

CURRICULUM VITAE

Yan Xiao, Ph.D.

Professor; Human Factors Engineer and Patient Safety Scientist
Plano, Texas

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Contact Information

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E-mail	yan.xiao.phd at gmail.com
Foreign Language	Chinese (native)

Education

1982	B.A.Sc.	Mechanical Engineering	Lanzhou Jiaotong University, Lanzhou, China
1985	M.A.Sc.	Systems Engineering	Beijing Institute of Technology, Beijing, China
1994	Ph.D.	Human Factors Engineering	University of Toronto, Toronto, Canada

Employment History

Primary Positions

1985-1988	North Vehicle Research Institute, Beijing, China Systems Engineer
1994-2009	University of Maryland School of Medicine, Baltimore, Maryland
1994-1995	Instructor of Anesthesiology
1995-2001	Assistant Professor of Anesthesiology
2001-2009	Associated Professor of Anesthesiology, with Tenure
2009-2009	Professor of Anesthesiology, with Tenure
2009-2017	Baylor Scott & White Health, Dallas, Texas Director, Human Factors and Patient Safety Science
2017-	University of Texas at Arlington, Arlington, Texas Professor with Tenure, College of Nursing and Health Innovations

Secondary Positions

1991-1993	Doctoral Fellow IBM Canada Centre for Advanced Studies, Toronto, Canada
1994-1994	Research Associate Department of Industrial Engineering, University of Toronto Toronto, Canada
1997-2001	Affiliate Assistant Professor of Information Systems University of Maryland Baltimore County
2000-2003	Special Member, Graduate Faculty University of Maryland College Park
2007-2009	Affiliate Associate Professor of Information Systems University of Maryland Baltimore County
2009-2009	Visiting Professor, Department Management, Technology, and Economics Swiss Federal Institute of Technology (ETH Zurich)
2009-2010	Affiliate Professor of Information Systems University of Maryland Baltimore County

2009-2017 Adjunct Professor, College of Nursing and Health Innovation
University of Texas at Arlington

Professional Memberships

1995-2006 Member, Institute of Electrical and Electronic Engineers
2003-2009 Member, Academy of Management
2004-2006 American Telemedicine Association
2004-2008 Member, Society of Critical Care Medicine
2004-2014 Member, American Medical Informatics Association
1994-present Member, Human Factors and Ergonomics Society
1998-present Member, Association of Computing Machinery
2006-present Senior Member, Institute of Electrical and Electronic Engineers

Administrative Services

Institutional Service

1994-2009 Humans Factor Engineer, University of Maryland, Baltimore
1997-1997 Reviewer, School of Medicine Intramural Grants
1997-2002 Department of Anesthesiology Information Technology Committee
1998-2009 Associate Member, Graduate School, University of Maryland, Baltimore
1999-2009 Member, Claims/Risk Management Committee,
University of Maryland Medical Systems
2005-2009 Director, Research in Patient Safety, Program in Trauma
University of Maryland School of Medicine
2005-2009 Member, Research Committee, Program in Trauma
2006-2009 Member, Medication Reconciliation Team,
University of Maryland Medical Center
2006-2009 Member, Process Improvement Steering Committee,
University of Maryland Medical Center
2009-2017 Member, Patient Safety Committee, Baylor Scott & White Health
2012-2017 Co-Chair, Device Safety Subcommittee, Baylor Scott & White Health
2012-2017 Co-Chair, Infusion Safety Steering Committee, Baylor Scott & White Health
2013-2017 Co-Chair, Clinical Alarms Safety Steering Committee, Baylor Scott & White
Health
2014-2016 Member, Medication Reconciliation Steering Committee, Baylor Scott & White
Health
2015-2017 Co-Chair, Colon SSI Reduction Bundle Collaborative, Baylor Scott & White
Health
2017- Member, Promotion and Tenure Committee, University of Texas at Arlington
College of Nursing and Health Innovation
2018- Member, Interprofessional Education Workgroup, University of Texas at
Arlington College of Nursing and Health Innovation

Local Service

1992-1993 Student Chapter of Human Factors and Ergonomics Society
Secretary (University of Toronto)
1999-2001 Doctoral dissertation committee (University of Illinois Urbana-Champaign) for

- F. Jacob Seagull (*Auditory alarms and visual attention*)
- 2000 Gemstone Program (University of Maryland College Park)
Mentor and review panel member
- 2000-2002 Doctoral dissertation committee (University of Maryland College Park) for
Seokhwa Yun (*Leadership in an Intense Situation*)
- 2003-2006 Doctoral dissertation committee (University of Maryland Baltimore) for
Yen-Chiao (Angel) Lu (*Adoption of Mobile Computing Technology*)
- 2004-2006 Doctoral dissertation committee (University of Maryland Baltimore) for
Young-Ju Kim (*Time to Surgery and Outcomes in Head Trauma Patients*)
- 2005-2007 Doctoral dissertation committee (University of Maryland Baltimore County) for
Min Lin (*At Right Place at the Right Time - Personal Time Management*)
- 2007-2009 Doctoral dissertation committee (University of Maryland Baltimore County) for
Danny Ho
- 2007-2009 Doctoral dissertation committee (Carnegie Mellon University) for Peter Scupelli
(*Designing information hotspots for the surgical suite: How architecture,
artifacts, and people's behavior converge to support coordination*)
- 2008 External examiner for doctoral dissertation of Vanessa Vogwill (University of
Toronto)
- 2012-2013 Doctoral dissertation committee (Central Michigan University) for Judy Cash
(*Nursing Home Quality: Structure and Process with Geographic Perspective*)

National Service

- 1997 National Patient Safety Foundation,
Panel member, NPSF Workshop on Assembling the
Basis for Progress in Patient Safety
- 1998 Institute of Electrical and Electronics Engineers (IEEE)
Session Chair in Annual Meeting of Systems, Man, & Cybernetics
- 1996-2000 Human Factors and Ergonomics Society
Symposium Chair in Annual Meeting
Member, Health Care Task Force Advisory Committee
- 2002 Member, Expert Panel on the Effect of Health Care Working Conditions on
Patient Safety, Agency for Healthcare Research and Quality
- 2003 Institute of Electrical and Electronics Engineers (IEEE)
Co-Chair, Local Arrangement and member, Program Committee
Annual Meeting of Systems, Man, & Cybernetics
- 2003-2004 American Telemedicine Association
Chair, Human Factors Special Interest Group
- 2004-2006 American Telemedicine Association
Vice Chair, Human Factors Special Interest Group
- 2006 Human Factors & Ergonomics Society

- 2007 Co-Chair, symposium on large scale coordination
Human Factors & Ergonomics Society
- 2009 Co-Chair, symposium on team performance measures
Human Factors & Ergonomics Society
- 2011-2016 Chair, panel on cognitive artifacts
Institute of Electrical and Electronics Engineers (IEEE)
- 2014- Co-Chair, Technical Committee on Human-Computer Interaction
Anesthesia Patient Safety Foundation
- 2016- Member, Scientific Evaluation Committee
Human Factors & Ergonomics Society
Jerome H. Ely Human Factors Award Subcommittee member

Federal Government Public Advisory Committee Membership

- 2000-2003 National Science Foundation
Member, Grant Review Panels (Study Section)
Directorate for Computer & Information Science & Engineering
- 2002-2003 National Science Foundation
Member, CAREER Awards Review Panels
Directorate for Computer & Information Science & Engineering
- 2002-2003 NASA/NSBIR Smart Medicine Systems
Member, Peer Review Group
- 2003 National Academy of Engineering and Institute of Medicine (NAE/IOM)
Workshop member and group leader, "Engineering and the Health Care System"
- 2005 Swiss Federal Institute of Technology
Special external reviewer
- 2005 Ireland Health Research Board
Special external reviewer
- 2005 National Science Foundation
Member, Grant Review Panel (Study Section)
Directorate for Computer & Information Science & Engineering
- 2006 Agency for Healthcare Research and Quality
Special emphasis panel on simulation
- 2007 National Science Foundation
Member, Grant Review Panel (Study Section)
Directorate for Computer & Information Science & Engineering
- 2007 The Canada Foundation for Innovation
Expert reviewer for Research Hospital Fund Large-Scale Institutional Endeavours
- 2008 United States-Israel Binational Science Foundation
Special external reviewer
- 2010 Office of National Coordinator for Health Information Technology

- Member, Review Panel for Strategic Health IT Advanced Research Projects (SHARP) Program
- 2010 Ireland Health Research Board
Special external reviewer
- 2010 National Institute of Child Health and Human Development
Member, *Patient Safety in the Setting of Neonatal Intensive Care*
- 2011 National Science Foundation
Member, Grant Review Panel (Study Section)
Directorate for Computer & Information Science & Engineering
- 2012 Department of Defense
Forward Surgical, Enroute Care, Shock, and Tissue Stabilization Program Review Panel (FO #: W81XWH-12-FEST-IIA)
- 2013 National Institutes of Health Center for Scientific Review Special Emphasis Panel
Member, Patient Safety Research During Neonatal Care (ZRG1 HDM-T)
- 2014 National Science Foundation
Member, Partnerships for Innovation Grant Review Panel
- 2011-15 Agency for Healthcare Research and Quality
Standing Member, Healthcare Safety and Quality Research (HSQR) Study Section
- 2015-6 Agency for Healthcare Research and Quality
Ad Hoc Member, Healthcare Safety and Quality Research (HSQR) Study Section
- 2017 European Union Joint Programme Initiative on Antimicrobial Resistance
Special reviewer, Comparison of prevention, control and intervention strategies for AMR infections through multidisciplinary studies, including One Health approaches.
- 2019 NIH
Ad Hoc member, Applications in Behavioral/Social Sciences Methodology and Biomedical/Health Informatics
- 2019- Member, Patient Safety Network Technical Expert Panel, Agency for Healthcare Research and Quality

Reviewer for Professional Scientific Meeting Submissions

- 1996-2012 Human Factors and Ergonomics Society Annual Meetings
- 1998-2010 IEEE International Conference on Systems, Man, and Cybernetics
- 2000-2005 ACM Conference in Human Factors in Computing Systems
- 2004-2007 ACM Conference in Computer Supported Cooperative Work
- 2006 IFAC Symposium on Information Control Problems in Manufacturing
- 2007-2014 American Medical Informatics Association Annual Symposium

Reviewer for Journals

1996-1996	Journal of American Society For Information Science
1997-1997	International Journal of Human-Computer Studies
1998-2014	Applied Ergonomics
2001-2009	Computer Supported Cooperative Work
2001-2009	ACM Transactions on Computer-Human Interaction
2002-2003	Quality and Safety in Health Care
2006	Journal of Palliative Care
2005-2013	Journal of Biomedical Informatics
2006	Annals of Emergency Medicine
2007-2009	Critical Care Medicine
2007-2012	Safety Science
2007-2013	Applied Ergonomics
2009-2010	Journal of Healthcare Engineering
2002-present	Human Factors
2005-present	Ergonomics
2007-2018	Anesthesia & Analgesia

Editorial Board for Journals

2004-2013	Associate Editor, <i>IEEE Transactions on Systems, Man, & Cybernetics, Part A: Human Systems</i>
2007-present	Editorial Board, <i>Human Factors</i>
2009-present	Editorial Board, <i>Journal of Cognitive Engineering and Decision Making</i>
2009-present	<i>F1000 Medicine</i> faculty member

Teaching Service

Instructor

1995	Guest lecturer, <i>Advanced Topics in Cognitive Science</i> . George Mason University (15 students). Contact hours: 2.
1997	Instructor, IFSM 464/664 <i>Telemedicine in Trauma Care</i> 3 credit course in Department of Information Systems, University of Maryland Baltimore County (12 students) Development of curriculum for the new course Three hours per week for the fall semester (12 lectures). Contact hours: 36
1998	Instructor, IFSM 698C/498C <i>Telemedicine in Trauma Care</i> 3 credit course in Department of Information Systems, University of Maryland Baltimore County (8 students) Three hours per week for the fall semester (12 lectures). Contact hours: 36

- 2000 Guest lecturer, *Informatics and Technology Context of Health Care*. Videotaped for webcasting every year for Nurs 405 School of Nursing, University of Maryland. Contact hour: 1
- 2004 Instructor, *Patient safety*. One hour lecture to freshman medical students, School of Medicine, University of Maryland (140 students). Contact hour: 1
- 2005 Guest lecturer, *Human Factors in Medicine*. Man-Machine Systems, Delft University of Technology, Delft, The Netherlands (40 students). Contact hours: 2
- 2009 Lecturer, *Coordination in Healthcare* Department Management, Technology, and Economics Swiss Federal Institute of Technology Zurich, Switzerland (10 PhD students). Contact hours: 16
- 2016 Human Factors 101: what every healthcare professional should know Baylor Scott & White Health human factors workshops (1.5 days)
- 2017 Human Factors 101: what every healthcare professional should know Baylor Scott & White Health human factors workshops (1 day)
- 2018- Human Factors in Health Care (NURS 3347). Credit hours: 3. Elective for RN-BSN programs. University of Texas at Arlington

Mentored Post-Doctoral Fellows (total 4)

- 2001-2002 F. Jacob Seagull (PhD, University of Illinois Urbana-Champaign)
- 2004 Anne Miller (PhD, University of Queensland, Australia)
- 2005-2006 Ayse Gurses (PhD, University of Wisconsin, Madison)
- 2007-2008 Ayan Sen (MD)

Awards to mentored students

Nominees for Harriet H. Werley Best Paper, first authored by students (By American Medical Informatics Association)

- 2000 1. Caterina Lasome
- 2001 2. Jacqueline Moss
- 2002 3. Jacqueline Moss
- 2003 4. Yen-Chiao Lu
- 2003 5. Cheryl Plasters

American College of Surgeons Committee on Trauma Resident Competition (Eastern Association for the Surgery of Trauma)

- 2004 6. James Guzzo

Grant to mentored student (NLM R03)

- 2004 7. Jacqueline Moss (at University of Alabama, Birmingham)

First place award, UMSOM Medical Student Summer Research

- 2007 8. Jason Cervenka

Residents, Medical and Pharmacy Students

- 2004 1. Leslie Hoover (UMSOM Medical Student, 10 contact hours)

- 2004 2. Jim Guzzo (UMSOM Resident, 20 contact hours)
- 2007 3. Jason Cervenka (UMSOM Medical Student, 50 contact hours)
- 2016 4. Sidney Pho (University of North Texas Health Science Center)

Doctoral Students (degree program, current affiliation)

- 1996-2000 1. Shao-Shan Chiang (UMBC, National Yang Ming University, Taiwan)
- 1999-2001 2. Seokhwa Yun (University of Maryland College Park, Seoul National University)
- 1999-2002 3. Jaqueline Moss (Univ. of Maryland School of Nursing, University of Alabama at Birmingham)
- 1999-2001 4. Caterina Lasome (Univ. of Maryland School of Nursing)
- 1999-2003 5. Sharyn Gardner (University of Maryland College Park, California State University, Sacramento)
- 2002-2006 6. Yen-Chiao (Angel) Lu (Univ. of Maryland School of Nursing, National Taichung University of Science and Technology)
- 2002-2004 7. Cheryl Plasters (Univ. of Maryland School of Nursing)
- 2003-2006 8. Young-Ju Kim (Univ. of Maryland School of Nursing, College of Nursing, Sungshin Women's University, Seoul, Korea)
- 2005-2006 9. Kamalika Das (University of Maryland Baltimore County)
- 2007-2009 10. Peter Scupilli (Carnegie Mellon University, Carnegie Mellon University)
- 2006-2010 11. Danny Ho (University of Maryland Baltimore County)
- 2012-2013 12. Judy Cash (Central Michigan University)

Masters Students

- 1996-1998 1. Richard Spencer (George Mason University)
- 2000-2001 2. Sammy Hsu (University of Maryland Baltimore County)
- 2001-2002 3. Yonggong Huang (University of Maryland Baltimore County)
- 2002-2203 4. Janet Lee (Univ. of Maryland School of Nursing)
- 2002-2003 5. Rebecca Roys (Univ. of Maryland School of Nursing)
- 2002 6. Kathleen McGrown (Univ. of Maryland School of Nursing)
- 2003 7. Bhrath Ramakrishna (University of Maryland Baltimore County)
- 2003-2004 8. Anadi Mahajan (University of Maryland Baltimore County)
- 2003-2004 9. Hao Hu (University of Maryland Baltimore County)
- 2005-2006 10. Melissa Strader (George Mason University)
- 2006-2007 11. Victoria Shelby (Univ. of Maryland School of Nursing)
- 2007-2008 12. Sun-Ah Lee (Univ. of Maryland School of Nursing)
- 2011 13. Craig Harrington (Univ Texas Houston)

International Visiting Students

- 2002 1. Jos deVisser (Technical University of Delft, the Netherlands)
- 2005 2. Daan Venekamp (Technical University of Delft, the Netherlands)
- 2005 3. A. Matin Wasei (Technical University of Delft, the Netherlands)
- 2006 4. Emiel Verdaasdonk, MD (Technical University of Delft, the Netherlands)
- 2007 5. Barbara Kuenzle (Swiss Federal Institute of Technology, Zurich, Switzerland)

Undergraduate Students (Full-Time During Summer)

- 2000 1. Ian Wu (University of Maryland College Park)
- 2001 2. Amaly Rahman (University of Maryland School of Medicine)
- 2001 3. Di Qian (Georgia Institute of Technology)

- 2001-2004 4. Sung Park (UMBC)
- 2002-2003 5. Eric Boehm (University of Maryland College Park)
- 2003 6. Anju Sidhu (East Virginia Medical School)
- 2003 7. Neeraj Saradana (East Virginia Medical School)
- 2004 8. Marina Kobayashi (Carnegie Mellon University)
- 2005 9. Rahat Husain (St Louis University-School of Medicine)
- 2005 10. Roshni Prabhu (University of Maryland College Park)
- 2008 11. Jeremy Martz (Georgia Institute of Technology)
- 2008 12. Wayne Chang (University of Maryland Baltimore County)
- 2008-2009 13. Jennifer Jarin (University of Maryland School of Nursing)
- 2010 14. Andre Samuel (Baylor University)
- 2011 15. Sandy Nyugen (Baylor University)

Active Grant

Ongoing Research Support

- 9/19-9/23 PI: Xiao, Y (R18 HS027277), 9/30/2019-9/29/2023
Title: PROMIS Learning Lab: Partnership in Resilience for Medication Safety
Sponsor: Agency for Healthcare Research and Quality
Total costs: \$2,500,000
Role: PI (25%)
The goal of this project is to create a learning laboratory for patient safety in primary care, which designs and tests innovative and practical solutions based on systems engineering methods and concepts to improve medication safety in ambulatory and community settings.
- 9/19-8/23 PI: Walji, M (R18 HS027268), 9/1/2019-8/31/2023
Title: Open Wide Learning Lab (OWLL): Improving Patient Safety in Dentistry
Sponsor: Agency for Healthcare Research and Quality
Total costs: \$2,500,000 (estimate)
Role: Co-I (20%)
The goal of this project is to systematically identify threats to dental patient safety and iteratively test improvement strategies to prevent them.
- 9/19-5/20 PI: Li, C (1937143), 9/1/2019-5/31/2020
Title: RAISE: C-Accel Pilot - Track A1: Credible Open Knowledge Network
Sponsor: National Science Foundation
Total costs: \$999,870
Role: Senior Personnel (6.25%)
The goal of this project is to develop new capability and resources for enabling a credible open knowledge network that can help ensure the quality of knowledge rich applications and aid in debunking misinformation.
- 9/18-8/22 PI: Xiao, Y (1838621), 9/1/2018-8/30/2022
Title: SCH: INT: Collaborative Research: Novel Computational Methods for Continuous Objective Multimodal Pain Assessment Sensing System (COMPASS)
Sponsor: National Science Foundation
Role: Site PI; Consortium co-PI (8.33%)
Total costs: \$171,560
The goal of this project is to develop sensor and algorithms for physiological and imagery data-based pain assessment
- 11/17-10/20 PI: Xiao, Y
Title: The STARS (Science and Technology Acquisition and Retention) Program
Sponsor: The University of Texas System Board of Regents
Total costs: \$400,000
The goal of this funding is to provide start up fund for Dr. Xiao's research, mainly for equipment and space modification needs. Salary support is not allowable cost for this funding.
- 9/19-8/20 PI: Xiao, Y

Title: Pre-suscitation: Seeing through the Eyes of Experts to Accelerate Critical Thinking Skills

Sponsor: The University of Texas Arlington College of Nursing and Health Innovation

Total cost: \$51,000

The goal of the project is to develop and pilot test a debriefing method based on cognitive engineering approaches for development of critical thinking skills in peri-arrest.

11/19-9/20 PI: Xiao, Y.

Title: Text Analytics for Debriefing Reflection Essays

Sponsor: Academic Partnerships Faculty Research Grant

Total cost: \$11,550

The goal of this project is to develop and pilot test a text analytics system (EssayIQ) that identify themes, judge relevance to learning objectives, and suggest feedback to learners who submit free text assignments.

Completed Grants

- 5/94-4/96 PI: Mackenzie, CF
Co-I 50% effort
Development and Enhancement of a Model of Performance and Decision Making under Stress
Office of Naval Research (N00014-91-J-1540)
Total costs: \$827,241 Indirect costs: \$256,730
- 6/95-5/98 PI: Mackenzie, CF
Co-I 50% effort
Remote Decision-Making for the Trauma Patient
National Aeronautics and Space Agency (NCC2-921)
Total costs: \$390,727 Indirect costs: \$104,484
- 11/96-12/98 PI: Gagliano, D
Site PI 20% effort
Mobile Telemedicine Testbed for Patient Transport
National Library of Medicine/TRW (GMTP096001)
Total costs: \$166,030 Indirect costs: \$43,031
- 11/96-2/98 PI: Mackenzie, CF
Co-I 20% effort
Technology Effects on Team Performance in Emergency Medicine
Army Research Laboratories (MEDTEAMS 96-002).
Total costs: \$455,917 Indirect costs: \$79,340
- 11/99-6/00 PI: Gagliano, David
Site PI 10% effort
Informatics and Other Technology for the National Heart Attack Alert Program
National Library of Medicine. (GUMB 990001)
Total costs: \$49,993 Indirect costs: \$9,447
- 1999-2000 PI: Mackenzie, CF
Co-I 10% effort
Clinical Encounter Information Transfer

Dynamic Research Corporation
 Total costs: \$100,000 Indirect costs: \$18,890
 4/99-3/01 **PI: Xiao, Y**
 PI 10% effort
 Auditory Warning Signals in Critical Care Settings
National Patient Safety Foundation
 Total costs: \$49,968 Indirect costs: \$7,000 indirect costs
 4/99-3/01 PI: LaMonte, M.P.
 Co-PI 20% effort
 TeleBAT: Mobile Telemedicine for Brain Attack Team
National Medical Technology Testbed. (024-FY97)
 Total costs: \$249,938 Indirect costs: \$41,368
 11/99-6/02 PI: Gagliano, D
 Site PI 20% effort
 Medical Nomadic Computing Applications for Patient Transport
National Library of Medicine (N01-LM-85606)
 Total costs: \$1,000,754 Indirect costs: \$162,976
 8/99-11/02 **PI: Xiao, Y**
Consortium Project Leader 50% effort
 Distant Leadership under Stress
Department of Defense. (DASW01-99-K-0003)
 Total costs: \$607,866 Indirect costs: \$95,614
 11/99-9/02 **PI: Xiao, Y**
Consortium Project Leader 12% effort
 Coordination Processes and Awareness Support
National Science Foundation. (IIS-9900406)
 Total costs: \$199,998 Indirect costs: \$37,794
 8/00-8/05 **PI: Xiao, Y**
 PI 10% effort
 The Mobile, Digitally-Connected Doctor (MobiDoc) Project
Nortel Networks (RAP-161565)
 Total costs: \$400,000 Indirect costs: \$75,588
 10/00-9/04 **PI: Xiao, Y**
Consortium Project Leader 12.5% effort
 Expertise Coordination and Information Technology in High Velocity Work
 Environments
National Science Foundation (ITR-0081868)
 Total costs: \$515,534 Indirect costs: \$63,281
 1/01-12/04 PI: Mackenzie, CF
 Co-PI 10% effort
 Brief Risky High Benefit Procedures: Best Practice Models
Agency for Healthcare Research Quality (HS 11279-01)
 Total costs: \$545,914 Indirect costs: \$103,161
 1/02-12/07 PI: Sears, A
 Site PI 8% effort
 Universal Access for Situational Induced Impairments

National Science Foundation (ITR-0121570)

Total costs: \$145,054 Indirect costs: \$27,411 (Total project \$1,000,000 estimated)

- 7/02-12/02 **PI: Xiao, Y**
PI 10% effort
Telemed and Advanced Tech – Refined Training Tools for Medical Readiness
Aptima
Total costs: \$40,000 Indirect costs: \$7,559 indirect
- 9/01-9/05 **PI: Xiao, Y**
PI 20% effort
Developmental Center for Education and Research in Patient Safety
Agency for Healthcare Research Quality (P20 HS11562)
Total costs: \$600,000 Indirect costs: \$113,382
- 11/02-10/04 PI: Jarrell, B.
Co-I 10% effort
Operating Room of the Future
University of Maryland Medical Systems
Total costs: \$350,000 Indirect costs: \$72,222
- 1/03-8/06 PI: Klein, KJ
Site PI 10% effort
Leadership: Enhancing Team Adaptability in Dynamic Settings
Department of Defense (UMCP Z856401)
Total costs: \$192,798 Indirect costs: \$36,433
- 5/03-9/05 PI: Mackenzie, CF
Co-I 10% effort
Telemed and Advanced Tech – Refined Training Tools for Medical Readiness
Aptima
Total costs: \$150,000 Indirect costs: \$28,346
- 8/04-8/05 **PI: Xiao, Y**
PI 5% effort
Informatics for Heart Attack Alert
Northrop-Grumman
Total costs: \$20,000
- 10/05-9/06 PI: Sisley, A
Co-PI 5% effort
Trauma Team Training
US Airforce
Total costs: \$199,458 Indirect costs: \$41,158
- 7/05-9/06 PI: Seagull, FJ
Co-PI 2% effort
Multimedia-Enhanced Emergency Medical Procedure Checklist
National Aeronautics and Space Administration (SMS00702)
Total costs: \$166,063
- 2/08-4/09 PI: Hall, KK
Co-I 10% effort
Evaluation of Risk by Active Surveillance in the Emergency Department

Agency for Healthcare Research and Quality (P 20 HS 17111-01)
 Total costs: \$163,967 Indirect costs: \$33,834
 9/03-8/09 **PI: Xiao, Y**
Consortium Project Leader 17% effort
 Large Scale Collaboration in Critical Environments
National Science Foundation (ITR-0325087)
 Total costs: \$674,712 Indirect costs: \$133,036 (Total project \$1,500,000
 estimated)
 9/06-9/09 PI: Park, A.
 Co-PI 15% effort
 Operating Room of the Future
US Army Medical Research & Material Command (W81XWH-062-0057)
 Total costs: \$2,923,390
 10/07-9/09 PI: Harris, A.
 Co-I 10% effort
 Attaining Safety for Patients through Interdisciplinary Risk Reduction Efforts
 (ASPIRRE).
Agency for Healthcare Research and Quality (Contract #: HHS A29020060015).
 Total costs: \$96,130 Indirect costs: \$24,923
 9/07-9/09 PI: Scalea, T
 Co-I 10% effort
 Early Support of Intracranial Perfusion
 U. S. Army W81XWH-07-2-0118
 Total costs: \$2,008,086
 10/07-1/09 PI: Bochicchio, GV
 Co-I 10% effort
 Early aggressive glycermia control
US Air Force (FA7014-07-C-0042)
 Total costs: \$1,813,726 Indirect costs: \$374,261
 11/05-12/10 **PI: Xiao, Y**
Consortium Project Leader 8% effort
 Supporting rapid transfer of information and responsibility
National Science Foundation (IIS-0534646)
 Total costs: \$403,463 Indirect costs: \$78,997 indirect (Total project
 \$1,000,000 estimated)
 05/09-11/10 PI: Gurses, A
 Co-I & **Site PI** 4% efforts
 Improving Patient Trajectory Management and Care Coordination with a
 Multidisciplinary Checklist
 Johns Hopkins University (subcontract award from National Patient Safety
 Foundation)
 Total costs: \$20,000 (estimate; total project \$100,000 estimated)
 09/08-09/12 PI: Kennerly, D
 Co-I 10% effort
 Improving the Safety of Primary Care by Measuring Adverse Events and Improvement

- Agency for Healthcare Research and Quality (R18 HS017908-01)
Total costs: \$ 900,000 (estimated).
- 10/10-9/13 PI: Hazlehurst, B
Co-I 5% effort
Enhancing CER with standardized natural language processing of EMR data
Agency for Healthcare Research and Quality (R01 HS019828)
Total costs: \$ 892,000 (estimated; total project \$ 8,696,942)
- 09/10-09/12 PI: Grissom, T
Co-I 7.2% effort
Training Protocols and Assessment in the Distributed Human Patient Simulation (DHPS) Program
US Airforce
Total costs: \$25,088
- 07/10-03/14 PI: Zhang, J
Co-I & **Site PI** 5% efforts
National Center for Cognitive Informatics and Decision Making in Healthcare
University of Texas at Houston (subcontract award from Office of National Coordinator for Health Information Technology/HHS, Subaward #0007512 (project 1)
Total costs: \$250,000 (estimate; total project \$15,000,000 estimated)
- 7/11-8/14 PI: Fink, J
Co-I 5% effort
Does under-recognition of kidney disease affect patient safety?
National Institutes of Health/NIDDK (R01 DK09008)
Total costs: \$8,672 for Year 1
- 7/10-8/15 PI: Fink, J
Co-I
Does under-recognition of kidney disease affect patient safety?
National Institutes of Health/NIDDK (R01 DK084017)
Total costs: \$25,140 for Year 1
- 04/11-03/15 PI: Mancini, M.E
Co-I & **Site PI** 10%
Improving Physician and Nurse Communication with Serious Gaming
Agency for Healthcare Research and Quality (R18 HS20416)
Total subaward costs: \$357,000 (estimate; total project \$1,000,000 estimated)
- 09/12-08/16 PI: Butler, K
Co-I 10%
Improvement of clinical workflow with health information technology
Agency for Healthcare Research and Quality (R01 HS 021233)
Total costs: \$450,000 (estimate; total project \$1,790,000 estimated)
- 06/17-8/17 Professional Service Order (HHSN261201700084M)
Create a Framework on the Concepts of Distributed Cognition as Applied to Cancer Care Delivery
National Cancer Institute
Total costs: \$3,496
- 09/15-09/19 PI: Xiao, Y (R01 HS024436)

Title: Patient-Centric Risk Model for Medication Safety During Care Transitions
Agency for Healthcare Research and Quality

Total costs: \$1,500,000 (estimate)

Role: PI (09/15-05/17), co-I (10/17-9/2019), 6%

The major goals of this project are to develop a risk model for medication safety during care transitions and to identify patient-centric risk factors through home visits of discharged patients.

Unrestricted Grants

1. 2000 Mackenzie, CF, **Xiao Y.**, & Hu, P. TRW Inc. May, 2000 [\$20,000]
2. 2003 **Xiao, Y.**, & Seagull, J. Datex-Ohmeda. October, 2003 [\$25,000]
3. 2003 **Xiao, Y.** Northrop Grumman. December, 2003 [\$20,000]
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3. **Xiao, Y.**, & The LOTAS Group. Trauma Care (publication of International Trauma Anesthesia and Critical Care Society), 6(2):18. 1996.
4. Cullen, J.S., Gagliano, D., Gaasch, W., Gunawardane, R., Hu, P. F-M., Lamonte, M. P., Mackenzie, C. F., & **Xiao, Y.** Mobile Medicine Testbed. TRW Systems and Information Journal Review, 7(1): Spring/Summer. 1999.
5. **Xiao, Y.**, Seagull, F.J. Toward a user friendly health care environment: The case of alarms. Forum (Risk Management Foundation, Harvard Medical Institutions), 21(2): 17-18, Summer. 2001.
6. Mackenzie, C. F., & **Xiao, Y.** Meeting Reports. Video as Research Data Conference. Anesthesiology, 99(1); 245. 2003.

Books/Chapters in Books

1. **Xiao, Y.**, Milgram, P., & Doyle, D.J. Capturing and modeling planning expertise in anesthesiology: Results of a field study. In C. Zsombok & G. Klein (Eds.): Naturalistic Decision Making, Mahwah, NJ:LEA, pp. 197-205. 1997.
2. **Xiao, Y.**, & Zhang, S. W. The Effects of Supervisor's Knowledge in a Complex Automated System. In W. Karwowski, H.R. Parsaei & M. Wilhelm (Eds.): Ergonomics of Hybrid Automated Systems, New York: Elsevier, pp.33-37. 1988.
3. **Xiao, Y.**, & The LOTAS Group. Understanding Coordination in a Dynamic Medical Environment: Methods and Results. In M. McNeese, E. Salas, & M. Endsley (Eds.): New Trends in Collaborative Activities: Understanding System Dynamics in Complex Environments, Santa Monica, CA: Human Factors and Ergonomics Society, 242-258. 2001.
4. Yun, S., Faraj, S., **Xiao, Y**, Sims, H.P. ,Jr. Team leadership and coordination in trauma resuscitation. In. Beyerlein, M.M., Johnson, D.A., & Beyerlein, S.T. (Eds.): Team-Based Organizing, JAI: Amsterdam, pp. 189-214. 2003.
5. Mackenzie, C.F., **Xiao, Y.** Stop Bad Things from Happening to Good People in Shock Trauma Centers. In: Human Error in Healthcare: Inside stories, Bogner, S. (Ed). Erlbaum. 2003.
6. **Xiao, Y.**, & Seagull, F.J. An analysis of problems with auditory alarms: defining the roles of alarms in process monitoring tasks. In Haas, E. & Edworthy, J.(Eds.): The Ergonomics of

Sound: Selections from Human Factors and Ergonomics Society Annual Meetings, 1985-2000. Santa Monica, CA: Human Factors & Ergonomics Society. 2003.

7. **Xiao, Y.**, Milgram, P. Dare I Embark On A Field Study? Toward An Understanding Of Field Studies, The Qualitative Report, 8(2):306-313. 2003.
8. Mackenzie, C.F., **Xiao, Y.**, Lam, D., Hu, P., & Ogilvie, C. Telemedicine in emergencies. In Bangert, D.C., Doktor, R. (Eds.): Human and Organizational Dynamics in e-Health. Radcliffe Publishing: Oxford, pp. 249-267. 2005.
9. **Xiao, Y.**, Gagliano, D., LaMonte, M.P. Mobile telemedicine for stroke. In Perdikouri M, Giovas P, Papadoyannis D, (Eds): [Telemedicine in practice] (Greek Telemedicine Handbook), En Plo Editions, Athens, pp.179-185. 2005.
10. Mackenzie, C.F., **Xiao, Y.** Video Analysis in Health Care. In P. Carayon (Ed.): Handbook of Human Factors and Ergonomics in Health Care and Patient Safety. Mahwah, NJ: LEA, pp 663-678, 2007
11. LaMonte MP, Bahouth MN, **Xiao Y**, Hu P, Mackenzie C. Telemedicine Applied to Stroke Care. In Bhardwaj A, Alkayed NJ, Kiersch JR, & Traystman RJ (Eds), Acute Stroke: Bench to Bedside. Informa Healthcare USA, NY , pp 415-419, 2007
12. **Xiao, Y.**, Seagull, F. J., Mackenzie, C. F., Klein, K. J., & Ziegart, J. Adaptation of Team Communication Patterns: Exploring the Effects of Leadership at a Distance, Task Urgency, and Shared Team Experience. In S.P.Weisband (Ed.): Distant Leadership. Mahwah, NJ: LEA. Pp. 71-95, 2007
13. Mackenzie CF, Seagull FJ, **Xiao Y**, Hu PF. Training for patient safety in invasive procedures: A novel use of real clinical video clips. In Croskerry P, Cosby KS, Schenkel SM & Wears RL. Patient Safety in Emergency Medicine. Philadelphia, PA:Wolter Kluwer. Pp.308-314, 2009
14. Mackenzie CF, Jeffcott S, **Xiao Y**. Measuring the impact of time pressure on team task performance. In Flin, Rhona and Mitchell, Lucy (ed.): Safer Surgery: Analysing Behaviour in the Operating Theatre. Oxon, UK:Ashgate. 2009
15. Kuenzle B, **Xiao Y**, Miller A, Mackenzie CF, Survey of healthcare teamwork rating tools: Reliability, validity, ease of use, and diagnostic efficacy. In Patterson et al, Macro-cognition Metrics and Scenarios: Design and Evaluation for Real-World Teams. Ashgate Publishing. Ch.9, pp.123-136. 2010
16. Mackenzie CF, **Xiao Y**. Video Analysis: An Approach for Use in Healthcare. In: Carayon P (ed.). Handbook of Human Factors and Ergonomics in Healthcare and Patient Safety. Lawrence Erlbaum and Associates; 2011; 31:521-534.
17. **Xiao Y**, Probst CA. Engagement and macroergonomics: Using cognitive engineering to improve patient safety. In Fairbanks CT, Burns C, and Bisantz A (Eds), Cognitive Engineering Approaches in Health Care, CRC Press/Taylor and Francis, 2014
18. **Xiao Y**, Probst CA. Usability Experience Survey. In Zhang J & Walji M (Eds), Better EHR: Usability, workflow & cognitive support in electronic health records, University of Texas Health Sciences Center at Houston. 2014. pp151-6
19. Tang C, **Xiao Y**, Chen Y, Gorman PN. Design for Supporting Healthcare Teams. In Patel VL, Kannampallil TG, Kaufman D (Eds), Human Computer Interaction in Healthcare, Springer, 2015; 215-239

Letters to Journal

1. **Xiao Y**. Missing the connection? [Letter] IEEE Engineering in Medicine & Biology Magazine. 16(1):9, 1997

Invited Contributions

1. **Xiao Y**, Mackenzie CF, Seagull FJ. Video to improve patient safety: clinical and educational uses [Perspective]. AHRQ WebM&M [serial online]. May 2015. Available at: <http://webmm.ahrq.gov/perspective.aspx?perspectiveID=177>.

Presentations and Invited Speeches

Institutional and Departmental Presentations

- 1994 (December 7). Grand Round, Department of Anesthesiology, University of Maryland. *For the Sake of Patient Safety: Human Factors Research in Anesthesiology*.
- 1997 (May 14). Pre-ITACCS Symposium: Human Factors in Trauma Care, Baltimore, MD.
- 2000 (July 21). The Annual Summer Institute in Nursing Informatics Program, University of Maryland, Baltimore, School of Nursing. *Ambulance on the Web*.
- 2001 (February 8). University of Maryland Program in Trauma Grand Rounds. *Mobile Digitally Connected Doctor Project*.
- 2001 (August 30). University of Maryland Program in Trauma Grand Rounds. *Patient Safety*.
- 2002 (March 14). University of Maryland Program in Trauma Grand Rounds. *Telemedicine*.
- 2003 (February 6). University of Maryland Program in Trauma Grand Rounds. *Video as tool for coordination*.
- 2003 (October 13). University of Maryland Program in Trauma Grand Rounds. *Human factors and technology research*.
- 2005 (February 10). University of Maryland Program in Trauma Grand Rounds. *Patient safety research*.
- 2006 (March 3). University of Maryland Department of Radiology Medical Informatics Seminar. *Information visualization for process management*.
- 2007 (July 19). The Annual Summer Institute in Nursing Informatics Program, University of Maryland, Baltimore, School of Nursing. *The "Resolution" and "Bandwidth" of Workplaces – implication for observational studies*.
- 2007 (October 2) University of Maryland National Study Center for Trauma and EMS Trauma/EMS Research Conference. *Compliance to evidence based practices: Barriers and interventions*.
- 2010 (March 16). Baylor University Medical Center Department of Anesthesia Grand Round. *Human Factors and Patient Safety*.
- 2013 (March 20). Baylor University Medical Center Department of Surgery Grand Round. *Surgical Safety Outcomes: Recent Advances*.

Presentations at National and International Professional Organizations

1. 1990 (October 9). Third UNB AI Workshop, University of New Brunswick, Fredericton, New Brunswick, Canada. *Distributed Plan Verifier*.
2. 1992 (November 9). CAS Conference, Canada: Toronto, Canada. *Visualization of Large Networks in 3-D Space: Issues in Implementation and Experimental Evaluation*.
3. 1992 (October 12-16). Human Factors Society 36th Annual Meeting, Atlanta, GA. *Incident Evolution and Task Demands: An Analysis and a Field Study of "Going Sour" Incidents*.
4. 1993 (October 11-15). Human Factors and Ergonomics Society 37th Annual Meeting, Seattle, WA. *Two Classes of Problem Solving Situations in Managing Complex Systems*.
5. 1993 (October 15). The 25th Annual Conference of Human Factors Association of Canada, Hamilton, Ontario, Canada. *Off-Loading, Prevention, and Preparation: Planning Behaviors in Complex System Management*.

6. 1994 (June 15). Second Conference in Naturalistic Decision Making, Dayton, Ohio. *Planning expertise in anesthesiology*,
7. 1995 (May 12). 8th Annual Trauma Anesthesia and Critical Care Symposium, Baltimore, Maryland. *Decision Making Models*.
8. 1995 (October 9-13). Human Factors and Ergonomics 39th Annual Meeting, San Diego, CA. *Medical Case Rounds: A Medium for Training and Studying Real-Life Decision Making*.
9. 1995 (October 9-13). Human Factors and Ergonomics 39th Annual Meeting, San Diego, CA. *Decision Making in Dynamic Environments: Fixation Errors and Their Causes*.
10. 1996 (April 13-18). 11th World Congress of Anesthesiologists, Sydney, Australia. *Observe with Tools*.
11. 1996 (August 25-28). Third Annual Symposium on Human Interaction with Complex Systems, IEEE Computer Society, Dayton, OH. *Medical Teams*.
12. 1996 (June 2). Second Symposium on Simulators in Anesthesiology Education, Rochester, New York. *Analyzing Video Data: Challenges and Solutions*.
13. 1996 (October 13-15). Conference on Examining Errors in Health Care, American Association for Advancement of Science and Joint Commission on Accreditation of Healthcare Organizations, Rancho Mirage, CA. *Informal Teams*.
14. 1996 (October, 19-23). American Society of Anesthesiologists Annual Meeting, New Orleans, LA. Oral poster presentation. *Alarms: Silenced, ignored, missed*.
15. 1996 (September 2-6). Human Factors and Ergonomics 40th Annual Meeting, Philadelphia, PA. *Remote Decision Making in Dynamic Tasks Environments*.
16. 1996 (September 2-6). Human Factors and Ergonomics Society 40th Annual Meeting, Philadelphia, PA. *Distributed Decision Making*.
17. 1997 (June 10). Association for the Advancement of Medical Instrumentation (AAMI) Annual Meeting, Washington, DC. *Evaluating Mobile Telemedicine*.
18. 1997 (May 15-17). 10th Annual Trauma Anesthesia and Critical Care Symposium and World Exposition, Baltimore, MD. *Modeling of Team Coordination Strategies*.
19. 1997 (September 22-26). Human Factors and Ergonomics 41st Annual Meeting, Albuquerque, NM. *Uncertainty in trauma patient resuscitation*.
20. 1997 (September 22-26). Human Factors and Ergonomics 41st Annual Meeting, Albuquerque, NM. *Nurses, surgeons, and anesthesiologists as teleconsultants: The effect of experience background on remote diagnosis*.
21. 1998 (April 20-22). NATO HFM Symposium on "Collaborative Crew Performance in Complex Operational Systems", Edinburgh, UK. *Coordination in Complex Medical Systems*.
22. 1998 (May 21-22). National Association of EMS Physicians (NAEMSP), Alexandria, VA. *EMS Agenda for the Future: Ambulance-on-the-Web*.
23. 1998 (October 11-14). IEEE International Conference on Systems, Man, and Cybernetics, San Diego, CA. *Micro-theory methodology in critical incident analysis*.
24. 1999 (April 25-28). Health Tech '99, Baltimore, MD. *Mobile Telemedicine*.
25. 1999 (May 13-15). 12th Annual Trauma Anesthesia and Critical Care Symposium and World Exposition, Chicago, IL. *Alarms-Friends or Foes?*
26. 1999 (September 27-October 1). Human Factors and Ergonomics 43rd Annual Meeting, Houston, TX. *An Analysis of Problems with Auditory Alarms: Defining the Role*.

27. 2000 (July 29-August 4). International Ergonomics Association/Human Factors and Ergonomics Society 2000 Congress, San Diego, CA. *Managing the Monitors: An Analysis of Alarm-Silencing Activities During An Anesthetic Procedure.*
28. 2000 (July 29-August 4). International Ergonomics Association/Human Factors and Ergonomics Society 2000 Congress, San Diego, CA. *Patients Monitoring Technology: Friend or Foe?*
29. 2001 (October 8-12). Human Factors & Ergonomics Society 45th Annual Meeting. Minneapolis, MN. *Practice of High Reliability Teams: Observations in Trauma Resuscitation.*
30. 2001 (September 16-20). The Seventh European Conference on Computer-Supported Cooperative Work, Bonn, Germany. *Cognitive Properties of a Whiteboard: A Case Study in a Trauma Centre.*
31. 2002 (August 1-6). Academy of Management 62nd Annual Meeting. Denver, CO. *Practices of highly skilled teams in high-velocity, high-stake environment: trauma patient resuscitation.*
32. 2002 (September 30-October 4). Human Factors & Ergonomics Society 46th Annual Meeting. Baltimore, MD. *Adaptation of team structure of trauma resuscitation teams.*
33. 2002 (September 30-October 4). Human Factors & Ergonomics Society 46th Annual Meeting. Baltimore, MD. *Transactive responsibility systems and high reliability teams: a tentative formulation.*
34. 2003 (August 24-29). International Ergonomics Association 25th Triennial Congress, Seoul, South Korea. *Coordination Practices for Patient Safety: Knowledge, Cultural, and Supporting Artifact Requirements.*
35. 2003 (June 23-27). International Conference on Human Computer, Crete, Greece. *An Observational and Interview Study on Personal Digital Assistant (PDA) Uses by Clinicians in Different Contexts.*
36. 2003 (November 11). American Medical Informatics Association Fall Symposium, Washington, DC. Panel presentation. *Cognitive Properties of a Whiteboard.*
37. 2003 (October 13-17). Human Factors & Ergonomics Society 47th Annual Meeting. Denver, CO. *Team communication patterns as measures of team processes: exploring the effects of task urgency and shared team experience.*
38. 2003 (October 13-17). Human Factors & Ergonomics Society 47th Annual Meeting. Denver, CO. *Why are they not responding to our alarms? Another analysis of problems with alarms.*
39. 2003 (October 5-8). IEEE International Conference on Systems, Man, and Cybernetics, Washington, DC. *Distributed Monitoring In a Dynamic Environment: Trade-Offs of Information Access and Privacy.*
40. 2003 (October 5-8). IEEE International Conference on Systems, Man, and Cybernetics, Washington, DC. *Distributed Monitoring and a Video-Based Toolset.*
41. 2004 (October 10-13). IEEE International Conference on Systems, Man, and Cybernetics, The Hague, Netherlands. *Cultural and Institutional Conditions for High Reliability Teams.*
42. 2004 (September 13). Second International Conference on Information Technology in Health Care, Portland, Oregon. *Accidental CSCW Systems: The Resolution and Bandwidth of Workplaces.*

43. 2004 (September 27). Panel presentation, Agency for Healthcare Research and Quality conference on Patient Safety. *Impact of video-based training in sterile practices.*
44. 2004 (September 27). Panel presentation, Agency for Healthcare Research and Quality conference on Patient Safety. Washington, DC. Panel chair. *Observational and Ethnographic Studies: Insights into Medical Error and Patient Safety.*
45. 2005 (September 25-30). Human Factors & Ergonomics Society 49th Annual Meeting. Orlando, FL *Negotiation and Coordination: A Preliminary Field of Conflict Management in Large Scale Collaboration.*
46. 2006 (July 26-29). The 28th Annual Conference of the Cognitive Science Society, Vancouver, British Columbia, Canada. *Distributed Cognition in Healthcare.*
47. 2006 (June 3-6). 12th IFAC Symposium on Information Control Problems in Manufacturing. Saint-Etienne, France. *Dynamic Management in Perioperative Processes: A Modeling and Visualization Paradigm*
48. 2007 (October 1-5). Human Factors & Ergonomics Society 51st Annual Meeting. Baltimore, MD. Panel Co-Chair. *Developing and using team performance measures in healthcare: lessons learned.*
49. 2007 (October 7-10). IEEE International Conference on Systems, Man, and Cybernetics, Montreal, Canada. *Resilience in Intensive Care Units: A Transactive Responsibility Model.*
50. 2008 (April 9). Academy of Computing Machinery (ACM) Conference on Human Factors in Computing Systems (CHI), Florence, Italy. *Front-Stage and Back-Stage Information Processes of Critical Discourse in Intensive Care Settings.*
51. 2008 (August 16). American Psychological Association Annual Meeting, Boston, MA. Panelist: *Collaborative Systems in Health Care: Implications for Improving Patient Safety.*
52. 2008 (November 10). American Medical Informatics Association Fall Symposium, Washington, DC. Panelist: *Computerized Status Boards in Acute Care Settings: Promise and Pitfalls.*
53. 2008 (November 9). American Medical Informatics Association Fall Symposium, Washington, DC. Panelist: *Distributed Cognition in Healthcare.*
54. 2008 (October 1-5). Human Factors & Ergonomics Society 52nd Annual Meeting. New York, NY. Panel Co-Chair. *Developing and using team performance measures in healthcare: lessons learned.*
55. 2009 (November 16) American Medical Informatics Association Fall Symposium. *Fitting Computerized Support into the Workflow: Enhancing Paper-Based Cognitive Aid in a Pediatric Intensive Care Unit*
56. 2009 (October 22) Human Factors & Ergonomics Society 51st Annual Meeting. User created cognitive artifacts: What can they teach us about design of information technology?
57. 2010 (October 3) Surgical Outcome Club of American College of Surgeons, Washington, DC. *Video analysis of surgical team performance*
58. 2010 (September 30) Human Factors and Ergonomics Society Annual Meeting, San Francisco, CA. Debate: *Is There Low Hanging Fruit in Healthcare Human Factors?*
59. 2010 (September 30) Human Factors and Ergonomics Society Annual Meeting, San Francisco, CA. Debate: *Supporting cognition and decision making in clinical work.*

60. 2011 (September 29). Human Factors and Ergonomics Society Annual Meeting, Las Vegas, NV. *Studying Clinical Communication to Inform Health Information Technology Design*
61. 2012 (October 25). Human Factors and Ergonomics Society Annual Meeting, Boston, MA. *Learning about Healthcare: Preparing Human Factors Professionals for a Career in Healthcare.*
62. 2012 (October 25). Human Factors and Ergonomics Society Annual Meeting, Boston, MA. *Human Factors in the Wild: dilemmas and solutions from human factors engineers working in healthcare.*
63. 2012 (October 25). Human Factors and Ergonomics Society Annual Meeting, Boston, MA. *Using Human Factors And Systems Engineering To Improve Care Coordination.*
64. 2013 (October 1). Human Factors and Ergonomics Society Annual Meeting, San Diego, CA. *Human Factors in the Wild: Insight from developing solutions in healthcare.*
65. 2013 (October 1). Human Factors and Ergonomics Society Annual Meeting, San Diego, CA. *Human Factors in the Wild: Insights Into Teaching HF to Frontline Professionals in Healthcare*
66. 2014 (October 30). Human Factors and Ergonomics Society Annual Meeting, Chicago, IL. *Building High-Performance Surgical Teams: Theoretical and Practical Considerations for Team Consistency*
67. 2015 (October 29). Human Factors and Ergonomics Society Annual Meeting, Los Angeles, CA. *Human Factors in the Wild: Bringing Value to Frontline Care Providers via Low-Tech Methods and Solutions.*
68. 2017 (October 12). Human Factors and Ergonomics Society Annual Meeting, Austin, TX. *Human Factors in the Wild: Solutions for Mitigating the Negative Impact of Interruptions in Health Care*
69. 2018 (March 27). International Symposium on Human Factors and Ergonomics in Health Care, Boston, MA. *Ideas for Improving Coordination: "Principles" based on Distributed Cognition.*
70. 2018 (June 24). Abebe, E., Hannum, S., Gurses, AP., Xiao, Y. Identifying Gaps for Patient-Centric Model of Medication Management during Care Transitions. AcademyHealth Annual Research Meeting. June 24-26, 2018. Seattle, WA.

Keynote and special invited presentations

1. 1993 (June 23). Chalk River Laboratories, Atomic Energy of Canada. *Problem Solving in Managing Complex Systems.*
2. 1995 (September 4)., Department of Psychology, George Mason University, Fairfax, VA. *Human Factors Research in Emergency Medicine.*
3. 1996 (January 22). NASA Ames Research Center, Moffett Field, CA. *Remote Diagnosis for Trauma Patient Resuscitation.*
4. 1997 (April 14). Krasnow Institute, George Mason University, Fairfax, VA. *Defining Cognition in Working Settings.*
5. 2000 (June 15). Army Research Institute, Ft. Leavenworth, KS. *Distant Leadership Under Stress.*

6. 2000 (October 6). National Patient Safety Foundation, Chicago, IL. *Videotaping for patient safety*.
7. 2001 (October 18-21). University of Arizona Distant Leaders Workshop. *Structures of Trauma Resuscitation Teams With Local and Distant Leaders: A Communication Analysis*.
8. 2004 (July 16). Center for Technology in Government, State University of New York at Albany. *Information technology and coordination*.
9. 2004 (October 14). Delft University of Technology, Delft, the Netherlands. *Patient safety and coordination research in medicine*.
10. 2005 (June 21). Telemedicine and Advanced Technology Research, Frederic, MD. *Human factors and video technology for patient safety*.
11. 2005 (October 12). Engineering Research Center for Computer-Intergrated Surgical Systems and Technology, Department of Computer Science, Johns Hopkins University. *Modeling and simulation to support real-time management of peri-operative processes*.
12. 2006 (April 14). Keynote for simulation fair, Dartmouth Medical School. *Video for Patient Safety*.
13. 2008 (January 15). Johns Hopkins University Quality and Safety Research Group. *Communication patterns in rounds*.
14. 2008 (March 6). University of Maryland Institute for Systems Research, College Park, Maryland. *Coordination Challenges in Hospital Care*.
15. 2008 (March 12). Distinguished Alumni Lecture, University of Toronto, Toronto, Canada. *The Resolution and Bandwidth of Workplaces*.
16. 2008 (September 19). Johns Hopkins University Grandround on Health Informatics, Baltimore, Maryland. *Communication in an information arena: Supporting clinical communication through informatics*.
17. 2009 (February 18). Special Seminar, Baylor Health Care Systems, Dallas, Texas. *Compliance to Evidence-Based Practices: Barriers and Facilitators*.
18. 2009 (April 23). Keynote speaker at 12th Symposium of Cassatt Insurance Group and Abington Memorial Hospital, Pennsylvania. *Overview of Human Factors and Communication in Healthcare*.
19. 2009 (July 6-7). Summer doctoral course at Department of Management, Technology and Economics, Swiss Federal Institute of Technology Zurich. *Coordination and work flow management in health care*.
20. 2009 (July 8). Invited lecture at University Hospital Zurich Institute for Anesthesiology, Zurich, Switzerland. *Simulation, live teams, and videotape: All for the sake of patient safety*.
21. 2009 (August 21). Invited presentation at Oregon Health and Science University Department of Medical Informatics & Clinical Epidemiology, Portland, Oregon. *Rounding Partner: Technology to support information transfer in intensive care units*.
22. 2010 (September 26). Invited presentation at Joint Medical Informatics Conference in Taiwan, Republic of China. *Human Factors and Informatics*.
23. 2011 (June 12). Invited presentation at European Anaesthesiology Congress, Amsterdam, the Netherlands. *Video-based assessment of team performance*.

24. 2011 (November 7). Invited lecture at Department of Industrial and Systems Engineering, Texas A&M University, College Station, Texas. *Opportunities for Human Factors Research in Health Care*.
25. 2012 (July 16). Invited lecture at University of Wisconsin Summer Course on Human Factors in Healthcare, Madison, Wisconsin. *Human Factors Engineering in Healthcare - Practical Application*.
26. 2013 (February 24). Invited Keynote Speaker at CHI/CSCW Workshop, San Antonio, Texas. *Computer Supported Cooperative Work: Task paradigms, theoretical frameworks, and practical impact*.
27. 2013 (November 20). Invited lecture at University of Maryland Baltimore County (UMBC). *Improving EHR usability: Experience from within a healthcare organization*.
28. 2013 (June 5). Invited Speaker at American Society of Health-System Pharmacists Summer Meeting, Minneapolis, Minnesota. *Incorporating human factors concepts during implementation and optimization of information technology*.
29. 2015 (August 21). Invited speaker at Healthcare Safety Conference by Texas Department of State Health Services. *Human factors 101*
30. 2015 (August 21). Invited speaker at Healthcare Safety Conference by Texas Department of State Health Services, Houston, Texas. *Improving Physician and Nurse Communication with Serious Gaming*
31. 2016 (September 27). Invited Panel Speaker, C3 US-Arab Business and Healthcare Summit, New York City (the Union League Club). *Designing for Patient Safety – Best Practices to Reduce Medical Errors*
32. 2016 (December 6). Invited Speaker at Knowledge Media Design Institute, University of Toronto, Toronto, Canada. *From Features to Patient Safety: Opportunities for Human Factors*
33. 2018 (February 23). Invited Grandround Speaker, Department of Hospital Medicine (Visiting Professor), University of Colorado, Denver, Colorado. *Skills, behaviors, teamwork, and work system: Human factors pearls for patient safety and quality improvement*

Theses

- 1985 Master's thesis. *An Internal Model Approach in the Modelling of Human Preview Control*. Beijing Institute of Technology. Advisor: S.W. Zhang
- 1994 Doctoral dissertation. *Interacting with Complex Work Environments: A Field Study and a Planning Model*. University of Toronto. Advisor: P. Milgram.

Patents

- 2005 US 8,135,602 (issued March 13, 2012). "Techniques for delivering coordination data for a shared facility", with Fu Ming "Peter" Hu, Jacob F. Seagull & Colin F. Mackenzie
- 2009 US 8,832,558 (issued September 9, 2014) and Canadian 2,739,829 (issued May 2, 2017). "Predetermined Presentation of Patient Data at Bedside", with Marcelo Cardarelli & Vinay Vaidya

Other Certificate(s)

- 2017 Private Pilot License #3897530, US Federal Aviation Administration.