CURRICULUM VITAE

Edward Hance Shortliffe, MD, PhD, MACP, FACMI

[work]   Chair Emeritus and Adjunct Professor, Department of Biomedical Informatics
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Born: Edmonton, Alberta, Canada
Date of birth: 28 August 1947
Citizenship: U.S.A. (naturalized - 1962)
Spouse: Vimla L. Patel, PhD

Education

From	To	School/Institution	Major Subject, Degree, and Date
9/62	6/65	The Loomis School, Windsor, CT.	High School
9/65	7/66	Gresham's School, Holt, Norfolk, U.K.	Foreign Exchange Student
9/66	6/70	Harvard College, Cambridge, MA.	Applied Math and Computer Science, A.B., June 1970
9/70	1/75	Stanford University, Stanford, CA	PhD, Medical Information Sciences, January 1975
9/70	6/76	Stanford University School of Medicine	MD, June 1976.
7/76	6/77	Massachusetts General Hospital, Boston, MA	Internship in Internal Medicine
7/77	6/79	Stanford University Hospital, Stanford, CA	Residency in Internal Medicine

Honors

Graduation Magna Cum Laude, Harvard College, June 1970

Medical Scientist Training Program (MSTP), NIH-funded Stanford Traineeship, September 1971 - June 1976

Grace Murray Hopper Award (Distinguished computer scientist under age 30), *Association for Computing Machinery*, October 1976

Research Career Development Award, *National Library of Medicine*, July 1979—June 1984

Henry J. Kaiser Family Foundation Faculty Scholar in General Internal Medicine, July 1983—June 1988

Young Investigator Award, *Western Society for Clinical Investigation*, February 1987

Elected Member, National Academy of Medicine (formerly Institute of Medicine), *National Academies of Sciences, Engineering, and Medicine*, 1987

Elected Fellow, *Association for the Advancement of Artificial Intelligence (AAAI)*, 1990

Master, *American College of Physicians*, November 2002

National Associate, *National Academies of Sciences, Engineering, and Medicine*, Washington, DC, December 2004

Appointed Rolf H. Scholdager Professor of Biomedical Informatics, *Columbia University*, June 2005

Morris F. Collen Award for Distinguished Contributions to Medical Informatics, *American College of Medical Informatics (ACMI)*, November 2006

Selected as "Phoenix 50 Influential Leader", *Phoenix Business Journal,* October 2007

Listed annually in *Who's Who in America*

Commencement Speaker and Honorary Doctor of Science, *State University of New York, Downstate Medical Center*, May 2013

Elected Founding Member, International Academy of Health Sciences Informatics (IAHSI), International Medical Informatics Association, May 2017

Marquis Who's Who Lifetime Achievement Award, May 2017

Convocation Speaker and Honorary Doctorate, Telfer School, University of Ottawa, Ottawa, Ontario, Canada, June 2017

Licensure

National Board of Medicine Examiners, USMLE #31441348, Certified April 1977

California State Medical Board, License G-035737, September 1977— (inactive since 2009)

Arizona Medical Board, License #37630, October 2007 – (inactive since 2012)

Diplomate, American Board of Internal Medicine, Certificate #073613, September 1979 (unlimited)

Named Lectureships

October 1983	Kauffman Memorial Lecture, College of Pharmacy, Ohio State University, Columbus, Ohio
March 1985	Jacob Marschak Interdisciplinary Colloquium on Mathematics in the Behavioral Sciences, UCLA, Los Angeles, California.
May 1985	Joseph Leiter Lecture, Annual Meeting, Medical Library Association, New York, New York
February 1987	Young Investigator Award Lecture, Western Society for Clinical Investigation, Carmel, CA.
February 1988	George and Sandra Forsythe Memorial Lectures, Computer Science Department, Stanford University, Stanford, California.
April 1988	Audio-Digest Annual Lectureship, Congress on Continuing Medical Education, Los Angeles, California.
June 1994	19th Annual Eugene Pendergrass Lectureship, Department of Radiology, University of Pennsylvania School of Medicine, Philadelphia, Pennsylvania.
May 1996	Hurst Brown Professorship, Toronto General Hospital, University of Toronto, Toronto, Ontario.
October 1995	Richard M. Polaschek Lectureship in Medical Informatics, Johns Hopkins University School of Medicine, Baltimore, Maryland.

May 1996	C. Everett Koop Lectureship in Medical Informatics, Dartmouth University School of Medicine, Hanover, New Hampshire.
April 1997	Cosgrove Lecture, Annual Clinical Meeting, American College of Obstetrics and Gynecology, Las Vegas, Nevada.
April 1997	Marsden S. Blois Lectureship in Medical Informatics, University of California San Francisco, San Francisco, California.
June 1998	Donald AB Lindberg Lecture in Medical Informatics, University of Pittsburgh School of Medicine, Pittsburgh, Pennsylvania
September 2005	Priscilla Mayden Lecture, Midcontinental Meeting of the Medical Library Association, University of Utah, Salt Lake City, Utah
February 2007	James Coward Lecture, Symposium on Information Technology and Communications in Health, University of Victoria, Victoria, British Columbia
September 2007	Shirley Agnos Arizona Town Hall Lecture, Phoenix, Arizona
June 2008	Ted and Janice Smith Distinguished Lecture, University of California Irvine, Irvine, California
March 2009	John Dickmeyer Lecture, Renal Physicians Association Meeting, Baltimore, MD
October 2009	Julius S. Aronofsky Lecture, UT Southwestern School of Medicine, Dallas, TX
October 2011	Antonija Prelec Memorial Lecture, School of Medicine, Stony Brook University, Stony Brook, NY.
March 2016	Crawford Long Lectureship, Department of Anesthesiology. Emory School of Medicine, Atlanta, GA.

Employment, Research, and Academic Positions

2016—	Senior Physician Executive Consultant, IBM Watson Health, Cambridge, MA (part-time)
2013—	Adjunct Professor of Healthcare Policy and Research (Division of Health Informatics), Weill Cornell Medical College, New York, NY.
2013—	Member, Center for Healthcare Informatics and Policy (CHiP), Weill Cornell Medical College, New York, NY
2012—2018	Professor of Biomedical Informatics and Senior Advisor to the Dean and Executive Vice Provost, College of Health Solutions, Arizona State University, Phoenix, AZ
2012—2017	Scholar in Residence, New York Academy of Medicine, New York City
2009—2012	President and Chief Executive Officer, American Medical Informatics Association, Bethesda, Maryland
2009—2012 2018—	Adjunct Professor, Department of Biomedical Informatics, Arizona State University, Scottsdale, AZ.
2009—2011	Professor of Biomedical Informatics, School of Biomedical Informatics, University of Texas Health Sciences Center at Houston, Houston, Texas
2009	Affiliated Professor, School of Life Sciences, Arizona State University, Tempe, Arizona
2007—2009	Professor of Biomedical Informatics, School of Computing and Informatics, Fulton School of Engineering, Arizona State University, Phoenix, Arizona

2007—2009	Professor of Basic Medical Sciences, University of Arizona College of Medicine – Phoenix, in partnership with Arizona State University
2007—2009	Professor of Medicine, University of Arizona College of Medicine
2007—2008	Physician Member, University Physicians' Healthcare, Tucson, Arizona
2007—2008	Founding Dean, University of Arizona College of Medicine – Phoenix, in partnership with Arizona State University
2007—	Adjunct Professor of Biomedical Informatics, College of Physicians and Surgeons, Columbia University
2005—2007	Rolf H. Scholdager Professor and Chair, Department of Biomedical Informatics, College of Physicians and Surgeons, Columbia University
2002—2007	Deputy Vice President for Information Technology (Columbia University Medical Center) and Senior Associate Dean for Information Technology (College of Physicians and Surgeons), Columbia University
2000—	Editor-in-Chief, *Journal of Biomedical Informatics*, Elsevier Science (formerly Academic Press)
2000—2005	Professor and Chair, Department of Biomedical Informatics, College of Physicians and Surgeons, Columbia University
2000—2007	Professor of Medicine, College of Physicians and Surgeons, Columbia University
2000—2007	Professor of Computer Science (by courtesy), College of Engineering, Columbia University
2000—2007	*Director,* Center for Advanced Information Management (NYSTAR-funded Center for Advanced Technology), New York Science and Technology Academic Research Program, Columbia University
2000—2007	Director, Medical Informatics Services, New York Presbyterian Healthcare System
2000—2002	Associate Vice President for Strategic Information Planning, Health Sciences Division, Columbia University
1995—2000	Associate Dean for Information Resources and Technology, Stanford University School of Medicine
1994—1995	Fellow, Center for Advanced Studies in the Behavioral Sciences, Stanford University.
1993—1995	Associate Chair of Medicine for Primary Care, Department of Medicine, Stanford University School of Medicine.
1992— 1997	Principal Investigator, CAMIS Computing Resource (National Library of Medicine), Stanford University, Stanford, California.
1990—2000	Professor of Medicine (General Internal Medicine and, after 1995, Medical Informatics), Stanford University School of Medicine, Stanford, California.
1990— 2000	Professor of Computer Science (by courtesy), Stanford University, Stanford, California.
1990— 1997	Director, Center for Advanced Medical Informatics at Stanford (CAMIS), Stanford University, Stanford, California.
1988—1993	Co-Director, Training Program in Health Services Research, Division of General Internal Medicine, Stanford University School of Medicine, Stanford, California.
1988—1995	Chief, Division of General Internal Medicine, Department of Medicine, Stanford University School of Medicine, Stanford, California.

1988—1993	Head, Section on Medical Informatics, Department of Medicine, Stanford University School of Medicine, Stanford, California.
1985—1990	Associate Professor of Medicine (General Internal Medicine), Stanford University School of Medicine, Stanford, California.
1985—1990	Associate Professor of Computer Science (by courtesy), Stanford University, Stanford, California.
1985—1992	Principal Investigator, SUMEX-AIM Computing Resource (Division of Research Resources and National Library of Medicine, NIH), Stanford University, Stanford, California.
1981—2000	Director, Medical Information Sciences Training Program, Stanford University, Stanford, California.
1986—1987	Visiting Associate Professor of Medicine and of Computer and Information Sciences, University of Pennsylvania, Philadelphia, Pennsylvania.
1980—1985	Co-Principal Investigator and Medical Liaison, SUMEX-AIM Computing Resource, Stanford University, Stanford, California.
1979—1985	Assistant Professor of Computer Science (by courtesy), Stanford University, Stanford, California.
1979—1985	Assistant Professor of Medicine (General Internal Medicine), Stanford University School of Medicine, Stanford, California.
1971—1975	Doctoral Research, Medical Scientist Training Program, Stanford University School of Medicine, Stanford, California (Preceptor: Stanley N. Cohen, M.D.)
1970—1971	System Designer, Automated Health Systems, Inc.; Burlingame, California and Wakefield, Massachusetts (summer employment).
1968—1969	Research Assistant, Laboratory of Computer Science, Massachusetts General Hospital, Boston, Massachusetts (Preceptors: Robert A. Greenes, M.D., Ph.D. and G. Octo Barnett, M.D.)

Committees, Boards, and Consultancies

2018—2021	Chair, Membership Committee, *National Academy of Medicine*, Washington, DC
2017	Consultant in Biomedical Informatics, School of Medicine, *SUNY Upstate Medical University*, Syracuse, New York
2017—	Advisory Board, US Pharma Studies, Inc., Tempe, AZ
2016—	Member, Head of School's Council, *Loomis-Chaffee Institute*, Windsor CT.
2016—2018	Chair, *NAS Committee on Developing a Smarter National Surveillance System for Occupational Safety and Health in the 21st Century*, National Research Council, National Academies of Sciences, Engineering, and Medicine, Washington, DC.
2015—	Member, Healthcare Advisory Board, *98point6, Inc.*, Seattle, WA.
2015	Consultant in Biomedical Informatics, Hood College, Frederick, MD
2014—2016	Member, Healthcare Advisory Board, QTS, Inc., Atlanta, GA Formerly *Carpathia, Inc.,* Dulles, VA

2014—2015   Member, Healthcare Advisory Board, *Pxyl, Inc.,* Scottsdale, Arizona.

2013—2016   *Board of Trustees,* New York Academy of Medicine, New York, NY
                   (Vice Chair 2013-15)

2013—2014   Member, *Committee on Identifying and Prioritizing New Preventive Vaccines for Development*
                   (Phase III), Institute of Medicine (now National Academy of Medicine), National Academies of
                   Sciences, Engineering, and Medicine, Washington, DC.

2013   Consultant in the Evaluation of the Department of Public Health, *Weill Cornell Medical College*,
                   New York, NY.

2013   Consultant in Research Cyberinfrastructure, *University of California San Diego,* San Diego,
                   CA.

2013   Consultant in Biomedical Informatics, *Mayo Clinic*, Rochester, MN.

2012   Consultant in Biomedical Informatics, *University of Amsterdam Medical Center,* Amsterdam,
                   the Netherlands

2012—2013   Member, *Committee on Developing a Decision-Support Tool for Prioritizing New Vaccines*
                   (Phase II) [Report: *Ranking Vaccines: A Prioritization Software Tool*, October 2013], Institute
                   of Medicine (now National Academy of Medicine), National Academies of Sciences,
                   Engineering, and Medicine, Washington, DC.

2012—2018   Member, *Committee on National Statistics (CNSTAT)*, National Research Council, the National
                   Academies of Sciences, Engineering, and Medicine, Washington, DC

2012   Consultant in Biomedical Informatics, *Georg-August-Universität,* Göttingen, Germany

2012—2015   External Advisory Board, *Center for Advanced Information Management (CAIM)*, New York
                   State Center for Advanced Technology, Columbia University in the City of New York

2012—   Advisory Board, *Health Record Banking Alliance*, Arlington, VA.
                   Chairman of the Board: 2013—

2011—2012   Consultant, *Committee on Developing a Decision-Support Tool for Prioritizing New Vaccines*
                   (Phase I), Institute of Medicine (now National Academy of Medicine), National Academies of
                   Sciences, Engineering, and Medicine, Washington, DC.

2011—2015   Section Liaison, Section 01 (Physical, Mathematical, Computer, Information, and Engineering
                   Sciences), Membership Committee, *Institute of Medicine (now National Academy of Medicine)*,
                   National Academies of Sciences, Engineering, and Medicine, Washington, DC [Section Chair,
                   2013-2015]

2011   Consultant in Biomedical Informatics, School of Medicine, *Stony Brook University*, Stony
                   Brook, New York

2011—2013   Board of Directors, *Friends of the National Library of Medicine*, Washington, DC.

2011   Consultant in Biomedical Informatics, *University of Rochester School of Medicine*, Rochester,
                   NY

2011   Consultant in Biomedical Informatics, *University of Connecticut School of Medicine*, Storrs and
                   Farmington, CT

2010—   External Advisory Board, Clinical and Translational Science Institute, University of California
                   San Diego, La Jolla, CA.

2010—2011   Chair, Committee on Future Information Architectures, Processes, and Strategies for the
                   Centers for Medicare and Medicaid Services. *National Research Council,* National Academies
                   of Sciences, Engineering, and Medicine, Washington, DC

2010	Consultant in Biomedical Informatics, School of Medicine, University of Cincinnati, Cincinnati, OH
2009—2013	External Advisory Board, Clinical and Translational Science Institute, University of Florida, Gainesville, FL.
2009—2011	Keck Faculty Affiliate, *Gulf Coast Consortium*, Houston, TX
2009—2015	Journal Oversight Committee, JAMA and the JAMA Network, *American Medical Association*, Chicago, IL (Chair 2012-2015)
2008—2009	Search Committee for Editor, *Annals of Internal Medicine*, American College of Physicians, Philadelphia, PA
2008	Consultant in Biomedical Informatics, *University of Florida School of Medicine*, Gainesville, FL
2008	Consultant in Biomedical Informatics, School of Medicine, *University of California Irvine*, Irvine, CA
2008	Consultant in Biomedical Informatics, School of Medicine, *University of California San Diego*, San Diego, CA
2007—2009	Member, Board of Directors, *The Wellness Community Central Arizona*, Phoenix, AZ
2007—2008	Member, Board of Directors, *Downtown Phoenix Partnership*, Phoenix, AZ
2006—	External Advisory Board, Institute for Translational and Health Sciences, University of Washington (CTSA), Seattle, WA.
2006	Chair, Review Committee regarding the Computer Science and Telecommunications Board, Division of Engineering and Applied Sciences, *National Research Council,* Washington, DC
2004—2007	Member, Biomedical Informatics Advisory Committee, Center for Public Health Informatics, *Centers for Disease Control and Prevention*, Atlanta, GA
2005	Consultant in Biomedical Informatics, *University of Pennsylvania School of Medicine*, Philadelphia, PA
2005—2008	Consultant, Radiological Event Medical Management (REMM) Program, *Office of Mass Casualty Planning and Office of Public Health Emergency Preparedness* (OPHEP), Department of Health and Human Services, Washington, DC
2005	Consultant in Biomedical Informatics, *Johns Hopkins University School of Medicine*, Baltimore, MD,
2005—2007	Member, Search Committee for a Director of the National Center for Public Health Informatics, *Centers for Disease Control and Prevention*, Atlanta, GA.
2005—2006	Nominations Committee, *American College of Physicians*
2004—2007	Member of Oversight Committee, Division of Engineering and Physical Sciences (DEPS), *National Research Council*, Washington, DC
2004—2006	Member, Biomedical Informatics Expert Panel (BIEP), *National Center for Research Resources*, National Institutes of Health, Bethesda, MD
2004	External Review Committee (Advisory to the Director), Chief Information Officer and Director of the Center for Information Technology, National Institutes of Health, Bethesda, MD
2004	Chair, Advisory Committee on Health Information Technology, *Health Affairs*, New York, NY

2003—2007	Board of Directors (Member of Compensation Committee), *Medco Health Solutions, Inc.*, Franklin Lakes, NJ.
2003—2009	Advisory Committee, Office of Academic Computing, *Charles Drew Medical School*, Los Angeles, CA
2003—2009	Scientific Advisor, *Pritzker Consortium*, Chicago, IL
2013—2016 2003—2011	Board of Trustees, *New York Academy of Medicine*, New York, NY. (Chair of Library and Awards Committees; Chair of Program Planning Committee on Health Communication and Health Literacy; Vice-Chair, 2006-2011; Vice-Chair, 2013-2015; Search Committee for the President, 2006; Co-Chair, Nominations Committee of the Board, 2014-present)
2002—2006	Member, External Advisory Board, *Center for Information Technology Leadership (CITL)*, Partners Health and Harvard Medical School, Boston, MA.
2002—2004 2008—2010	Committee on National Need for Biomedical, Behavioral, and Clinical Sciences Researchers, *National Research Council,* National Academies of Sciences, Engineering, and Medicine, Washington, DC
2002—2003	Chair, Steering Committee on Electronic Scientific, Technical, and Medical Journal Publishing and Its Implications, *National Academies of Sciences, Engineering, and Medicine*, Washington, DC
2002—2003	Special Advisor and Member of the Board, *eHealth Initiative*, Washington, DC
2002—2003	Member, Health Communications Initiative Program Committee, *ACP Foundation*, Philadelphia, PA.
2001—2007	Member, Advisory Panel, *Pediatric Emergency Northeast Team (PEDNET)*, Regional Node of the National Pediatric Emergency Care Applied Research Network (PECARN).
2001—2003 2005—2007	Member, Committee on Science, Engineering, and Public Policy (COSEPUP), *National Academy of Sciences*, Washington, D.C.
2001—2003 2005—2007	Elected Member, Executive Council, Institute of Medicine (IOM), *National Academy of Sciences;* Member of the Finance Subcommittee (Chair, 2002-2003)*.*
2000—2004	Chairman, Organizing Committee, Medinfo2004 (7-11 September 2004, San Francisco), *International Medical Informatics Association*
2000—2010	External Advisory Committee, Biomedical and Health Informatics Program, *University of Washington*, Seattle, WA.
2000—2003	Member, National Committee on Vital and Health Statistics (NCVHS), *Department of Health and Human Services*, Washington, D.C.
2000—2002	Chair, PIER Steering Committee (Physicians' Information and Education Resource), *American College of Physicians*
2000—2010	Medical Advisory Board, *PatientKeeper, Inc.*, Boston, Massachusetts
2000—	Scientific Advisory Board, *Medexpert, Inc.*, Palo Alto, California
2000—2004	Scientific Advisory Board, *Clinician Support Technology, Inc.*, Framingham, Massachusetts
1998—2001	International Advisor, Medical Informatics Programme, *National University of Singapore*.
1998—1999	Committee on Enhancing the Internet for Medical Applications (Chair), Computer Science and Telecommunications Board, *National Research Council*, National Academies of Sciences, Engineering, and Medicine, Washington, DC

1997—1999	Section Liaison, Section 01 (Physical, Mathematical, Computer, Information, and Engineering Sciences), *Institute of Medicine (now National Academy of Medicine)*, National Academies of Sciences, Engineering, and Medicine, Washington, DC
1997—2002	President's Information Technology Advisory Committee (PITAC), *Executive Office of the President,* Washington, D.C.
1997—1998	Advisory Committee on Internet-2, *Internet 2 Academic Consortium*
1997—2005	Scientific Advisory Board, *Surromed, Inc.*, Palo Alto, California
1997—2006	Board of Directors, *Friends of the National Library of* Medicine
1996—1997	Planning Panel on International Programs, *National Library of Medicine*
1996—1998	Consulting Committee to the Chemical/Biological Incident Response Force, US Marine Corps (Quantico and Camp Lejeune), *United States Department of Defense*
1996—1999	University Advisory Board, *Stanford University*
1996—2000	Board of Directors, *Mcard, Inc.*, Sunnyvale, CA.
1996—2002	Board of Regents, *American College of Physicians* Research Center Advisory Committee (1997— 1999) Publications Committee (Chair, 1997— 2000) PIER Steering Committee (Chair, 2000—2002)
1996—2001	Chair, Scientific Advisory Board, *Caresoft, Inc.*, Sunnyvale, CA.
1995—2003	Public Policy Committee, *American Medical Informatics Association* [Committee Chair: 1995-96]
1995—1997	Final Judges' Committee for Health Care*, The Global Information Infrastructure Awards* [formerly NII Awards], Santa Monica, CA.
1994—2002	Publications Committee, *American College of Physicians* (Chair, 1997—2000)
1993—1998	Board of Directors, *Smart Valley, Inc.*, Palo Alto, CA.
1993—1994	Board of Directors, *American Medical Informatics Association*
1992—1996	Membership Committee, *Institute of Medicine (now National Academy of Medicine)*; [Section 1 Chair, 1994-96.]
1993	Co-chairman (with C. Everett Koop, M.D.), Workshop on the National Information Infrastructure and Health Care, *National Research Council*, Washington, D.C.
1992—1993	Committee on Regional Health Data Networks, *Institute of Medicine*
1992—1996	Advisory Board, Health Sciences Computer Education Project, *Friends of the National Library of Medicine*
1992—1994	Scientific Advisor, *Teknekron Corporation*, Menlo Park, CA.
1991—1995	Scientific Advisory Board, *AIDS Community Research Consortium*, Redwood City, CA.
1991—1996	Computer Science and Telecommunications Board, *National Research Council.*
1991—1992	Federal Networking Advisory Council, *National Science Foundation* [Member of Steering Committee].

1990—1996   *American College of Medical Informatics*: President-Elect (1990-92), President (1992-94), Past-President (1994-96).

1990—1994   Appointments and Promotions Committee, Stanford University School of Medicine; Associate Chair, 1991-92; Chair, 1992-94.

1990—1993   Committee on Libraries (C-LIB), Stanford University.

1989—1991   Committee to Improve the Patient Record, *Institute of Medicine*. [Chair, Subcommittee on Strategies for Implementation]

1988—1991   *Society for Medical Decision Making*: President-Elect (1988-89), President (1989-90), Past-President (1990-91).

1988—1992   TyPE Advisory Council, *InterStudy/Quality Quest*, Excelsior, Minnesota.

1988—1991   Board of Directors, *American Medical Informatics Association*.

1987—1993   Computer-Based Testing Advisory Panel, *National Board of Medical Examiners.*

1986—1991   Editorial Board, *BRS Colleague*, New York.

1986—1987   Consultant to the Search Committee in Medical Information Sciences, University of Pennsylvania School of Medicine, Philadelphia.

1985—1986   Chairman, Advisory Planning Panel on Medical Informatics, *National Library of Medicine*, Bethesda, Maryland.

1984—1986   Executive Board, *American College of Medical Informatics*.

1984—1990   Board of Directors, *Symposium on Computer Applications in Medical Care* (SCAMC, Inc.). President, 1988-1990.

1984—1986   Scientific Advisory Board, *Centre Mondial Informatique*, Paris.

1984—1987   Board of Councilors, *American Association for Artificial Intelligence*.

1984—1985   Steering Committee on Medical Information Sciences, *Association of American Medical Colleges*.

1983—1989   Technology Advisory Board, *Teknowledge, Inc.*, Palo Alto, California.

1983—1986   Committee on Academic Computing and Information Systems (C-ACIS), Stanford University.

1983—1988   Medical Informatics Subcommittee (formerly Telecommunications Subcommittee), *American College of Physicians*.

1982—1990   Board of Directors, *American Association for Medical Systems and Informatics* [Three terms: 1982-84, 1984-86, 1989-90].

1981—1983   Founder of Medical Subgroup (AAAI-M) and Medical Liaison, *American Association for Artificial Intelligence* (now *Association for the Advancement of Artificial intelligence*)

1981—1985   Board of Trustees, *Society for Medical Decision Making* (two terms).

1981—1991   Member, Steering Committee, *Association for Advanced Technology in the Biomedical Sciences*.

1980—1984   Member, Biomedical Library Review Committee, *National Library of Medicine* (Chairman, July 1983 - June 1984).

Elected Professional Memberships

2003   Fellow, *New York Academy of Medicine*

2002   Master, *American College of Physicians (MACP)*

1993   Fellow, *American Association for the Advancement of Science (AAAS)*

1993   Member, *Association of American Physicians (AAP)*

1992   Member, *American Clinical and Climatological Association (ACCA)*

1991   Fellow, *American Institute for Medical and Biological Engineering (AIMBE)*

1991   Member, *Western Association of Physicians (WAP)*

1990   Fellow, *Association for the Advancement of Artificial Intelligence (AAAI)*

1987   Member, *Institute of Medicine (now National Academy of Medicine), National Academies of Sciences, Engineering, and Medicine (IOM)*

1986   Member, *American Society for Clinical Investigation (ASCI)*

1984   Fellow, *American College of Medical Informatics (FACMI)*

1984   Member, *National Academies of Practice (NAP)*

1984   Fellow, *American College of Physicians (FACP)*

1983   Member, *Western Society for Clinical Investigation (WSCI)*

Other Professional Memberships

2008—   *American Medical Association*

1995—1997   *American Educational Research Association*

1992—2001   *Computer-Based Patient Record Institute (CPRI)*

1991—2007   *The Internet Society*

1988—   *American Medical Informatics Association (AMIA)*

1985—2010   *IEEE Computer Society*

1983—2000   *Society for General Internal Medicine (SGIM)* (Formerly SREPCIM)

1983—1993   *American Federation for Clinical Research (AFCR)*

1980—2012   *Society for Medical Decision Making (SMDM)*

1980—   *American Association for Artificial Intelligence (AAAI)*

1978—   *American College of Physicians (ACP)* (Fellowship in 1984, Mastership in 2002)

1978—1990   *American Association for Medical Systems and Informatics} (AAMSI)* (formerly Society for Computer Medicine)

1972—   *Association for Computing Machinery (ACM)*

Doctoral Student Supervision

Paul Cohen   Computer Science and Psychology (Stanford) - 1983 (committee)
                                    `Heuristic Reasoning Under Uncertainty: An Artificial Intelligence Approach.'

Gregory F. Cooper   Medical Information Sciences (Stanford) - 1984 (advisor)
                                    `NESTOR: A Computer-Based Medical Diagnostic Aid that Integrates Causal and
                                    Probabilistic Knowledge.'

John C. Kunz   Medical Information Sciences (Stanford) - 1984 (committee)
                                    `Use of Artificial Intelligence and Simple Mathematics to Analyze a Physiologic Model.'

David E. Smith   Computer Science (Stanford) - 1985 (committee)
                                    `Controlling Inference.'

Glenn D. Rennels   Medical Information Sciences (Stanford) - 1986 (advisor)
                                    `A Computational Model of Reasoning From the Clinical Literature.'

Mark A. Musen   Medical Information Sciences (Stanford) - 1987 (advisor)
                                    `Generation of Model-Based Knowledge-Acquisition Tools for Clinical Trial Advice
                                    Systems.'

Curtis P. Langlotz   Medical Information Sciences (Stanford) - 1989 (advisor)
                                    `A Decision Theoretic Approach To Heuristic Planning.'

David Klein   Computer and Information Sciences (University of Pennsylvania) - 1989 (advisor)
                                    `Interpretive Value Analysis.'

Thierry Barsalou   Medical Information Sciences (Stanford) - 1990 (committee)
                                    `Toward Expert Database Systems: Integration of Object-Oriented Methods with a
                                    Relational Architecture.'

David Heckerman   Medical Information Sciences (Stanford) - 1990 (committee)
                                    `Probabilistic Similarity Networks.'
                                    [ACM Doctoral Dissertation Award, 1990]

Holly Jimison   Medical Information Sciences (Stanford) - 1990 (advisor)
                                    `A Representation for Gaining Insight into Clinical Decision Models.'

Eric Horvitz   Medical Information Sciences (Stanford) - 1990 (committee)
                                    `Computation and Action Under Bounded Resources.'

R. Martin Chavez   Medical Information Sciences (Stanford) - 1990 (advisor)
                                    `Architectures and Approximation Algorithms for Probabilistic Expert Systems.'

Brad R. Farr   Medical Information Sciences (Stanford) - 1991 (committee)
                                    `Assessment of Preferences Through Simulated Decision Scenarios.'

Harold Lehmann   Medical Information Sciences (Stanford) - 1991 (advisor)
                                    `A Bayesian Computer-Based Approach to the Physician's Use of the Clinical Research
                                    Literature.'

Henri Jaap Suermondt   Medical Information Sciences (Stanford) - 1992 (committee)
                                    `Explanation in Bayesian Belief Networks.'

John Egar   Medical Information Sciences (Stanford) - 1994 (committee)
                                    `Construction of Normative Decision Models Using Abstract Graph Grammars'

Geoffrey Rutledge   Medical Information Sciences (Stanford) - 1995 (committee)
                                    `Dynamic Selection of Models.'

Lucila Ohno-Machado   Medical Information Sciences (Stanford) - 1996 (committee)
                        `Hierarchical Neural Networks: Applications in Survival Analysis'

Gretchen Purcell   Medical Information Sciences (Stanford) - 1996 (advisor)
                        `Contextual Document Models for Searching the Clinical Literature'

Alex Poon   Medical Information Sciences (Stanford) - 1996 (committee)
                        `Optimizing the Task of Menu Selection for Large Controlled Vocabularies'

Keith E. Campbell   Medical Information Sciences (Stanford) - 1997 (advisor)
                        `Distributed Development of a Logic-Based Controlled Medical Terminology'

Gillian D. Sanders   Medical Information Sciences (Stanford) - 1998 (committee)
                        `Automated Creation of Clinical-Practice Guidelines from Decision Models'

Cecil Huang   Medical Information Sciences (Stanford) - 1999 (committee)
                        `Intelligent Alarms for Monitoring'

Wanda M. Pratt   Medical Information Sciences (Stanford) - 1999 (committee)
                        `Dynamic Knowledge-Based Hierarchical Text Categorization'

Diane Oliver   Biomedical Informatics (Stanford) – 2000 (committee)
                        `Managing Local Divergence of a Shared Clinical Vocabulary''

Daniel C. Berrios   Biomedical Informatics (Stanford) – 2001 (committee)
                        `Methods for Semi-Automated Index Generation for High Precision Information Retrieval'

Dongwen Wang   Medical Informatics (Columbia) – 2003 (advisor)
                        `A Generic Execution Model for Sharing of Computer-Interpretable Clinical Practice
                        Guidelines'

Trevor Cohen   Biomedical Informatics (Columbia) – 2007 (committee)
                        `Augmenting Expertise: Computer-enhanced Clinical Comprehension in Psychiatry'

Knarig Arabshian   Computer Science (Columbia) – 2008 (committee)
                        'Ontology-based Context-aware Service Discovery in a Globally Distributed Network'

Akshay Vankipuram   Biomedical Informatics (Arizona State University) – 2018 (committee)
                        'Utilization of automated location tracking for clinical workflow analytics and visualization'

Zongwei Zhou   Biomedical Informatics (Arizona State University) – Current (committee)
                        'Integrating interactive learning and transfer learning for digital imaging'

Editorial Boards

2001—   *Journal of Biomedical Informatics*, Elsevier Science, *Editor in Chief*

2002—   *Informedica Journal*, Fundacion de Informatica Medica, Miami, Florida

1998—   *Information Systems Frontiers*, Springer

1998—   *American Journal of Medicine*, Elsevier Science

1997—2001   *International Journal of Medical Informatics*, Elsevier

1993—1995   *Journal of the American Medical Informatics Association*, Hanley and Belfus

1991—1994   *Annals of Internal Medicine*, American College of Physicians

1991—1992   *Internet News: The Newsletter of the Internet Society* (Contributing Editor for biomedical
               community)

1989—2017   *Artificial Intelligence in Medicine*, Elsevier Science

1986—2000   *Computers and Biomedical Research*, Academic Press

1986—2003   *Methods of Information in Medicine,* Schattauer

1986—1988   *Medical Decision Making*, Hanley and Belfus, Inc.

1984—1991   *Lecture Notes in Medical Informatics*, Springer-Verlag

1983—1995   *Research Notes in Artificial Intelligence*, Pitman Advanced Publishing Program

1980—1985   *Medical Decision Making*, Birkhauser Boston, Inc.

1978—1993   *Computer Methods and Programs in Biomedicine,* Elsevier

Editorial Advisory Boards

2000—2007   *Biomedical Frontiers* (College of Physicians and Surgeons, Columbia University)

1999—2000   *Annual Reviews, Inc.*, Palo Alto, California.

1990—1991   *Outcomes Measurement and Management*, The Zitter Group, San Francisco

1985—1992   *M.D. Computing*, Springer Verlag
1999—2001   *M.D. Computing*, Springer Verlag

1984—1986   *Health Care Instrumentation*, Excerpta Medica

1983—2000   *Stanford Medicine* (Medical Center and Alumni Magazine)

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Books

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9. Shortliffe EH, Millett LI, eds. **Strategies and Priorities for Information Technology at the Centers for Medicare and Medicaid Services**. Washington, DC: National Research Council, National Academies Press, 2012.

10. Committee on National Statistics (member). **Principles and Practices for a Federal Statistical Agency** (Fifth Edition). Washington, DC: National Academies Press, 2013.

11. Shortliffe EH (ed), Cimino JJ (assoc. ed.). **Biomedical Informatics: Computer Applications in Health Care and Biomedicine**. London: Springer-Verlag, 2014. (4th edition of #8)

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13. Committee on Developing a Smarter National Surveillance System for Occupational Safety and Health in the 21st Century (Chair). **A Smarter National Surveillance System for Occupational Safety and Health in the 21st Century.** Washington, DC: National Academies Press, January 2018.

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2. **Health Data in the Information Age: Use, Disclosure, and Privacy**. Washington, D.C.: Institute of Medicine, National Academy Press; 1994 – Committee Member

3. **Networking Health: Prescriptions for the Internet.** Washington, DC: National Research Council. National Academy Press; 2000. – Committee Chair

4. **Information Technology Research: Investing in our Future.** Washington, D.C.: President's Information Technology Advisory Committee (PITAC), Report to the President; February 1999. – Committee Member

5. **Transforming Health Care Through Information Technology.** Washington, D.C.: Panel on Transforming Health Care, President's Information Technology Advisory Committee (PITAC), Report to the President; February 2001. – Panel Chair

6. **Information for Health: A Strategy for Building the National Health Information Infrastructure**. Washington, D.C.: Workgroup on the NHII, National Committee on Vital and Health Statistics; November 2001. – Workgroup and Committee Member

7. **Electronic Scientific, Technical, and Medical Journal Publishing and its Implications: Report of a Symposium.** Washington, D.C.: National Research Council, National Academy Press; 2004. – Chair of Steering Committee

8. **Advancing the Nation's Health Needs: NIH Research Training Programs**. Washington, D.C.: National Research Council, National Academy Press, 2005 – Committee Member and Liaison to the Subcommittee on Oral Health

9. **Digital Infrastructure for the Learning Health System**: The Foundation for Continuous Improvement in Health and Health Care (Workshop Series Summary). Roundtable on Value & Science-Driven Health Care. Washington, D.C.: Institute of Medicine, National Academy Press, 2010. – Steering Committee Member and Speaker.

10. **Research Training in Biomedical, Behavioral, and Clinical Research Sciences.** Washington, DC.: National Research Council, National Academy Press, 2011 – Committee Member.

11. **Strategies and Priorities for Information Technology at the Centers for Medicare and Medicaid Services.** Washington, DC.: National Research Council, National Academy Press, 2011 – Committee Chair

12. **Ranking Vaccines:** A Prioritization Software Tool: Phase II: Prototype of a Decision-Support System. Washington, DC: Institute of Medicine, National Academy Press, 2013 – Committee Member.

13. **A Smarter National Surveillance System for Occupational Safety and Health in the 21st Century.** Washington, DC: The National Academies Press, 2018. doi: https://doi.org/10.17226/24835 —Committee Chair

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