

Robert J. Robbins

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Summary

I am a biologist, an educator, a science administrator, an information technologist, and an IT leader and manager who specializes in advancing biomedical knowledge and supporting education through the application of information technology. I am a skilled communicator and am frequently called upon to speak at national and international meetings. I have been engaged with on-line information systems since the beginning, first using anonymous ftp, then gopher, then the web to make information available to the public. One of the very first biology-oriented web sites — Prot-Web — was created, with my support, by a student at Johns Hopkins and I personally started creating web pages in 1994, just a few months after the first Mosaic web browser was released by NCSA.

My background is varied: I have taught biology to thousands of university students, served as a program officer in two federal funding agencies (NSF and DOE), played a key role in developing the information infrastructure of the human genome project, and served as the VP/CIO of a major research organization. I am comfortable working across a wide range of organizational activities and levels. For example, while at the FHCRC, I served as a C-level executive (leading a 75-person department, with an annual budget of approximately \$10 million), as a PI on a major NIH award (\$3.5 million), as an instructor in a course on the history of genetics, and as a hand-on IT staffer, personally writing the code to create the Center's first formal website.

I am committed to public service and community education: Nearly twenty years ago I developed a free website (www.esp.org) that is still used by tens of thousands of students and educators world wide; in 2001 I co-founded and currently lead an organization (www.briite.org) that facilitates communication and cooperation among IT professionals at academic biomedical research organizations.

Selected Accomplishments

- Led the maturation of the IT department at a major research organization as it grew into a professional unit that routinely delivered multi-million dollar projects on time and within budget.
- Co-founded and still lead a national organization (www.briite.org) dedicated to communication and cooperation among IT leaders at research organizations.
- Created a web site (www.esp.org) that provides access to classic scientific literature to students, educators, and researchers worldwide.
- Helped form national and international policy for the development of a federated approach to biological information resources for biology.
- Directed informatics at the Genome Data Base during its transition from private to public funding.
- Initiated, developed, and implemented the first program at the National Science Foundation to support database activities for biology.

Professional Experience

Independent Consultant / Volunteer

2009 – present

- Helped organize and moderate two workshops on cloud computing in support of biomedical research (2018 and 2019).
- Wrote code (as a Programmer Analyst III) to support the development of a web portal for research activities at UCSD
- Served as volunteer board member (and as web developer) for the Guatemala Friendship School Foundation, a not-for-profit organization dedicated to the elimination of poverty through education in rural Guatemala
- Organized, convened, and led several workshops for the Research Coordinating Network for the Genomics Standards Consortium project (RCN4GSC) at the University of California at San Diego
- Assisted a major cancer center with developing a new model and proposal for the informatics shared resource of its Cancer Center Support Grant
- Performed a computer security analysis for a consulting firm that specializes in toxicology exposure assessment
- Organized, convened and led several national meetings of the Biomedical Research Institutions Information Technology Exchange (BRIITE)
- Served on the Thirty-year Review Committee for Long Term Ecological Research (LTER) for the National Science Foundation.

- Served as the program evaluator on an ATE award (Advanced Technological Education) to Bellevue College to develop a certification program and curriculum for IT staff medical informatics (NSF/DUE 1003223)
 - Taught courses in medical informatics at Bellevue College, Bellevue, Washington
- Vice President, Information Technology 1995 – 2009
Fred Hutchinson Cancer Research Center
- Successfully developed information technology into a strategic asset for the Center
 - Created a project-management office and implemented a formal approach to project management
 - Designed and deployed integrated systems to support a metropolitan-area health-care organization (the Seattle Cancer Care Alliance) on time and under budget
 - Deployed Peoplesoft financials, Peoplesoft HR system upgrade, and Peoplesoft financials full-version upgrade, on time and under budget
 - Led a department of 75 staff, with a budget in excess of \$10 million
 - Designed and deployed the IT infrastructure necessary to support the development of new facilities for the Center, including two major research buildings, a clinical outpatient facility, and an administration building, all totaling more than 750,000 square feet
- Program Director, Bioinformation Infrastructure 1993 – 1995
Office of Health and Environmental Research, US Department of Energy
- Developed policies regarding bioinformation infrastructure
 - Provided consulting to the research community on matters pertaining to scientific databases
 - Reviewed and evaluated scientific research proposals involving scientific computing
- Associate Professor of Medical Information and Computer Science 1991 – 1993
Director, Laboratory for Applied Research in Academic Information
The Johns Hopkins University, Baltimore, MD 21205
- Administered an informatics research laboratory with more than 35 full-time staff and over \$5,000,000 in external annual support
 - Developed and taught courses in information-system design and computational biology
 - Initiated development of a research and training program in biomedical informatics
 - Advised the Dean of Medicine on medical informatics
- Program Director, Database Activities in Biology 1990 – 1991
US National Science Foundation
- Initiated, developed, and implemented a new Program in the Directorate for Biological, Behavioral, and Social Sciences (BBS) to encourage and support research in BBS-related database theory and to encourage and support the implementation of BBS-related databases
 - Advised senior NSF administrators on matters and policies regarding scientific databases
 - Advised the BBS research community on matters pertaining to scientific databases
 - Served as the Directorate's and the Foundation's representative and liaison with other agencies and organizations in matters pertaining to biological databases
 - Developed program announcements, reviewed proposals, and made decisions on funding
- Staff Associate for Biotic Information Resources Development 1987 – 1990
US National Science Foundation
- Prepared position papers and recommendations for senior NSF administrators
 - Reviewed and evaluated scientific research proposals involving scientific computing
 - Provided consulting on the design of computer applications in the biological sciences
- Assistant/Associate Professor, Biological Science and Zoology 1977 – 1987
Michigan State University, East Lansing, Michigan 48824
- Performed research in animal behavior, ecology, and genetics
 - Taught large upper-division and graduate-level genetics courses
 - Developed, administered, and taught large (1000+ students) introductory biology courses

- Served as special assistant to the vice president for research; chaired the Institutional Animal Care & Use Committee

Education

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| PhD | Zoology | Michigan State University, East Lansing, Michigan |
| MS | Biology | Michigan State University, East Lansing, Michigan |
| BS | Zoology | Michigan State University, East Lansing, Michigan |
| AB | History | Stanford University, Palo Alto, California |

Honors and Awards

Listed in American Men and Women of Science
 Listed in Who's Who in the Midwest
 Listed in Who's Who of Emerging Leaders in America
 Listed in Who's Who in Frontier Science and Technology

Professional Associations

American Association for the Advancement of Science
 American Society for Microbiology
 Association for Computing Machinery (SIGMOD, SIGIR, SIGSOFT)
 Genetics Society of America
 IEEE Computer Society

Selected Publications

- 2021 *Cloud Computing in Support of Grant-Funded Research: Opportunities, Challenges, and Risks*. Manuscript in preparation. (First author, with Stuart Kendrick, co-author)
- 2016 *Advances in biodiversity: metagenomics and the unveiling of biological dark matter. Standards in Genomic Sciences*, 11(1):69. (First author, with Leonard Krishtalka and John Wooley, co-authors)
- 2014 *Genomic standards consortium projects. Standards in Genomic Sciences*. 9:599-601. (20th author, with Field D, Sterk P, Kottmann R, De Smet JW, Amaral-Zettler L, Cochrane G, Cole JR, Davies N, Dawyndt P, Garrity GM, Gilbert JA, Glöckner FO, Hirschman L, Klenk HP, Knight R, Kyrpides N, Meyer F, Karsch-Mizrachi I, Morrison N, San Gil I, Sansone S, Schriml L, Tatusova T, Ussery D, Yilmaz P, White O, Wooley J, Caporaso G., co-authors)
- 2014 Meeting report: Advancing practical applications of biodiversity ontologies. *Standards in Genomic Sciences*. 9:17. (11th author, with Ramona L Walls, Robert Guralnick, John Deck, Adam Buntzman, Pier Luigi Buttigieg, Neil Davies, Michael W Denslow, Rachel E Gallery, J Jacob Parnell, David Osumi-Sutherland, Philippe Rocca-Serra, John Wieczorek, Jie Zheng, co-authors)
- 2014 Report of the 14th Genomic Standards Consortium Meeting, Oxford, UK, September 17-21, 2012. *Standards in Genomic Sciences*. 9:1236-1250. (14th author, with Neil Davies, Dawn Field, Linda Amaral-Zettler, Katharine Barker, Mesude Bıcak, Sarah Bourlat, Jonathan Coddington, John Deck, Alexei Drummond, Frank Oliver Glöckner, Chris Meyer, Norman Morrison, Matthias Obst, Robert Robbins, Lynn Schriml, Peter Sterk, Steven Stones-Havas., co-authors)
- 2013 Meeting Report: GBIF hackathon-workshop on Darwin Core and sample data (22-24 May 2013). *Standards in Genomic Sciences*. 9(3):614 - 627. (Co-author, with John Wieczorek, Olaf Banki, Stan Blum, John Deck, Markus Döring, Gabriele Dröge, Dag Endresen, Philip Goldstein, Patrick Leary, Leonard Krishtalka, Eamonn O'Tuama, Tim Robertson, Pelin Yilmaz)
- 2012 Conceptualizing a Genomics Software Institute (GSI). *Standards in Genomic Sciences*. 6(1):136-44. (Co-author, with Jack A Gilbert, Charlie Catlett, Narayan Desai, Rob Knight, Owen White, Rajesh Sankaran, Susanna-Assunta Sansone, Dawn Field, Folker Meyer)
- 2012 RCN4GSC Meeting Report: Initiating a Testbed for Managing Data at the Interface of Biodiversity and Genomics/Metagenomics, May 2011. *Standards in Genomic Sciences*. 7(1):171-4. (First author, with James Beach, Stan Blum, Peter Dawyndt, John Deck, Renzo Kottmann, Norman Morrison, Eamonn Ó Tuama, Inigo San Gil, David Vieglas, John Wieczorek, John Wooley)
- 2012 RCN4GSC Workshop Report: Modeling a Testbed for Managing Data at the Interface of Biodiversity and (Meta)Genomics, April 2011. *Standards in Genomic Sciences*. 7(1):153-8. (First author, with Guy Cochrane, Neil Davies, Peter Dawyndt, Renzo Kottmann, Leonard Krishtalka, Norman Morrison, Eamonn Ó Tuama, Inigo San Gil, John Wooley)
- 2011 Effects of a Web-based intervention on women's breast health behaviors. *Translational behavioral medicine*. 1(1):155-164. (Co-author, with D. Bowen, N. Bush, H. Meischke, A. Ludwig, J. Wooldridge.)
- 2011 Policy and data-intensive scientific discovery in the beginning of the 21st century. *Omic: a journal of integrative biology*. 15(4):221-5. (Co-author, with Vural Ozdemir, Charles Smith, Kathleen Bongiovanni, David Cullen, Bartha M Knoppers, Andrew Lowe, Mette Peters, Elizabeth Stewart, Gene Yee, Yi-Kuo Yu, Eugene Kolker)

- 2011 RCN4GSC Workshop Report: Managing Data at the Interface of Biodiversity and (Meta)Genomics, March 2011. *Standards in Genomic Sciences*. 7(1):159-65. (First author, with Linda Amaral-Zettler, Holly Bik, Stan Blum, James Edwards, Dawn Field, George Garrity, Jack A Gilbert, Renzo Kottmann, Leonard Krishtalka, Hilmar Lapp, Carolyn Lawrence, Norman Morrison, Eamonn Ó Tuama, Cynthia Parr, Inigo San Gil, David Schindel, Lynn Schriml, David Vieglas, John Wooley)
- 2009 Security and privacy requirements for a multi-institutional cancer research data grid: an interview-based study. *BMC Medical Informatics and Decision Making* 9:31. (Second author, with F. J. Manion, W. A. Weems and R. S. Crowley, co-authors)
- 2004 What do we mean by internet access? A framework for health researchers. *Preventing Chronic Disease*. 1(4): 1–17. (Last author, with N. Bush, D. Bowen, J. Wooldridge, A. Ludwig, and H. Meischke, co-authors)
- 2003 Predictors of Women's Internet Access and Internet Health Seeking. *Health Care For Women International*. 24(10):940-951. (Co-author, with D. Bowen, H. Meischke, N. Bush, J. Wooldridge, A. Ludwig, G. Escamilla)
- 2003 Early Experience with a Web-based intervention to inform risk of breast cancer. 2003. *Journal of Health Psychology*. 8(1):175-186. (Last author, with D. Bowen, A. Ludwig, N. Bush, H. Unruh, H. Meischke, J. Wooldridge, co-authors)
- 1996 Bioinformatics: Essential infrastructure for global biology. *Journal of Computational Biology*, 3: 465-478.
- 1996 Comparative genomics: A new integrative biology. In Collado-Vides, J., Magasanik, B., and Smith, T. F. (Eds) *Integrative Approaches to Molecular Biology*. Cambridge, Massachusetts: MIT Press. pp. 63-90.
- 1995 Information infrastructure. *IEEE Engineering in Medicine and Biology*, 14(6): 746-759.
- 1995 Informatics and the human genome project. *IEEE Engineering in Medicine and Biology*, 14(6): 694-701. (First author, with D. Benton and J. Snoddy, co-authors)
- 1994 Genome informatics I: Community databases. *Journal of Computational Biology*, 1:173-190.
- 1994 Representing genomic maps in a relational database. In S. Suhai (ed.) *Computational Methods in Genome Research*. New York: Plenum Publishing Company. pp. 85-96.
- 1994 Biological Databases: A New Scientific Literature. *Publishing Research Quarterly*, 10:1-27.
- 1993 Coat color genetics of *Peromyscus*. IV. Variable white, a new dominant mutation in the deer mouse. *Journal of Heredity*, 85:48-52. (Second author, with K. Cowling, G. R. Haigh, S. K. Teed, and W. D. Dawson, co-authors)
- 1993 *Bioinformatics, Supercomputing and Complex Genome Analysis*. Singapore: World Scientific Publishing Company. 850 pp. (fourth editor, with H. A. Lim, J. W. Fickett, C. R. Cantor co-editors)
- 1993 CCM92 informatics report. In Cuticchia, A. J., Pearson, P. L., and H. P. Klinger (eds) *Chromosome Coordinating Meeting 1992, Genome Priority Reports*, vol. 1. Basel: S. Karger A. G.
- 1993 The GDB Human Genome Data Base Anno 1993. *Nucleic Acids Research*, 21:3003-3006. (Fourth author, with A. J. Cuticchia, K. H. Fasman, D. T. Kingsbury, and P. L. Pearson, co-authors)
- 1993 Genome informatics: Requirements and challenges. In H. A. Lim, J. W. Fickett, C. R. Cantor, and R. J. Robbins (eds) *Bioinformatics, Supercomputing and Complex Genome Analysis*. Singapore: World Scientific Publishing Company.
- 1992 Challenges in the Human Genome Project. *IEEE Engineering in Medicine and Biology*. 11:25-34.
- 1992 The GDB Human Genome Data Base Anno 1992. *Nucleic Acids Research*, 20(Supplement):2201-2206. (Fourth author, with P. L. Pearson, N. W. Matheson, and D. C. Flescher, co-authors)
- 1991 The human genome initiative — Do databases reflect current progress? *Science*, 254:215-215. (Fourth author, with P. L. Pearson, B. Maidak, and M. Chipperfield, co-authors)
- 1991 Report of the informatics committee. *Cytogenetics and Cell Genetics*, 58:779-784. (Fourth author, with C. J. Rawlings, C. Brunn, S. Bryant, and R. E. Lucier, co-authors)

Invited Talks

- 2021 Cloud Computing and Grant-Funded Biomedical Research: Opportunities, Challenges, and Risks. AIRI (Association of Independent Research Institutes) Annual Meeting, virtual, 13 September 2021. Video available at <http://www.rj-robbins.com/recommended/videos/airi-2021>
- 2019 Migrating to a Cloud-Based IT Infrastructure in a Grant-Funded Research Environment: Challenges and Limits: 2019 Edition. Partly Cloudy Meeting. 18 October 2019, Fred Hutchinson Cancer Research Center, Seattle, WA
- 2018 Migrating to a Cloud-Based IT Infrastructure in a Grant-Funded Research Environment. Partly Cloudy Meeting. 25 October 2018, Fred Hutchinson Cancer Research Center, Seattle, WA
- 2016 Adding Sidenotes to a PDF File. Technical Briefing Presentation. GSA Board Meeting, Seattle, WA
- 2016 Reconceiving Biodiversity: Implications from (Meta)Genomics. Invited talk: Ottawa, Canada, 1 Jun 2016
- 2014 Genomics and Metagenomics: What is the Role of the Darwin Core? TDWG 2014 Annual Conference Elmia Congress Centre, Jönköping, Sweden, October 27-31, 2014
- 2013 Big Data: Yet Another Buzzword or Actual Big Deal? BRIITE Semi-annual Meeting, 11 - 13 Dec, 2013. Salk Institute for Biological Studies, La Jolla, CA. video available at <http://www.rj-robbins.com/recommended/videos/big-data>
- 2012 How Diverse is the Biosphere? TDWG 2012 Annual Conference, People's Palace, Beijing, China 22-26 Oct 2012.
- 2012 Data Management for LTER@100. 2012 LTER All Scientists Meeting, 10-13 Sep, 2012. Estes Park, CO

- 2012 Aligning Expectations with Resources: What's the Trick? BRIITE Semi-annual Meeting, 5 - 7 Sep, 2012. St Jude Children's Research Hospital Memphis, TN
- 2012 Half of Our Biosphere is Missing. Keynote Presentation, Global Biodiversity Informatics Conference 2012. Copenhagen, Denmark, 2-4 Jul 2012
- 2012 Biodiversity Working Group Report. Genomic Standards Consortium, Annual Meeting, 5 - 7 Mar, 2012. Shenzhen, China
- 2011 Biodiversity Working Group Report. Genomic Standards Consortium, Annual Meeting, 28-30 Sep, 2011. Bremen, Germany
- 2011 IT Architecture: Mastering Complexity With Design. BRIITE Semi-annual Meeting, 7-9 Sep 2011. St Jude Children's Research Hospital Memphis, TN
- 2008 Data Centers Get Serious: Unlimited Demand Meets Practical Reality. Fall Meeting, BRIITE (Biomedical Research Institutions Information Technology Exchange). 10-12 September 2008. St. Jude Children's Research Hospital. Memphis, Tennessee.
- 2007 Implementing Security Without Inhibiting Research: Mission Impossible? Fall Meeting, BRIITE (Biomedical Research Institutions Information Technology Exchange). 3-5 October 2007. UCSF. San Francisco, California.
- 2006 Research Computing Grows Up. Spring Meeting, BRIITE (Biomedical Research Institutions Information Technology Exchange). 3-5 May 2006. Memorial Sloan-Kettering Cancer Center. New York, New York.
- 2005 Data Management in the Research Laboratory: The Sine Qua Non of 21st-Century Science. Mayo Clinic: Informatics Grand Rounds. 10 June 2005. Rochester, Minnesota.
- 2005 IT Operations: Making IT Work in a Profoundly Heterogeneous Environment Spring Meeting, BRIITE (Biomedical Research Institutions Information Technology Exchange). 27-29 April 2005. MD Anderson Cancer Center. Houston, Texas.
- 2005 Multi-Institution Collaborative Computing: What Does it Really Take? Fall Meeting, BRIITE (Biomedical Research Institutions Information Technology Exchange). 2-4 November 2005. Salk Institute for Biological Studies. La Jolla, California.
- 2005 The Future of Biodiversity Informatics – What's Possible, What's Not. GBIF Workshop on Building SpeciesBanks: How Shall We Shape the Future? 2-4 March 2005. Amsterdam, The Netherlands
- 2004 Bioinformatics and the Independent Research Institute. AIRI Annual Meeting. 22-24 September. Grand Rapids, Michigan.
- 2004 IT Support for Grant Funded Research: Where Are We Now and Where Should We Be Going? Fall Meeting, BRIITE (Biomedical Research Institutions Information Technology Exchange). 22-24 September 2004. Fred Hutchinson Cancer Research Center. Seattle, Washington.
- 2003 Background Standards – The Critical Missing Piece. NIST workshop: Information Science Standards to Enable Biomedical Research. 4-5 November 2003. Bethesda, Maryland.
- 2003 Digital Publishing Support. Fall Meeting, BRIITE (Biomedical Research Institutions Information Technology Exchange). 10-13 September 2003. Seattle, Washington.
- 2003 Strategic Planning for IT Support of Grant-funded Research. Fall Meeting, BRIITE (Biomedical Research Institutions Information Technology Exchange). 10-13 September 2003. Seattle, Washington.
- 2002 Integrating Bioinformatics Data into Science: From Molecules to Biodiversity. 18th International CODATA Conference, 29 Sep-3 Oct 2002. Montreal, Canada.
- 2001 Bioinformatics and the New Information Technologies. The Canadian Biodiversity Network Conference, 1-4 Mar 2001. Ottawa, Ontario, Canada.
- 2000 Leadership by Example. AAAS Annual Meeting, 17-22 Feb 2000. Washington, DC.
- 1998 Economic Impact of Bioinformatics. ATCC Bioinformatics Symposium, 6 November 1998. Bethesda, Maryland.
- 1998 Information, Logistics, and 21st Century Research. Cancer Centers Administrators Forum, 12 October 1998. Portland, Oregon.
- 1998 Information Technology: The Foundation for 21st Century Research. Keynote Address, Self Graduate Fellowship Retreat, 16-18 August 1998. Kansas City, Missouri.
- 1998 What is Biological Informatics? (keynote address) Australian National Academy of Sciences Conference on Biological Informatics. Canberra, Australia. 6-8 July 1998.
- 1998 Systems Development in Research Organizations. Invited talk, Office of the Vice President for Research, Northwestern University, Evanston, Illinois. 16 February 1998.
- 1997 Next Steps for Working Scientists: Access to Data. CODATA Conference on Scientific and Technical Data Exchange and Integration. Bethesda, MD: 15-17 December 1997.
- 1997 21st Century Biology: The Role of Information Technology. Association of Independent Research Institutes (AIRI) Annual Meeting. Seattle, Washington: 21-24 October 1997.
- 1997 21st Century Biology: Informatics in the Post-Genome Era. The Pfizer Inc.—Olga G. Nalbandov / Beckman Institute Symposium on Bioinformatics, Structure, and Function. University of Illinois at Urbana-Champaign: 29 May - 1 June 1997.
- 1997 New Technologies for Research Administration. Society of Research Administrators, Joint Seattle/Pacific Northwest Chapter – Canadian Section Workshop: Research Administration: Proactive Approach to Tomorrow. University of Washington, Seattle, WA: 24 March 1997.

- 1996 Information Management: The Key to the Human Genome Project. Current Topics in Health Sciences Librarianship. Baltimore, MD: 24-27 June 1996
- 1996 Bioinformatics: Essential Infrastructure. Office for Economic Coordination and Development Megascience Meeting, Washington, DC, 6 June 1996.
- 1996 Fast Company: Provocateurs on the Edges of Science, Information Technology, and Power. Consumer Health Informatics Symposium, Fred Hutchinson Cancer Research Center. Seattle, WA: 24 April 1996.
- 1995 Genome Informatics, the *Sine Qua Non* of Genomic Research. Fourth International Conference on Bioinformatics and Genome Research; San Francisco, California, 5-7 June 1995.
- 1995 Biological Data and the Global Information Infrastructure. Annual Meeting of the American Chemical Society, Anaheim, California, 2-6 April 1995.
- 1995 Information Systems Architecture: Making Computers Work for People. Fred Hutchinson Cancer Research Center, Seattle, Washington, 9 March 1995.
- 1994 Bioinformatics: Making the Genome Project Possible. Ameritech Endowed Lecture Series; Michigan State University, East Lansing, Michigan; 14 December 1994.
- 1994 The Genome Experience: Is Retroactive Integration Possible? BrainMap '94; San Antonio, Texas; 4-5 December 1994.
- 1994 A Microbial Information System as a Model Organism. Third International *E. coli* Genome Meeting; Marine Biological Laboratory, Woods Hole, Massachusetts; 5 November 1994.
- 1994 Towards a Federated Information Infrastructure for Biology. Invited talk, School of Information and Library Sciences, University of Michigan, Ann Arbor, Michigan; 1 November 1994.
- 1994 Scientific Databases – State of the Art and Future Directions. Panel discussion; 20th International Conference on Very Large Databases; Santiago, Chile, 12-15 September 1994.
- 1994 Community Databases: Towards a Federated Information Infrastructure. MIMBD, Stanford, California, 9-12 August 1994.
- 1994 Genome Informatics: Toward a Federated Information Infrastructure (keynote address). The Third International Conference on Bioinformatics and Genome Research; Tallahassee, Florida; 1-4 June 1994.
- 1994 Computing the Genome: Efforts to Reverse Engineer Humans. David D. Lattanze Center for Executive Studies in Information Systems. Towson, Maryland; 7 April 1994.
- 1994 Comparative Genomics: A New Integrative Biology. First International Workshop on Integrative Approaches to Molecular Biology. Cuernavaca, Morelos, Mexico; 19-24 February 1994.
- 1994 The Human Genome Project: Unraveling the Instructions for Creating Life. The Philosophical Society of Washington. Washington, DC; 21 January 1994
- 1993 The Transformation of GDB: A Case Study. Genome Informatics Workshop IV. Yokohama, Japan; 13-15 December 1993.
- 1993 The Transformation of GDB: A Case Study. Brain Map '93. San Antonio, Texas; 4-6 December 1993.
- 1993 Computational Challenges of the Genome Project: What is a Gene? Genetics Department Seminar, Cedars Sinai Medical Center. Los Angeles, California; 11 May 1993.
- 1993 Biological Databases: A New Scientific Literature. Keynote Address. Council of Biological Editors Annual Meeting. San Diego, California; 9-11 May 1993.
- 1993 Online Mendelian Inheritance in Man and Genome Databases. Info-Fair 93: Connecting to Biomedical Information. Meeting sponsored by the Countway Library of Medicine and the Massachusetts Medical Society. Boston, Massachusetts; 2 April 1993.
- 1993 The Challenge of Biological Data Management. Program Seminar, Beckman Institute, University of Illinois, Urbana, Illinois; 22 January 1993.
- 1992 GDB: New directions. First International Chromosome Coordinating Committee Meeting (CCM-92); Baltimore, Maryland; 15-16 November 1992.
- 1992 GDB: The Human Genome Database. Society for Scholarly Publishing Top Management Round Table on Strategic Risk Taking: Electronic Innovation in Scholarly Publishing; Baltimore, Maryland; 12-13 November 1992.
- 1992 The Challenge of Biological Data Management: The Human Genome Project as Case Study. ISMM First International Conference on Information and Knowledge Management (CIKM-92); Baltimore, Maryland; 8-11 November 1992.
- 1992 Representing Genomic Maps in a Relational Database. Deutsches Krebsforschungszentrum Conference on Computational Methods in Genome Research; Heidelberg, Germany; 1-4 July 1992.
- 1992 Keynote Address. The Second International Conference on Bioinformatics, Supercomputing, and Complex Genome Analysis; St. Petersburg Beach, Florida; 4-7 June 1992.
- 1992 Genome Informatics: Requirements and Challenges. International Symposium on Recent Advances in the Human Genome Project; Tokyo, Japan; 6-7 March 1992.
- 1992 Accessing the Genome Data Base. Chromosome 19 Workshop; Horst, Netherlands; 24-26 January, 1992.
- 1991 Technical Challenges for a Genome Database. Eleventh International Workshop on Human Gene Mapping; London, England; 18-22 August 1991.
- 1991 Databases: A New Biological Literature. American Crystallographic Association Annual Meeting; Toledo, Ohio; 24 July 1991.

- 1990 Databases and Biology. American Plant Physiology Society Annual Meeting; Indianapolis, Indiana; 31 July 1990.
- 1990 The Computer Challenges of the Human Genome Project. SIGMOD Panel discussion; ACM SIGMOD Annual Meeting; Atlantic City, New Jersey; 25 May 1990.
- 1990 Computational Problems of the Human Genome Project. Computers and Medicine Symposium, New Jersey Institute of Technology, Newark, New Jersey; 5 May 1990
- 1990 Building Scientific Databases. Kellogg Biological Station, Hickory Corners, Michigan; 23 April 1990.
- 1989 Scientific Database Design Issues. 2nd BioMatrix Conference, New Hampshire, 19 August 1989.
- 1989 Databasing the Human Genome. Departmental Seminar, Computer Science Department, University of Virginia, Charlottesville, Virginia; 6 September 1989
- 1989 Building Internet Connections. LTER WAN Workshop; Urbana, Illinois; 26-28 April 1989.
- 1988 Issues in Database Design. Workshop on Databasing Genetic Stock Centers; Genetics Society of America workshop; XVIth International Genetics Congress; Toronto, Ontario; 25 August 1988.

National or International Committee Activities:

- 2016-now Science Advisory Board, EcoBiomics Research Project, Canadian Genomics Research and Development Initiative. Ottawa, CA.
- 2009-2010 NSF/LTER (Long –Term Ecological Research) 30-year Review Committee 2004-2010 Directorate for Biological Sciences Advisory Committee, National Science Foundation
- 2006-2007 NSF Advisory Committee for Cyberinfrastructure, National Science Foundation
- 1998-2008 National Advisory Board (NAB) for the LTER Network and Network Office
- 1998-2000 Steering Committee for the Human Genome Epidemiology Network (HuGE Net), Office of Genetics and Disease Prevention, Center for Disease Control
- 1996-1998 Advisory Board, Arabidopsis Genome Database
- 1995-2001 External Advisory Board of the USC Brain Project
- 1993-1995 Advisory Board, Brain Map Database.
- 1993-1994 Committee on the Formation of the National Biological Survey, National Research Council
- 1991-1992 Human Genome Organization (HUGO)
- 1991-1995 Informatics Committee, HUGO
- 1991-1993 DOE Human Genome Coordinating Committee
- 1991-1993 DOE Informatics Review Committee
- 1991-1993 NCHGR/NIH Special Informatics Review Committee
- 1990-1991 NSF/LTER GIS Advisory Committee
- 1990-1991 NSF/LTER Connectivity Assessment and Networking Committee
- 1990-1991 NCHGR/NIH Special Genome Centers Review Committee
- 1990-1991 liaison member (DOE/NSF); Joint Informatics Task Force for the Human Genome
- 1990-1991 USDA Plant Genome Informatics Subcommittee
- 1989-1990 Technical Advisors Group for Genome Data Base
- 1988-1990 Long-Term Ecological Research Working Group on Geographic Information Systems
- 1988-1991 Computer Advisory Committee, Flora North of North America Project, Missouri Botanical Gardens
- 1988-1991 Advisory Committee of the Coli Genetic Stock Center at Yale University