. *Ontologies for the medical domain: specifying current deficiencies*. MIE 2003 Workshop on Ontology for the Medical Domain, Rennes, France, May 5, 2003.
63. *Applying a realist ontology for medical natural language understanding*. MIE 2003 Workshop on Ontology for the Medical Domain, Rennes, France, May 5, 2003.
64. *Indexing Medical Documents using related ontologies: towards a strategy for automatic quality assurance*. Medical Ontology Workshop, University of Geneva, June 27, 2003.
65. *Quality control of medical terminologies*. Prorec-Belgium general assembly meeting, October 15, 2003.
66. *Text mining for ontology authoring: state of the art at L&C*. Second Ontobasis workshop, Antwerpen, Belgium, February 6, 2004.
67. *String extraction or information extraction ? Realist ontology makes the difference*. Seminar on Generic Technology for Information Extraction from Texts, Leuven, Belgium, March 19, 2004.

68. ***Formal Ontology and Electronic Healthcare Records: what exists, what happened, what has been recorded.*** MEDINFO 2004 workshop on Foundational Issues in Medical Ontology, San Francisco, September 9, 2004.
69. ***Application of Ontology in Cancer Bioinformatics.*** Buffalo, Farber Hall, UB South Campus, NY, September 16, 2004.
70. ***Overview of European Developments in Ontology.*** UB Buffalo, North Campus, Park 280, NY, September 18, 2004.
71. ***Using realist ontology to link patient records with terminologies.*** EUROREC-2004 satellite workshop on Ontology and semantic interoperability of systems sharing biomedical information, Brussels, Belgium, November 25, 2004.
72. ***Realist Ontology for Electronic Health Records.*** Eurorec-2004, Brussels, Belgium, November 26, 2004.
73. ***Terminology and Ontology in Semantic Interoperability of Electronic Health Records.*** Joint EU-WHO workshop on Semantic Interoperability Prerequisites for Efficient eHealth Systems. Brussels, Belgium, February 14-15, 2005.
74. ***Ontology for Emergency Medicine.*** DICOEMS Workshop, Medetel, Luxemburg, April 8, 2005.
75. ***Ontology Outreach Advisory: Healthcare & Life Sciences Chapter.*** KnowledgeWeb Project Conference, Knossos, Crete, June 3, 2005.
76. ***Ontology for Neurodegenerative Disorders.*** Buffalo-Columbia workshop on ontologies and cancer bioinformatics, Buffalo, NY, October 14, 2005.
77. ***Computational Linguistics for Referent Tracking in Electronic Healthcare Records: a research agenda.*** Fall 2005 Colloquia, Center for Cognitive Science, Park Hall 280, UB, Buffalo, NY, October 19, 2005.
78. ***Ontology: the need for international coordination.*** Inaugural meeting of the National Center for Ontological Research (NCOR), Buffalo, NY, October 27, 2005.
79. ***Ontology for indexing electronic healthcare records.*** GdR Stic-Santé, Paris, France, December 8, 2005.
80. ***The EU RIDE Project: A Roadmap to Semantic Interoperability in E-Health Systems.*** Tutorial on Standards and Ontology. Medical Informatics Europe 2006 (MIE2006), Maastricht, The Netherlands, August 27, 2006.
81. ***The role of terminology/ontology for semantic interoperability.*** EFMI Workshop “Semantic Challenge for Interoperable EHR Architectures” provided by EFMI WG “EHR” in co-operation with EFMI WG “Security, Safety and Ethics” and EFMI WG “Natural Language Understanding”, Maastricht, The Netherlands, August 29, 2006.
82. ***Death is a statistical matter.*** The Philosophy of Biology. Buffalo, NY, USA, October 28, 2006.
83. ***What is a diagnosis?*** Workshop on Ontology of Diseases. in Baltimore, MD, USA, November 7, 2006.
84. ***Ontology interoperability, versioning, & evolution.*** Workshop on Biomedical Imaging Ontologies: Design Principles Enabling Interoperability for Imaging Applications, Tools, and Data. AMIA-2006, Washington DC, November 11, 2006.

85. ***Referent Tracking in HL7***; panel on the future of HL7, AMIA-2006, Washington DC, November 14, 2006.
86. ***Tracking Referents***. Ontology for the Intelligence Community; an NCOR Workshop. Columbia, MD, November 30 and December 1, 2006.
87. ***Realism-based Change Management for Quality Assurance in Ontologies and Data Repositories***. Web presentation to the Ontolog Community, January 11, 2007.
88. ***A Realist View on Ontology***. Ontology Summit; NIST, Gaithersburg, USA April 23-24, 2007.
89. ***How to build an Ontology?*** Workshop on Clinical Trial Ontology, Bethesda, MD, May 16-17, 2007.
90. ***Realism-based Ontology for Building Three-dimensional Functional Models of Human Motion***. Workshop of the 3D Anatomical Human Project, October 5th, 2007, London, UK.
91. ***Referent Tracking: research topics and applications***. Center for Cognitive Science Colloquium, October 17th, 2007, 2-4 PM, UB North Campus, Park Hall 280, Buffalo, NY.
92. ***How to Keep Track of Absolutely Everything***. Ontology for the Intelligence Community 2007 (OIC-2007), November 28<sup>th</sup>, 2007, 10.15-11.00 AM. Hilton Columbia Hotel, Columbia MA.
93. ***Ontology: Background and Application to Medication Management***. Bioinformatics and Technology Applications in Medication Management. June 13<sup>th</sup>, 2008, NYS Center of Excellence in Bioinformatics & Life Sciences, Buffalo, NY.
94. ***Referent Tracking for Clinical and Translational Research***. June 16, 2008, College of Medicine, University of Vermont, Burlington, VT.
95. ***Implementation of a Bioinformatics and Medication Management Research Network to Increase Medication Safety***. Framework for Change: a Plan to Redefine Long-Term Care in Western New-York, September 19, 2008, Buffalo, NY. Poster presentation co-authored by Morse GD, Ceusters W, Bessette R, Furlani T, Singh R, Iskedjian M, Hayward A, Notaro J, Catanzaro L, Felton C, Fiebelkorn K, Billitier A, Porreca D, Dombroski E.
96. ***The Role of Ontology in the Pharmaceutical Industry of the Future***. Bridging Pharma and IT. October 28-30, 2008, Renaissance Providence Hotel, Providence, RI.
97. ***Ontology, Terminology, and Cardiovascular Surgery***. CHSS Data Center Work Weekend, November 21, 2008, The Hospital for Sick Children, Toronto, Ont.
98. ***Use of Ontologies in a World in Flux***. Command and Control Ontology Informal Technical Exchange, January 15-16, 2009, National Center for Ontological Research (NCOR), Buffalo, NY, USA.
99. ***Ontological Perspectives on the Classification of Pains and Related Entities***. International Consensus Workshop: Convergence on an Orofacial Pain Taxonomy. March 31, 2009, Miami, FL.
100. ***Do Healthcare IT Standards Hamper the Advance of Science?*** BIO-IT World Conference & Expo '09, April 28, 2009, Boston MA.
101. ***Buffalo Blue Cloud Health Information Center: the Vision***. May 18, 2009, University of Rochester, Rochester NY.

102. ***Please State the Nature of the Medical Emergency: How Computers Understand Conversation.*** UB This Summer Lecture Series, June 17, 2009, Buffalo, NY.
103. ***Post-hoc interpretation of mutually incoherent information models: the role and benefits of realism-based ontology.*** EuroRec 2009 Annual Conference, September 1, 2009, Sarajevo, Bosnia and Herzegovina.
104. Scheuermann RH, Ceusters W, Smith B. ***Representing Influenza in the Ontology for General Medical Science.*** Signs, Symptoms and Findings: Towards an Ontology for Clinical Phenotypes (SSF09), September 3-4, 2009, Milan, Italy.
105. Ceusters W, Smith B. ***Semantic Interoperability in Healthcare: State of the Art in the US,*** ARGOS Workshop, Barcelona, Spain, March 15, 2010.
106. ***Sharing Data while Keeping Control.*** BIO-IT World Conference & Expo 2010, April 22, 2010, Boston MA.
107. ***Biomedical Natural Language Understanding: Adopting Ontological Realism as the Next Step.*** Lister Hill National Center for Biomedical Communications, July 16, 2010, Bethesda, MD.
108. ***The Next Generation of Electronic Health Records.*** Hauptman-Woodward Institute, Buffalo NY, September 22, 2010.
109. ***Keeping Track of Data and What the Data are About: An Exploration in Realism-Based Ontology for Translational Research.*** BIO-IT World Europe Conference & Expo 2010, October 5-7, 2010, Hannover, Germany.
110. ***Ontological Realism and the Open Biomedical Ontologies Foundry.*** Molecular Med Tri-CON 2011, February 25, 2011, San Francisco, CA.
111. ***Meeting Meaningful Use Criteria through Referent Tracking.*** Pre-conference workshop on Utilization of EHRs/EMRs to Further Drug and Disease Related Research, associated with Bio-IT World 2011, April 12, 2011, Boston, MA.
112. ***Ontological Realism in ISTAR.*** DARPA site visit, University at Buffalo, May 16, 2011, Buffalo, NY.
113. ***Foundations for an Ontology for pain-related disablement, mental health and quality of life (OPMQoL).*** Meeting on Pain and Neurological Disease Ontologies, SUNY at Buffalo, Jan 20, 2012, Buffalo NY.
114. ***How to deal with representational artifacts and meanings in Basic Formal Ontology.*** Department of Philosophy Spring 2012 Colloquia, University at Buffalo, March, 1, 2012, Buffalo, NY.
115. ***Towards the Information Artifact Ontology 2.0.*** Signature Ontology Workshop, CUBRC Inc., May 1, 2012, Buffalo NY.
116. ***Assessment instruments and biomedical reality: examples in the pain domain.*** Ontology Dissemination Workshop, University at Buffalo, June, 13, 2012, Buffalo, NY.
117. ***Ontology: innovative approach to orofacial pain classification.*** IADR Satellite Symposium on Orofacial Pain Assessment: Classification, Biobehavior, QST, and Biomarkers, March 19, 2013, Seattle, WA.
118. ***A common framework for representing data and what they are about.*** Ontology seminar, April 1, 2013, Dept. of Philosophy, University at Buffalo, Buffalo, NY.

119. ***Referent Tracking for first- and second order biomedical research.*** IHI – IBM workshop, IBM Watson Research Center, June 10, 2013, Yorktown Heights, NY.
120. ***Defeating Standard Terminology Approaches through Novel Formalisms for Ontology Research and Development.*** Biomedical Informatics Lecture Series, University at Buffalo, March 5, 2014, Buffalo, NY.
121. ***Referent Tracking: How to Use Ontologies to Deal with Instance Data?*** Third Clinical and Translational Science Ontology Workshop - Ontology and Imaging Informatics, June 25, 2014, Buffalo NY.
122. ***Ontology, TMD and beyond; Principles for Taxonomy Development.*** ACTION-APS Pain Taxonomy Meeting, Westin Annapolis, Annapolis, MD, July-18-19, 2014.
123. Keynote lecture: ***What can Ontological Realism and Referent Tracking contribute to computer vision?*** Keynote presentation at the 1st International Workshop on Computer vision + ONTology Applied Cross-disciplinary Technologies (CONTACT 2014), Zurich, Switzerland, Sept 7th, 2014.
124. ***Data Dictionaries for Pain and Chronic Conditions Ontology.*** Investigators Meeting on Chronic Overlapping Pain Conditions, NIH Main Campus Bldg. 31, Bethesda, MD, September 16-17th, 2014.
125. ***Diagnoses in Electronic Healthcare Records: What do they mean?*** School of Informatics and Computing Colloquia Series, Indiana University. IT – Informatics & Communications Technology Complex (ICTC) Room 252, 535 W. Michigan St. Indianapolis, IN 46202. Nov 14, 2014: 10 AM.
126. ***The SUNY-wide Clinical Information Data Repository project - Where are we?*** SUNY-wide CIDR Summit, NYS Center of Excellence in Bioinformatics and Life Sciences, Buffalo, NY, May 13, 2015.
127. ***Ontological investigations into medical diagnoses.*** Grand Rounds of the UB Department of Biomedical Informatics. Wednesday, August 26, 2015, 12:00 pm –1:00 pm, 5019A CTRC.
128. ***MIROT: Minimal Information to be Referenced by an Ontology Term.*** Clinical Terminology Shock and Awe: Fifth Annual Workshop of the Clinical and Translational Science Ontology Group, Buffalo, NY - September 7-8, 2016.
129. ***Biomedical Ontology Rotations in the UB Department of Biomedical Informatics: to boldly go where no MD has gone before.*** Dept. Of Biomedical Informatics, Buffalo NY, Wednesday, September 14, 2016.
130. ***Ontology and Psychiatry: Do mental disorders still exist?*** Grand Rounds of the UB Department of Biomedical Informatics. Buffalo NY, February 23, 2017.
131. ***An ontological approach for developing orofacial pain taxonomies.*** Invited presentation for Workshop on ‘Oral Neuropathic Pain: Consensus Guidelines: Can PDAP be improved?’, San Francisco, Calif., USA, March 21, 2017.
132. ***An ontological approach to orofacial pain taxonomy.*** Invited presentation for the symposium on ‘Orofacial Pain Taxonomy: Building on the Success of the DC/TMD’, IADR/AADR/CADR General Session & Exhibition, San Francisco, Calif., USA, March 22, 2017.

133. **Are linguistics-based event classifications useful for realism-based process classifications?** Invited presentation for the *Lunch time talks*. Dept of Philosophy, University at Buffalo, November 10, 2017.
134. ***Faithfulness of EHR data: a shared responsibility.*** Grand Rounds of the UB Department of Biomedical Informatics. Buffalo NY, January 9, 2019.
135. ***Ontology of orofacial pain to improve patient care.*** National Academies Workshop on Temporomandibular Disorders, Washington DC, March 28, 2019. (invited presentation)
136. ***Mutualistic integration of Referent Tracking and BFO2020-style FOL axiomatization.*** Buffalo Ontology Day, October 24, 2022.
137. ***CLIF as an Educational Tool for Teaching Realism-Based Ontology.*** ADNI-NPT-ND Ontology Meeting, University at Buffalo, April 21, 2023.
138. Keynote presentation: ***BFO2020's axiomatization: the Good, the Bad and the Ugly.*** Basic Formal Ontology Summit, Buffalo, NY, May 23, 2023.
139. ***Principles of Referent Tracking in the context of enhanced object-based production.*** Enhanced Object-Based Production Conference, Arlington, VA, June 22, 2023.