

Kenneth Baclawski

College of Computer and Information Science
Northeastern University
360 Huntington Avenue
Boston, MA 02115, USA
email: kenb@ccs.neu.edu
www.ccs.neu.edu/home/kenb

Education

Ph.D. 1976 Harvard University (Mathematics)

B.S. 1971 University of Wisconsin, Milwaukee (Applied Mathematics and Engineering Physics)

Experience

1/84 to present: Associate Professor. College of Computer and Information Science, Boston, MA

9/03 to 8/05: Visiting Professor. Harvard Medical School, Boston, MA

7/98 to 12/05: Chief Scientist. Jarg Corporation, Waltham, MA

7/97 to 6/98: Chief Technical Officer. Jarg Corporation, Waltham, MA

9/82 to 12/82: Visiting Scholar in Applied Mathematics. Massachusetts Institute of Technology, Cambridge, MA

7/81 to 12/81: Acting Chairman. Mathematics Department, Haverford College, Haverford, PA

1/80 to 6/80: Visiting Professor. University of California, San Diego

7/79 to 6/86: Consultant to the Director. Los Alamos National Laboratory, Los Alamos, NM

7/78 to 12/83: Assistant Professor. Haverford College, Haverford, PA

7/76 to 6/78: C.L.E.Moore Instructor. Massachusetts Institute of Technology, Cambridge, MA

7/72 to 6/76: Teaching Fellow. Harvard University, Cambridge, MA

5/70 to 8/70: Assistant Professor. Physics Department, University of Wisconsin, Milwaukee

Areas of Interest

Semantics of Data
Web Service Specification and Deployment
Big Data and NoSQL Systems
High-Performance Ontology-Based Computing
Knowledge Bases for Biology and Medicine
Ontologies for: Life Sciences, Situation Awareness and Financial Services

Research Impact

h-index	31
normalized h-index	61
number of publications	339
number of citations	3852
as of July 21, 2015	

Honors and Awards

Google awarded a settlement to Northeastern University to conclude a patent infringement lawsuit for US Patent No. 5,694,593 (Kenneth Baclawski, inventor). This patent was allegedly for what Google calls MapReduce. MapReduce is the main search engine used by Google. MapReduce is the basis for NoSQL search engines such as Hadoop, and is one of the fundamental tools used for Big Data systems. US Patent No. 5,694,593 was invented in 1993; the patent application was in 1994; the patent was granted in 1997; the lawsuit was settled in 2011. The terms of the settlement are confidential.

“Enhancing Organism Based Disease Knowledge Via Name Based Taxonomic Intelligence,” National Library of Medicine. 10/1/2008 to 9/30/2012.

Keynote Address, 4th Semantic Interoperability for E-Government Conference, 2006.

Special Recognition Award from the Open Group and the Federal Semantic Interoperability Community of Practice, 2006.

Keynote Address, Workshop on Advancing Toward Credible Agreements Around Information Sharing Environments, Governance, and Data Architecture, 2005.

Outstanding Paper Award, SDR Forum, 2005.

“Computational Models of Health Behavior Change Dialog,” National Library of Medicine. 10/1/2007 to 9/30/2009.

“Automated Ontologically-Based Link Analysis of International Web Logs for the Timely Discovery of Relevant and Credible Information,” Air Force. 3/1/2006 to 2/28/2009.

“Semantic Information eXchange Architecture,” Navy. 1/19/2006 to 1/18/2008.

“Situational Behavior Modeling,” US Air Force Office of Scientific Research. 6/1/2006 to 5/30/2007.

“A Knowledge Development and Utilization Environment to Support Knowledge-Based Information Fusion in the Context of Asymmetric Warfare Information,” Army. 11/1/2005 to 10/31/2007.

Keynote Address, Third International Workshop on Software Methodologies, Tools and Techniques, 2004.

“A Formal Framework for Situation Awareness,” Air Force. 5/1/2003 to 4/30/2005.

Keynote Address, Second International Workshop on Software Methodologies, Tools and Techniques, 2003.

“Information Fusion Reference Model,” Army. 1/1/2005 to 6/30/2005.

“Achieving Interoperability of Emergency Response Teams Using Model Driven Architecture and Software Defined Radios,” NSF. 10/1/2002 to 9/30/2004.

“A Formal Framework for Situation Awareness,” Air Force. 5/1/2002 to 1/31/2003.

“UML-Based Ontology Toolset,” DARPA. 9/1/2000 to 8/31/2005.

“Architectures for ANT Based Adaptive Resource Management for Electronic Warfare,” DARPA. 10/1/1999 to 9/30/2002.

“Re-Engineering of Multi-Sensor Fusion Software Through the Use of Formal Methods,” Sanders, a Lockheed Martin Company. 1/1/1999 to 12/31/1999.

“Biomedical Science Information Retrieval and Management,” NIH. 10/1/1998 to 9/30/1999.

“Data/Knowledge Bases For Biological Papers And Techniques,” NSF. 1992 to 1995.

“Research on file access patterns,” Amdahl Corporation. 1988 to 1988.

“High-Performance Transaction Systems,” NSF. 1987 to 1989.

Keynote Address, Trends in Combinatorics, 1982.

Case Western Reserve University Centennial Medal, 1982.

“Algebra and Combinatorics,” NSF. 1979 to 1983.

“Combinatorial Theory,” NSF. 1977 to 1978.

“The Bracket Ring of a Combinatorial Geometry,” NSF. 1976 to 1977.

“James K. Whittemore Fellow,” Harvard University. 1975 to 1976.

“Graduate Fellowship,” NSF. 1971 to 1975.

“Woodrow Wilson Fellow,” Woodrow Wilson Foundation. 1971 to 1972.

Courses Taught

Web Service Development
Software Component Development
Introduction to Software Engineering
Transaction Processing Systems
Distributed Database Systems
Object-Oriented Design
Introduction to Database Management
Operating Systems Design
Data Modeling
Algorithms
Data Structures
Assembly Language
Introduction to Computer Programming

Service Activities

Member of Organizing Committee, Workshop on Modular Ontologies (WoMO). 2014.

Chair, Masters Committee. College of Computer and Information Science. 2014–present.

Member, Academic Appeals Committee. Northeastern University. 2014.

Co-Founder and Member, CMIS for Document Access Management (CMIS4DAM) Technical Committee. OASIS. 2014–present.

Co-Chair, Tackling the Variety Problem in Big Data. Ontology Summit. 2014.

Chair, Semantic Annotation of the Ontolog Community Environment. Ontology Summit. 2014.

Advisor, Hackathon. Ontology Summit. 2014.

Member, Semantic Web and Ontologies (SWAO) Special Interest Group. IAOA. 2014.

Member, Ontolog Board of Trustees. 2014.

Member of Organizing Committee, Ontology Summit. 2014.

Chair, Repositories Special Interest Group. IAOA. 2013–2014.

Member, Standards and Ontologies Special Interest Group. IAOA. 2013–2014.

Member of Organizing Committee, Ontology Summit. 2013.

Chair, Ontology Tools Survey. Ontology Summit. 2013.

Co-Chair Organizing Committee, Hackathon. Ontology Summit. 2013.

Co-Chair, OOR-Ontohub-Gatekeeper API Workshop. 2013.

Chair, Ontologies and Standards for Social Networking Workshop. 2013.

Co-Chair, Guide to Reasoning Applications Development and Cases. Ontology, Rules, and Logic Programming for Reasoning and Applications. 2013.

Co-Chair, Open Ontology Repository Development Workshop. OOR Initiative. 2013.

Co-Chair, Software Environments for Evaluating Ontologies Track. Ontology Summit. 2013.

Co-Chair, Leveraging Semantics on OntologPSMW. Ontology Summit. 2013.

Co-Chair, Ontohub-OOR-OOPS! Integration. Ontology Summit. 2013.

Co-Chair, Ontologies and Standards Mini-Series. 2012–2013.

Secretary of Steering Committee, Workshop on Modular Ontologies (WoMO). 2013–present.

Member, Content Management Interoperability Services (CMIS) Technical Committee. OASIS. 2013–present.

Member, Masters Committee. College of Computer and Information Science. 2013–present.

Chair, OASIS Integrated Collaboration Object Model for Interoperable Collaboration Services (ICOM) Technical Committee. OASIS. 2012–present.

Member, OASIS Open Data Protocol (OData) Technical Committee. OASIS. 2012–present.

Panelist, Bioengineering Sciences and Technologies: Shared Instrument Review. National Institutes of Health. 3/2012.

Member, Program Committee. International Workshop on Modular Ontologies. 7/2012.

Panelist, Review Panel on Collaboration with NCBCs. National Institutes of Health. 3/2011.

Presenter, OOR-BioPortal Joint Workshop. Ontolog Forum and NCBO. 2011.

Chair, University Standing Appeals Committee on Tenure. Northeastern University. 2011–2012.

Co-Chair, Open Ontology Repository Architecture Workshop Series. Ontolog Forum. 2011–2012 (twelve sessions).

Member, Organizing Committee and Program Committee. OCAS: Ontologies Come of Age in the Semantic Web at ISWC 2011. 2011.

Member, Program Committee. ACM Workshop on Medical Multimedia Analysis and Retrieval (MMAR 2011). 2011.

Member, University Standing Appeals Committee on Tenure. Northeastern University. 2010–2011, 2014–present.

Member, Marius Solomon Evaluation Committee. Northeastern University. 2010–2011.

Member, Program Committee. IEEE Conference on Cognitive Methods in Situation Awareness and Decision Support (CogSIMA). 2010–present.

Member, Program Committee. ESWC 2010 Workshop on Ontology Repositories and Editors for the Semantic Web. 2010.

Member, Organizing Committee and Program Committee. ISWC 2010 Workshop on Semantic Repositories for the Web. 2010.

Panelist, Computational Modeling and Sciences for Biomedical and Clinical Applications. National Institutes of Health. 7/2009 (twice), 11/2009, 3/2010, 6/2010, 10/2010, 2/2011, 6/2011, 10/2011, 2/2012, 10/2012.

Panelist, Special Emphasis Panel. National Institutes of Health. 3/2009.

Panelist, Computer Shared Instrumentation. National Institutes of Health. 7/2009.

Member, International Association for Ontologies and Applications (IAOA). IAOA. 2009–present.

Chair, Open Ontology Repository Gathering. International Semantic Web Conference. 2009.

Chair, Ontology Repository Research Issues. Ontolog Forum and NCBO. 2009.

Member, Program Committee. Collaboration and Ontology Repository Workshop (CCMaLiSK) at the International Semantic Web Conference. 2009.

Member, Program Committee. Transforming and Weaving Ontologies and Model Driven Engineering at the MoDELS Conference. 2008, 2009, 2010.

Co-Founder, Convener, Speaker and Session Chair, Open Ontology Repository Initiative. Ontolog Forum and NCBO. 2008–present (weekly virtual meetings).

Member, Frader Evaluation Committee. Northeastern University. 2008.

Series Chair, Emerging Ontology Content Showcase. Ontolog Forum. 2008.

Member, Provost Grant Review Board. Northeastern University. 2007.

Presenter, Panel on social networking. Northeastern University. 2007.

Convener, Speaker and Session Chair, Ontology Summit. National Institute of Standards and Technology. 2007, 2008.

Convener, Speaker and Session Chair, Ontolog Forum. NIST, IAOA and NCBO. 2007–present (weekly virtual meetings).

Presenter, Inaugural Encyclopedia of Life Meeting. Marine Biological Laboratory. 2007.

Panelist, Ad Hoc Study Group. National Institutes of Health. 7/2006, 9/2006, 1/2007.

Keynote Address, Introduction to the Semantic Web. 4th Semantic Interoperability for E-Government Conference. 2/2006.

Panelist, NIH - NIDDK Review Branch. National Institutes of Health. 2/2006.

Member, Program Committee. Semantic Modeling and Model-Driven Architecture (SMMDA). 2006.

Chair, Scientific Advisory Board of the Virtual Plant Information Network (VPIN). National Center for Genome Resources. 2005–2007.

Panelist, Biodata Study Group. National Institutes of Health. 7/2005, 10/2005.

Member, Program Committee. International Symposium on Network Computing and Applications. 2005.

Tutorial Presenter, Introduction to the Semantic Web for Bioinformatics. Computational Systems Bioinformatics Conference. 11/2005.

Program Committee Member, Workshop on Semantic Web Enabled Software Engineering. International Semantic Web Conference. 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013.

Session Chair, Conference. SPIE Conference on Multisensor, Multisource Information Fusion. 2005.

Member, Advisory Board. School of Technological Entrepreneurship, Northeastern University. 2004–2011.

Member, Program Committee. International Semantic Web Conference. 2004–2005.

Member, Program Committee. International Symposium on Network Computing and Applications. 2004–2005.

Session Chair, Symposium. International Symposium on Network Computing and Applications. 2004–2005.

Member, Search Committee for the Dean of the School of Technological Entrepreneurship. Northeastern University. 2004–2005.

Chair, Evaluation Committee for the Dean of the College of Engineering. Northeastern University. 2004.

Member, Program Committee. International Workshop on Software Methodologies, Tools and Techniques. 2003, 2004, 2005, 2006, 2007.

Member, Ontology Working Group. Object Management Group. 2002–2004.

Senator, Faculty Senate. Northeastern University. 2001–2003.

Member, UML2.0 Standardization Committee. Object Management Group. 2001–2003.

Member, Responsibility-Centered Management Committee. Northeastern University. 2001–2002.

Member, Financial Affairs Committee. Northeastern University. 2001–2002.

Member, School of Entrepreneurship Committee. Northeastern University. 2000–2001.

Co-Author, Web Ontology Language. World Wide Web Consortium. 2000–2001.

Co-Chair, Workshop on Behavioral Semantics. Object-Oriented Programming Languages, Systems and Architectures. 1999–2002.

Secretary, Evaluation Committee for the Dean of the School of Engineering Technology. Northeastern University. 1993–1994.

Secretary, Long-Range Planning Committee. Northeastern University. 1991–1992.

Member, Undergraduate Committee. College of Computer and Information Science. 1988–2013.

Member, Computing Resources Committee. College of Computer and Information Science. 1988–1989.

Advisor, Programmers Guild. College of Computer and Information Science. 1988–1989.

Advisor, Association for Computing Machinery Student Chapter. College of Computer and Information Science. 1988–1991.

Member, Committee on the Use of Computers in Advising. Northeastern University. 1989–1991.

Chair, Program Review Committee for Mechanical Engineering. Northeastern University. 1987–1988.

Chair, Program Review Committee of the Graduate Council. Northeastern University. 1984–1986.

Member, Graduate Council Executive Committee. Northeastern University. 1984–1986.

Member, Graduate Council. Northeastern University. 1984–1986.

Co-Chair, Joint Committee on Business-Computer Science Cooperation. College of Computer and Information Science. 1988–1993.

Member, Computer Resource Advisory Committee. College of Computer and Information Science. 1988–1990.

Chair, Hiring Committee. College of Computer and Information Science. 1988–1991.

Chair, Colloquium Committee. College of Computer and Information Science. 1985–1990.

Secretary, Tenure Committee. College of Computer and Information Science. 1988–1994, 2002–2003.

Member, Tenure Committee. College of Computer and Information Science. 1985–present.

Chair, Merit Review Committee. College of Computer and Information Science. 1987–1988, 2013–present.

Member, Merit Review Committee. College of Computer and Information Science. 1985–1988, 1992–1993.

Member, Hiring Committee. College of Computer and Information Science. 1983–1991.

Chair, Sabbatical Leave Committee. College of Computer and Information Science. 1983–1989, 1991–1995, 1996–1997, 2004–2010.

Member, Graduate Committee. College of Computer and Information Science. 1983–1986.

President, GBSIGMOD. Association for Computing Machinery. 1986–1990, 1991–1993.

President, Greater Boston Chapter. Association for Computing Machinery. 1990–1992.

Vice-President, Greater Boston Chapter. Association for Computing Machinery. 1986–1988.

Member, Greater Boston Chapter Executive Board. Association for Computing Machinery. 1984–1999.

Treasurer, GBSIGMOD. Association for Computing Machinery. 1990–1991.

Chair, Greater Boston Chapter Volunteers Committee. Association for Computing Machinery. 1992–1993.

Chair, Greater Boston Chapter Strategic Planning Committee. Association for Computing Machinery. 1992–1993.

Member, SIGMOD. Association for Computing Machinery. 1984–2000.

Member, Greater Boston Chapter. Association for Computing Machinery. 1984–present.

Member, Computer Society. IEEE. 1984–present.

Member, Technical Committee on Data Engineering. IEEE. 1984–2000.

Member, Program Committee. IEEE-Boston. 1990–1994.

Chair, Greater Boston Chapter Program Committee. Association for Computing Machinery. 1984–1993.

Websites and Software

The SoapRest Web Services Package

Kenneth Baclawski.

Provides: software.

Purpose: research.

www.ccs.neu.edu/home/kenb/soaprest

2014.

Java EAPG - An Extended ABNF Parser Generator

Kenneth Baclawski.

Provides: software.

Purpose: research.

www.ccs.neu.edu/home/kenb/eapg.jar
2014.

Northeastern University Pseudo Cone Facility (NUPCF)
Kenneth Baclawski.
Provides: software, website.
Purpose: research.
www.ccs.neu.edu/home/kenb/nupcf
2011.

Database problems and solutions (DPSS)
Kenneth Baclawski.
Provides: software, website.
Purpose: teaching.
www.ccs.neu.edu/home/kenb/db
2011–present.

Purple Semantic Media Wiki
Kenneth Baclawski, Peter Yim, Tejas Parikh, Sumit Purohit.
Provides: software, website.
Purpose: research, service.
project.cim3.net/wiki/PSMW
2011–present.

Use Case Description Ontology
Kenneth Baclawski.
Provides: ontology.
Purpose: research, service.
www.ccs.neu.edu/home/kenb/ontologies/ucdo.owl
2010.

KEEPER Project
Kenneth Baclawski, Maximo Gurmendez.
Provides: software, website.
Purpose: research.
2010–present.

Open Ontology Repository Use Case Descriptions
Kenneth Baclawski, Maximo Gurmendez.
Provides: software, website, ontology.
Purpose: research.
www.ccs.neu.edu/home/kenb/ontologies/oor-usecase.xml

2010.

Introduction to Probability with R

Kenneth Baclawski.

Provides: software, website, textbook.

Purpose: teaching.

stochas.org

2008–present.

Purple Media Wiki Extension

Kenneth Baclawski, Peter Yim, Tejas Parikh, Viral Gupta, Sumit Purohit.

Provides: software, website.

Purpose: research, service.

project.cim3.net/wiki/PMWX

2008–present.

Open Ontology Repository

Kenneth Baclawski (PI), Peter Yim, Todd Schneider, Michael Gruninger, National Center for Biomedical Ontologies, Open Ontology Repository Initiative.

Provides: software, website.

Purpose: research.

oor.net

2008–present.

Ontologies for Bioinformatics Website

Kenneth Baclawski, Tianhua Niu.

Provides: website.

Purpose: teaching, textbook.

ontobio.org

2005.

Eleventh OOPSLA Workshop on Behavior Semantics

Kenneth Baclawski, Haim Kilov.

Provides: website.

Purpose: service.

www.ccs.neu.edu/home/kenb/oopsla2002

2002.

Tenth OOPSLA Workshop on Behavior Semantics

Kenneth Baclawski, Haim Kilov, Angelo Thalassinidis, Kevin Tyson.

Provides: website.

Purpose: service.

www.ccs.neu.edu/home/kenb/oopsla2001
2001.

Ninth OOPSLA Workshop on Behavior Semantics

Kenneth Baclawski, Haim Kilov, Angelo Thalassinidis, Kevin Tyson.

Provides: website.

Purpose: service.

www.ccs.neu.edu/home/kenb/oopsla2000
2000.

Java RMI and Synchronization Tutorials

Kenneth Baclawski.

Provides: software, website.

Purpose: teaching.

www.ccs.neu.edu/home/kenb/tutorial
1998–present.