Curriculum Vitae and Bibliography
Robert A. Greenes, MD, PhD

PERSONAL INFORMATION

Place of Birth:	Cleveland, Ohio
Citizenship:	United States
Work Address:	1205 Pacific Hwy, Unit 1001 San Diego, CA 92101
Home Address:	1205 Pacific Hwy, Unit 1001 San Diego, CA 92101
Phone:	(617) 331-7715 (cell)
Email Address:	greenes@asu.edu

PRESENT ACADEMIC RANK AND POSITION

Emeritus Professor Ira A. Fulton Chair in Biomedical Informatics Arizona State University, Phoenix, Arizona	2020 – Present
Visiting Scholar, Division of Biomedical Informatics University of California San Diego, La Jolla, California	2023 – Present

EDUCATION

University of Michigan BA	1962
Harvard Medical School MD	1966
Harvard University IBM Fellowship (Research)	1966
Harvard University and Massachusetts General Hospital, Laboratory of Computer Science National Institutes of Health Postdoctoral Fellowship (Research)	1966 - 1969
Harvard University PhD, Computer Science/Applied Mathematics	1970
Worcester City Hospital Internship Worcester, MA	1976
Massachusetts General Hospital Residency Boston, MA	1975 - 1978

BOARD CERTIFICATION(S)

American Board of Radiology

Radiology	1978

LICENSURE

Massachusetts	40354	1976
	Inactive	2013 - Present

HONORS/AWARDS

Phi Beta Kappa	1961
James B. Angell Scholar – University of Michigan	1961 - 1962
Moses Gomberg Scholarship Prize in Chemistry – University of Michigan	1962
Summa Cum Laude – University of Michigan	1962
Borden Research Award – Harvard Medical School	1966
Magna Cum Laude – Harvard Medical School	1966
Sigma Xi	1970
Election to Fellowship – American College of Medical Informatics	1984
Best Paper Award – American Association of Medical Systems and Informatics	1987
Election to President – American College of Medical Informatics	1996
Election to Fellowship – American College of Radiology	1999
Election to Membership –Institute of Medicine (now called National Academy of Medicine), National Academies of Sciences	1999
Election to Fellowship – Society for Computer Applications in Radiology (now called Society for Imaging Informatics in Medicine)	2001
BWH Distinguished Chair in Biomedical Informatics – Department of Radiology, Brigham and Women's Hospital	2005
Ira A. Fulton Chair in Biomedical Informatics – Arizona State University	2007
Morris F. Collen Award of Excellence – American College of Medical Informatics	2008
Establishment of Robert A. Greenes Distinguished Director of Biomedical Informatics – Brigham and Women's Hospital	2010
Board of Regents, National Library of Medicine **Chair** of Board of Regents **Consultant**, Board of Regents	2013 – 2017 2016 – 2017 2017 – 2018
Election as inaugural member – International Academy of Health Sciences Informatics of the International Medical Informatics Association	2017
Distinguished Fellow – American College of Medical Informatics	2021

PREVIOUS PROFESSIONAL POSITIONS AND MAJOR APPOINTMENTS

Mathematics and Computing Consultant - Research Computing Center, Massachusetts General Hospital, Boston, Massachusetts	1962 - 1966
Instructor in Medicine - Harvard Medical School	1966 - 1969
Associate in Computer Science - Department of Medicine, Massachusetts General Hospital, Boston, Massachusetts	1966 - 1969
Assistant Director - Laboratory of Computer Science, Massachusetts General Hospital, Boston, Massachusetts	1966 - 1970
Assistant Professor of Medicine - Harvard Medical School	1969 - 1970
Assistant Computer Scientist - Department of Medicine, Massachusetts General Hospital, Boston, Massachusetts	1969 - 1970
President - Automated Health Systems, Inc., Wakefield, Massachusetts	1970 - 1974
Associate Professor of Health Information Systems - Stanford University School of Medicine, Palo Alto, California	1974 - 1975
Director of Information Systems Activities - Stanford University Medical Center, Palo Alto, California	1974 - 1975
Assistant Professor of Radiology - Peter Bent Brigham Hospital, Harvard Medical School	1978 - 1981
Director - Computer Science Division, Department of Radiology, Brigham and Women's Hospital	1978 - 1987
Radiologist - Department of Radiology, Brigham and Women's Hospital, Harvard Medical School	1978 - 2007
Director - Decision Systems Group, Department of Radiology, Brigham and Women's Hospital, Harvard Medical School	1980 - 2007
Assistant Professor of Radiology - Harvard Medical School	1981 - 1996
Member of the Faculty - Department of Biostatistics, Harvard School of Public Health	1983 - 1989
Program Director - Research Training in Biomedical Informatics, Harvard-MIT-New England Medical Center Joint Program	1986 - 2007
Associate Professor of Biostatistics - Harvard School of Public Health	1989 - 1996
Associate Professor - Division of Health Sciences & Technology, Harvard Medical School and Massachusetts Institute of Technology	1989 - 1996
Faculty Coordinator - Focus area in Biomedical Informatics, Division of Health Sciences and Technology, Harvard-MIT	1995 - 2007
Affiliated Faculty - Division of Health Sciences and Technology, Harvard-MIT	1996 - 1998
Professor of Health Policy & Management - Harvard School of Public Health	1996 - 2007
Professor of Radiology - Brigham and Women's Hospital, Harvard Medical School	1996 - 2007
Member of the Faculty - Division of Health Sciences and Technology, Harvard-MIT	1998 - 2003

Professor of Health Sciences and Technology - Harvard Medical School	2004 - 2007
Distinguished Chair in Biomedical Informatics - Department of Radiology, Brigham and Women's Hospital	2005 - 2007
Professor - Department of Biomedical Informatics, Arizona State University, Phoenix, Arizona	2007 - 2020
Ira A. Fulton Chair in Biomedical Informatics - Arizona State University, Phoenix, Arizona	2007 - 2020
Member - Arizona Cancer Center, Tucson, Arizona	2007 - 2020
Professor of Biomedical Informatics - College of Medicine, Mayo Clinic	2012 – 2020
Research Affiliate, Veterans Administration, for Knowledge-Based Systems, through Independent Professional Appointment	2015 – 2018

PROFESSIONAL & COMMUNITY MEMBERSHIPS, SOCIETIES AND SERVICES

Professional Memberships & Services

American Association for the Advancement of Science	
Member	1965 - 2010
American Association of Medical Systems and Informatics	
Member	1982 - 1989
Board of Directors	
Member	1983 - 1989
American College of Medical Informatics	
Member	1985 – Present
President	1997 - 1998
President-Elect	1994 - 1996
Executive Committee	
Member	1987 - 1991
First Retreat on Current Topics in Medical Informatics	
Program Chairman	02/1991
Scientific Activities Committee	
Chairman	1985 - 1991
American College of Radiology	
Member	1978 - Present
Committee on Computers	
Member	1980 - 1988, 1992 - 1995
Imaging Network, Informatics Committee	
Chairman	2003 - 2006
Imaging Network, NCI Committee	
Chairman	2002 - 2008
Imaging Network, Quality Assurance Committee	
Chairman	2001 - 2003
American Institute for Ultrasound in Medicine	
Member	1981 - 1986
American Medical Informatics Association	
Member	1990 - Present

Treasurer	1993 - 1997
Advisory Council, Society for Medical Decision Making	
Representative	1990 - 1995
American College of Radiology	
Representative	1994 - 1997
Arizona Health-e Connection for Western Summit	
Liaison	2009 - 2011
Board of Directors	
Member	1990 - 1998
International Affairs Committee	
Member	2001 - 2007
Public Policy Committee	
Member	2010 - 2007
Association for Computing Machinery	
Member	1965 - Present
Association of University Radiologists	
Member	1983 - 2005
Biomedical Engineering Society	
Charter Member	1968 - 1975
Clinical Chemistry Laboratory Data Communications Group	
Member	1979 - 1989
Health Level Seven	
Clinical Decision Support Technical Committee	
Co-chair	2003 - 2011
Clinical Guidelines Special Interest Group	
Co-chair	2003 - 2010
Institute of Electrical and Electronics Engineers	
Member	1969 - Present
International Commission on Radiation Units	
Report Committee on ROC Analysis	
Member	1993 - 1995
International Health Evaluation Association	
Member	1972 - 1975
International Medical Informatics Association	
Publications Committee for MEDINFO 95	
Chairman	1992 - 1995
Massachusetts Medical Society	
Member	1978 - Present
Committee on Education	
Member	2004 - 2007
Committee on Information Technology	
Member	2005 - 2007
Massachusetts Radiological Society	
Member	1978 - 2007
MUMPS Users Group	
Member	1972 - 1980
Vice-Chair	1973
Program Committee Chairman	1974
National Academies of Science	
National Academy of Medicine (formerly Institute of Medicine)	
Member	1998 - Present

National Educational Medical School Consortium

    Chairman   1991 - 1992

National Initiative for Healthcare Informatics

    Member   1998 - 1999

New England Roentgen Ray Society

    Member   1976 - 2007

New England Society of Ultrasound in Medicine

    Member   1978 - 1985

New York Academy of Sciences

    Conference. on Extended Clinical Consulting by Hospital Computer Networks, Boston, MA

    Program Co-chairman   1991 - 1992

Radiologic Society of North America (RSNA)

    Member   1975 - Present

    Electronic Communications Committee

    Member   1990 - 1999

    IHE 99: "Integrating the Health Care Enterprise", Chicago, IL

    Program Chairman   12/1999

Radiology Information Systems Consortium

    Member   1982 - 1995

    Board of Directors

    Member   1986 - 1987

    CBT Advisory Board

    Member   1989 - 1991

    Development Task Force

    Chairman   1982 - 1986

    DRILL Project Task Force

    Member   1988 - 1992

    Management Committee

    Member   1982 - 1986

Society for Medical Decision Making

    Member   1979 - 2020

    Program Committee

    Charter Member   1985

Software Engineering in Medical Informatics (SEMI) Conference

    Program Committee

    Member   1989 - 1990

    Conference, Amsterdam, Netherlands

    Member   10/1990

Special Interest Group in Biomedical Computing (SIGBIO)

    Member   1972 - 1990

Symposium for Computer Applications in Medical Care, Inc. (SCAMC)

    Member   1986 - 1989

    Board of Directors

    Member   1986 - 1990

    Finance and Audit Committee

    Member   1986 - 1987

    11th SCAMC

    Program Committee Member   1986 - 1987

    12th SCAMC

    Program Committee Member   1987 - 1988

JOURNAL RESPONSIBILITIES

Journal of Biomedical Informatics	
Associate Editor	2000 - 2020
Journal of Digital Imaging	
Associate Editor	1987 - 2003
Medical Computer News	
Editorial Board Member	1983 - 1984
Medical Decision Making	
Editorial Board Member	1985 - 1988
Medical Practice Management	
Editorial Board Member	1985 - 2006
Methods of Information in Medicine	
Editorial Board Member	1999 - 2015
Radiographics	
Associate Editor	1996 - 2002
Telemedicine and eHealth Journal	
Editorial Board Member	1995 - Present

EDUCATIONAL ACTIVITIES

Curriculum/Course Development

Director, Harvard Research Training Program in Medical Information Science
Harvard Medical School

Doctoral Advisor, Department of Biostatistics
Harvard School of Public Health

Director, Academic Computing, curriculum software development
Division of Health Science and Technology,
Harvard Medical School and Massachusetts Institute of Technology

President, National Educational Medical School Consortium

Project Director, American Board of Radiology Computer-Based Examination Project

Director, Harvard/MIT/NEMC Research Training Program in Biomedical Informatics
Harvard Medical School and Massachusetts Institute of Technology

Member and/or Chair, Academic Program Committee, Department of Biomedical Informatics, Arizona State University   2007 - 2020

Teaching

Seminars in Medical Computing for House Officers and Fellows   1966 - 1969
Massachusetts General Hospital

Resident and Medical Student Teaching, Informal and Didactic   1978 - 2007
Sessions
Brigham and Women's Hospital

Seminar Session on Medical Decision-Making Technology Evaluation in Health Care Series Harvard School of Public Health	1978 - 1980
Lectures on Radiologic Anatomy First Year Course Harvard Medical School	1978 - 1980
Lectures on Ultrasound Technology, Fetal Evaluation by Computer, and Computers in Radiology Harvard Continuing Medical Education Courses on Diagnostic Ultrasound, Computed Tomography, and Cardiovascular Radiology Harvard Medical School	1979 - 1984
Lectures on Computers in Radiology, in Computer Applications in Medicine Course Division of Health Science and Technology Harvard Medical School and Massachusetts Institute of Technology	1979 - 1987
Lectures on Medical Decision Making and Clinical Epidemiology Course Harvard Medical School	1982
Lectures on Computer Fundamentals for Radiology Residents Department of Radiology Brigham and Women's Hospital	1987 - 1989
Lectures on Computer Aided Medical Decision Making Introduction to Clinical Medicine Course Division of Health Science and Technology Harvard Medical School and Massachusetts Institute of Technology	1989 - 1992
Enhanced Clinical Problem Solving & Education in Radiology Lecture Joint Program in Nuclear Medicine	1992
Seminars on special topics in health care informatics Lecture	1995 - 2007
Lectures in HST 921 and HST 950, Medical Informatics Harvard – MIT HST program	1999 - 2007
Computer-Based Guidelines: A Core Technology for Future Health Care Systems Managing Radiology Utilization, BWH Course Boston, MA	05/2000
Integrating the Health Care Enterprise, Managing Radiology Utilization BWH Course Boston, MA	05/2000
Intranets for Health Care Enterprise Integration Lecture Department of Radiology course on Medical Management	2004
Lectures in Clinical Decision Support Lecture University of Arizona College of Medicine - Phoenix, in Partnership with Arizona State University	2007 - 2015
Guest lectures in Biomedical Informatics Applications and Methods Courses Arizona State University	2007 - Present

Lecturer for first and second year medical student teaching University of Arizona College of Medicine-Phoenix, in Partnership with Arizona State University	2007 - 2011
BMI 506 (formerly BMI 591) Clinical Decision Support Course Director Arizona State University	2008 – 2012 2014- 20120
BMI 591 Introduction to Clinical Environments Co-Instructor Arizona State University	2010 - 2011
BMI 502 Methods in Biomedical Informatics Module on Clinical Decision Making Instructor Arizona State University	2010 - 2012
BMI 540 Problem Solving in BMI Course Director Arizona State University	2014 –2016
BMI 591 Clinical Application Development Co-Instructor Arizona State University	2014 –2020
BMI 616 Clinical Decision Support and Evidence-Based Medicine Course Director	2016 –2020
VIP-x94-BMI/CSE/HON Health IT Innovation Collaborative (HII-C) Knowledge-Based Applications for Healthcare Course Director	2017 –2020

Mentorship

Resident Research Mentor Department of Radiology, Brigham and Women's Hospital	1988 - 2007

Biomedical Informatics Predoctoral and Postdoctoral Advisor
(most recent 10 years)
Boston Area Informatics Research Training Program

Clemenson, Steve, MD, postdoctoral	1999 - 2001
Hsing, Nelson, MD, postdoctoral	2000 - 2002
Yin, James Qinwei, MD, postdoctoral	2000 - 2002
Nadai, John, MD, postdoctoral	2000 - 2002
Denekamp, Yaron, MD, postdoctoral	2001 - 2003
Han, Heon, MD, PhD, postdoctoral	2002 - 2003
Luckmann, Roger, MD, MPH, postdoctoral	2002 - 2003
Bade, Sameer, MD, postdoctoral	2002 - 2004
Hanauer, David, MD, postdoctoral	2002 - 2004
Kimmel, Zebadiah, MD, MS, postdoctoral	2005 - 2007

Department of Biomedical Informatics, Arizona State University

Gouripeddi, Ramkiran, MS, MS committee	2007 - 2009
Kriseman, Jeffrey, PhD thesis committee	2007 - 2011
Yao, Robert, PhD committee	2008 - 2019
Jonnalagadda, Siddhartha, PhD committee	2009 - 2011
Pan, Di, PhD committee	2010 - 2012
Ashby, Aaron, PhD research advisor	2010 – 2014
Bhargava, Abhinav, MS committee	2012 – 2013
Yauch, David, PhD research advisor	2011 – 2013
Emadzadeh, Ehsan, PhD committee	2012 – 2016
Hendrickson, Bryan, MS committee	2012 – 2015
Islam, Gazi, PhD committee	2011 – 2014
Kanal, Prabal, PhD research advisor	2011 - 2014
Nikfarjam , Azadeh, PhD committee	2013 – 2016
Taylor, Blaine, MS advisor	2014 – 2018
Tajbakhsh, Nima, PhD committee	2013 – 2015
Dhamodharan, Sahithya, MS committee	2014 – 2015
Lamp, Josephine, BS Capstone committee	2016 – 2017
Ozair, Yael, BS Capstone Committee	2017 – 2018
Lee, Preston, PhD committee	2016 – 2018
Meyer, Hollie, BMI MAS Applied Project advisor	2018 – 2020
Duncan, Benjamin, PhD committee	2018 – 2021
Michne, Austin, BS Honors thesis advisor	2018 – 2019
Martinez, Rogelio, BMI MS Applied Project advisor	2019
Ozair, Yael, BMI MS Applied Project advisor	2019
Magge, Arjun, PhD committee	2018 – 2020

INSTITUTIONAL/DEPARTMENTAL ADMINISTRATIVE RESPONSIBILITIES, COMMITTEE MEMBERSHIPS AND OTHER ACTIVITIES

Agency for Healthcare Research and Quality

Informatics Research and Development	
Invited Expert Panel	2000

Arizona State University

BMI Academic Program Committee	2007 – 2020
Member	
Chair	2017 – 2018
BMI Recruitment Committee	2017 – 2020
Member	
CHS Tenure Track Committee	2014 – 2020
Member	

Brigham and Women's Hospital

Clinical Initiatives Development Program	
Member	1992 - 1995
Computer Networking Committee	
Member	1988 - 1989
Computer Science Advisory Committee, Department of Radiology	
Chairman	1978 - 1986
Hospital Computer Advisory Committee	
Member	1981 - 1982

Quality Assurance/Risk Management Committee
    Member   1982 - 1984
Research Committee, Department of Radiology
    Member   1989 - 1994
Research Committee
    Member   1995 - 1996
Research Council
    Member   1997 - 2005

Food and Drug Administration
Advisory Panel
    Member   1970 - 1971

Harvard Medical School
Academic Computing Committee
    Member   1990 - 1994
Committee on Continuing Medical Education
    Member   2002 - 2007
Committee on Quantitative Sciences in the Medical Area
    Member   1979 - 1982
Curriculum Committee
    Subcommittee on Computers in the Curriculum
        Member   1990 - 1991
IAIMS Working Committee
    Chairman   1985 - 1987
Medical Educational Computing Systems
    Advisory Committee
        Member   1988 - 1989

Harvard School of Public Health
Biostatistics Department
    Ad Hoc Committee for Self Study of Applied Biomedical
    Computing Degree Programs
        Member   1985 - 1986
Health Science Computing Facility
    Oversight Committee
        Member   1979 - 1985
    User Committee
        Member   1986 - 1989

Harvard Medical School and Massachusetts Institute of Technology
Division of Health Science and Technology
    Administrative Committee
        Member   1989 - 1991
    Biomedical Informatics
        Faculty Coordinator   1997 - 2007
    Curriculum Committee
        Member   1995 - 2007
    Faculty Committee
        Member   1995 - 2007

Graduate Committee
    Member   1996 - 2007
MD Committee
    Member   1995 - 2000
National Academy of Engineering, MIT
    Subcommittee on Medical Care Micro Systems
        Task Force Member   1968

Institute of Medicine / National Academy of Medicine
Occupational Health and the Electronic Health Record
    Study Panel
        Member   2011
Technologies for Breast Cancer Detection and Diagnosis
    Study Panel
        Member   2003 – 2004

National Aeronautics and Space Administration (NASA)
Medical Informatics for Exploration Class Space Flight
    Workshop on Image Archive Management
        Expert Panel   1999

National Bureau of Standards
MUMPS Development Committee
    Member   1972 - 1976

National Cancer Institute
Biomedical Imaging Program
    Workshop on Image Archive Management
        Invited Participant   2000
SBIR Review Panel
    Chairman   2001 - 2002

National Center for Health Services Research and Development
Health Services Research Study Section
    Ad hoc Member   1971

National Center for Research Resources
Clinical and Translational Science Awards (CTSA)
    Review Panel
        Member   2006

National Health Information Infrastructure (NHII)
HHS Office
    Architectures and Standards, NHII Annual Meeting
        Track Co-Leader   2004

National Heart Institute
National Blood Resource Program
    Advisory Committee
        Ad hoc Member   1968

National Institutes of Health

Diagnostic Radiology Coordinating Committee

Member	1990 - 1991

Division of Research Grants

Special Study Section

Member	1980

National Centers for Biomedical Computing

Review Panel

Member	2010

National Library of Medicine

Biomedical Library Review Committee (Study Section)

Chairman	1986 - 1987
Member	1983 - 1987

Eureka Grants

Review Panel

Member	2009

Interface between Informatics and Health Services Research Training (National Library of Medicine and Agency for Healthcare Research and Quality)

Panel Member	1999

Board of Regents

Member	2013 – 2017
Chairman	2016 – 2017
Consultant	2017 – 2018
Long-range Planning Committee	2016 – 2017
Representative to NIH Multi-Council Working Group for Big Data to Knowledge (BD2K)	2016 – 2017

Partners HealthCare

Clinical Research Information Systems Subcommittee

Member	2003 - 2005

Information Technology Steering Committee

Member	2005 - 2007

Research Information Systems Committee

Member	2003 - 2005

Stanford University Medical School

Medical Center Computer Policy Committee

Chairman	1974 - 1975

University of Texas-Houston Health Sciences Center

Health Informatics Graduate Program Review Committee

Chairman	2003

Veterans Administration

Health Services Research and Development (HSR&D)
Scientific Merit Review Board

Member	2013 – 2017

Knowledge-Based Systems

Research Affiliate	2015 - 2017

Patient-Centered Outcomes Research – Clinical Decision Support Learning Network (PCOR-CDS-LN)
    Executive Committee   2016 - 2017

INVITED PRESENTATIONS AND VISITING PROFESSORSHIPS

Invited Presentations (most recent 10 years)

HIT Cause No Harm #2: Disruptive Implications Invited Speaker, Physician IT Symposium, HIMSS 2013, Orlando, FL	2/2014
Health Care Transformation: 11 Disruptive Changes and their Health IT Implications Invited Speaker, Arizona HIMSS Meeting, Scottsdale, AZ	4/2014
Health Care Transformation: 11 Disruptive Changes and their Health IT Implications Invited Speaker, Symposium Series, University of Indiana, Department of Biological and Health Informatics, Indianapolis, IN	4/2014
Progress on App Interoperability as an Agent of Healthcare Transformation Invited Speaker, Mayo Clinic Informatics Grand Rounds, Rochester, MN	8/2014
Interoperability for Scalable Care Models; Tackling the Data Debacle: A University-Led Sandbox Initiative Invited Speaker (2 presentations), and Session Chair, Connected Healthcare, San Diego, CA	10/2014
Health Information Technology for a Transforming Health Care System Invited Speaker, Scottsdale Second Annual Cure Corridor Event, Scottsdale, AZ	12/2014
Health Care Transformation: 11 Disruptive Changes and their Health IT Implications Keynote Speaker, Epic Southwest Users Group Meeting, Phoenix, AZ	3/2015
Evolution and Revolution in Knowledge-Driven Health IT: A 50-Year Perspective and a Look Ahead Keynote Speaker, Knowledge Representation for Health Care, Pavia, Italy	6/2015
Enabling Patient-Centered Care by Liberating Data Invited Speaker: IEEE Pre-HIMSS Workshop: Health Informatics on FHIR: Opportunities in the New Age of Interoperability, Las Vegas, NV	2/2016

Medical Education and the Transforming Healthcare System Keynote Speaker, AT Still Symposium, Mesa, AZ	5/2016
Health IT and Decision Support for a Transforming Healthcare System Invited Speaker, ASU School of Nutrition and Health Promotion, Phoenix, AZ	10/16
Clinical Decision Support for a Transforming Health/Healthcare System Invited Presenter, Patient-Centered Outcomes Research Clinical Decision Support Learning Network, National Webcast	1/17
Knowledge Infrastructure Requirements for Computable Biomedical Knowledge, Invited Presenter (with Carl Lagoze), Computable Biomedical Knowledge, University of Michigan, Ann Arbor, MI	10/17
VIP at ASU Invited Presenter (with C. Greenes), VIP Consortium Annual Symposium, Atlanta, GA,	5/18
Mobilizing Computable Biomedical Knowledge Invited Panel/Workgroup Leader, National Library of Medicine, Bethesda, MD	7/18
Symposium Honoring Edward H. Shortliffe Invited Presenter, Stanford University, Palo Alto, CA	8/18
Clinical Decision Support and Beyond Invited Presenter, Biomedical Informatics Course, UCSD La Jolla, CA	4/23

RESEARCH INTERESTS

1. Clinical Information Systems
2. Clinical Decision Making
3. Clinical Decision Support
4. Efficacy of Diagnostic Testing
5. Computer-Aided Medical Education
6. Interoperability and Health System Integration
7. Patient-Centered Computing
8. Structured Medical Record-Keeping
9. Information Technology and Health System Transformation

RESEARCH GRANTS AWARDED

Completed Grants

Principal Investigator	Investigations in Clinical Decision Making (Program Project). Funded by National Library of Medicine.	1980 - 1986
Principal Investigator	Medical Informatics Research Training Program. Funded by National Library of Medicine.	1984 - 1989
Co-Principal Investigator	Equipment Grant Program. Funded by Xerox Corp.	1986 - 1988
Principal Investigator	Investigations in Knowledge Management. Funded by National Library of Medicine.	1987 - 1996

Principal Investigator	IAIMS Planning (NLM Resource Grant Program). Funded by National Library of Medicine.	1987 - 1989
Co-Principal Investigator	Unified Medical Language Program. Funded by National Library of Medicine.	1987 - 1991
Principal Investigator	Biomedical Informatics Research Training. Funded by National Library of Medicine.	1987 - 2007
Principal Investigator	External Research Support. Funded by Apple Computer, Inc.	1988 - 1990
Principal Investigator	Computer-Assisted Instruction in Radiology. Funded by National Cancer Institute.	1988 - 1992
Principal Investigator	Electronic Knowledge Resource Support for Walter Reed Medical Center. Funded by PAIV, Inc.	1991 - 1992
Principal Investigator	Unified Medical Language System. Funded by National Library of Medicine.	1991 - 1994
Principal Investigator	Equipment Grant Program. Funded by Sun Computer, Inc.	1992 - 1993
Principal Investigator	ABR Computer-Based Examination Project. Funded by American Board of Radiology.	1992 - 1995
Principal Investigator	Wavelet Compression in Mammography. Funded by Comm. of Massachusetts.	1993 - 1995
Principal Investigator	Modeling of Human Computer Interface (subcontract to Stanford). Funded by DARPA.	1994 - 1996
Principal Investigator	An Internet-Based Collaboratory (High Peform. Comput. & Commun. Contract). Funded by National Library of Medicine.	1994 - 1997
Principal Investigator	Equipment Grant Program. Funded by Hewlett-Packard.	1995 - 1996
Principal Investigator	NAMCIC consortium on shared information repositories (consortium participant). Funded by DARPA.	1995 - 1999
Principal Investigator	Frameworks for Clinical Management. Funded by DARPA.	1995 - 2000
Co-Principal Investigator	Equipment Grant Program. Funded by Hewlett-Packard.	1996 - 1998
Principal Investigator	HealthAware: An Integrated Health & Health Care Information Network. Funded by National Library of Medicine.	1996 - 2000
Co-Principal Investigator	Heart Attack Alert Program, Planning Grant. Funded by National Library of Medicine.	1998 - 1999
Co-Principal Investigator	Next Generation Internet, Planning Grant. Funded by National Library of Medicine.	1998 - 1999
Co-Principal Investigator	InterMed Collaboratory. Funded by National Library of Medicine/U.S. Army.	1999 - 2002
Co-Investigator	Creating Guidelines that Adapt to Local Contexts. Funded by National Library of Medicine.	2001 - 2003
Co-Investigator	Shared Pathology Information Network. Funded by NCI.	2001 - 2006

Principal Investigator	Planning for a Center for Knowledge-Based Practices. Funded by U.S. Army.	2002 - 2003
Co-Investigator	Medical Vocabulary Support for Patients. Funded by National Library of Medicine.	2002 - 2005
Co-Investigator	Assessing Penetrating Trauma Under Uncertainty. Funded by National Library of Medicine.	2002 - 2005
Principal Investigator	Knowledge Management for Decision Support. Funded by Partners IS Res. Council.	2003 - 2005
Co-Investigator	Improved Tumor Resection in Image-Guided Neurosurgery. Funded by National Library of Medicine.	2003 - 2006
Co-Principal Investigator	Applic. of Advanced Network Infrastructure in Health & Disaster Mgt.: Scalable Medical Alert & Response Technology (SMART). Funded by National Library of Medicine.	2003 - 2007
Co-Investigator	National Center for Biomedical Computing: Integrating Informatics from Biology to the Bedside (i2b2). Funded by National Institutes of Health.	2004 - 2007
Principal Investigator	Interagency Service Agreement, Arizona Health Care Cost Containment System (AHCCCS), Umbrella Agreement for Task Order Contracts. Funded by ISA.	2008 - 2009
Principal Investigator	Subcontract from Thomson Reuters for Structuring Care Recommendations for Clinical Decision Support. Funded by AHRQ.	2009 - 2011
Adv. Bd.	Prime the Pipeline Project. Funded by NSF.	2009 - 2012
Principal Investigator	Subcontract from University of Arizona Technology and Research Initiative: Initial Development of Biomedical Informatics Capabilities for Health Research Alliance Arizona, the Statewide CTSA. Funded by TRIF.	2007 - 2013
Principal Investigator	Sub-recipient to Arizona Health-e Connection for Health IT Regional Extension Center. Funded by ONC.	2010 - 2014
Principal Investigator	Subcontract from University of Texas-Houston for SHARP Award, for National Center for Cognitive Informatics and Decision Making in Healthcare (NCCD). Funded by ONC.	2010 - 2014
Principal Investigator	Piper Health Solutions Consortium Award, Fostering Interoperable Health Applications Development Grant	2012 – 2014

Co- Investigator	Piper Health Solutions Consortium Award, Fostering Interoperable Health Applications Development Grant	2015 – 2018
Principal Investigator	Independent Professional Appointment (IPA) Veterans Administration	2015 – 2018
	Personal effort support	2015 – 2017
	Software architect support	2016 – 2018
Mentor	Clinical Decision Support Optimizing NEC Prevention and Early Recognition National Institutes of Health (K08) K08 HS22908-01A1 Sheila Gephart (PI)	2014 – 2019
Co-Investigator	NLP-enabled decision support for cervical cancer screening and surveillance Mayo Clinic (AHRQ) 1R21 HS022911-01 Rajeev Chaudhry (PI)	2014 – 2019
Co-Investigator	Computer-aided diagnosis of pulmonary embolism NHLBI 1R01HL128785-01A1 Jianming Liang (PI)	2016 – 2019
Executive Committee Member	Patient-Centered Outcomes Research Clinical Decision Support Learning Network, Funded by AHRQ	2016 – 2017
Co-Principal Investigator	Vertically Integrated Projects (VIP) program at Arizona State University, VIP Consortium Agreement, Helmsley Charitable Trust, Subcontract from Georgia Tech	2016 – 2017

Active Grants

None

BIBLIOGRAPHY

Peer-reviewed Articles

1. Greenes R, Sidel VW. The use of computer mapping in health research. *Health Services Research* 1967; 2:243-258

2. Barnett GO, Greenes RA. Interface aspect of a hospital information system. *Ann NY. Acad Sci* 1969;161:756-768

3. Pendergrass HP, Greenes RA, Barnett GO, Poitras JW, Pappalardo AN, Marble CW. An on-line computer facility for systematized input of radiology reports. *Radiology* 1969; 92:709-713

4. Greenes RA, Pappalardo AN, Marble CW, Barnett GO. Design and implementation of a clinical data management system. *Comput Biomed Res* 1969; 2:469-485

5.   Barnett GO, Greenes RA, Grossman JH. The processing of medical text information. *Meth Inf Med* 1969, 8:177-182

6.   Greenes RA, Barnett GO. Computer aids to clinical information processing. In: Clynes M, Milsum JH. (eds). *Biomedical Engineering Systems*. New York: McGraw-Hill Book Co, 1970; 467-488

7.   Greenes RA, Barnett GO, Klein SW, Robbins A., Prior RE. Recording, retrieval and review of medical data by physician/computer interaction. *N Engl J Med* 1970; 282:307-315

8.   Greenes RA. Social implications of computers in medicine. *Computers and Society.*   1970; l (3):3-6

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