

CURRICULUM VITAE

JACK TIGH DENNERLEIN

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EDUCATION:

| | | | | |
|------|-------------------------------|-------|------------------------------|---------------|
| 1986 | Mechanical Engineering | B.S. | State University of New York | Buffalo, NY |
| 1989 | Mechanical Engineering | S.M. | M.I.T. | Cambridge, MA |
| 1989 | Advance Course in Engineering | | General Electric | Lynn, MA |
| 1996 | Mechanical Engineering | Ph.D. | University of California | Berkeley, CA |

POST-DOCTORAL TRAINING

| | | | |
|-----------|------------------------|--------------------|---------------|
| 1997-1998 | Mechanical Engineering | Harvard University | Cambridge, MA |
|-----------|------------------------|--------------------|---------------|

ACADEMIC APPOINTMENTS

| | | | |
|-------------|--|---|------------|
| 1999 - 2004 | Assistant Professor of Ergonomics and Safety, Department of Environmental Health | Harvard T.H. Chan School of Public Health | Boston, MA |
| 2004 - 2010 | Associate Professor of Ergonomics and Safety, Department of Environmental Health | Harvard T.H. Chan School of Public Health | Boston, MA |
| 2009 - 2014 | Associate Professor of Orthopaedic Surgery, Brigham and Women's Hospital | Harvard Medical School | Boston, MA |
| 2010 - 2012 | Senior Lecturer on Ergonomics and Safety, Department of Environmental Health | Harvard T.H. Chan School of Public Health | Boston, MA |
| 2012 - | Adjunct Professor of Ergonomics and Safety, Department of Environmental Health, | Harvard T.H. Chan School of Public Health | Boston, MA |
| 2012 - | Professor, Department of Physical Therapy, Movement, and Rehabilitation Sciences | Bouvé College of Health Sciences, Northeastern University | Boston, MA |

OTHER PROFESSIONAL POSITIONS AND MAJOR VISITING APPOINTMENTS

| | | | |
|-------------|-----------------------|---|-------------------|
| 1985 | Engineering Assistant | West Valley Nuclear Service | West Valley, NY |
| 1986 - 1991 | Design Engineer | General Electric Aircraft Engines | Lynn, MA |
| 1991 - 1996 | Research Assistant | University of California | San Francisco, CA |
| 2002 - 2007 | Affiliated-Faculty | Biomechanics at Harvard, An NSF IGERT interdisciplinary Ph.D. program | Cambridge, MA |
| 2004 - 2009 | Faculty | Harvard T.H. Chan School of Public Health-Cyprus Program, | Boston, MA |
| 2004 - 2005 | Visiting Scientist | Human Movement Sciences, VU University | Amsterdam, NL |
| 1999 - | Affiliated Faculty | Harvard Injury Control Research Center | Boston, MA |
| 2011 - | Full Member | DFCI/Harvard Cancer Center | Boston, MA |

2012 - 2018 Adjunct Scientist VU Medical Center, EMGO+ Institute Amsterdam, NL
 2016 - Affiliated Faculty Department of Bioengineering, Northeastern University
 Boston, MA
 2019 - Visiting Scholar, Institute for Work and Employment Research, Sloane School of Business,
 Massachusetts Institute of Technology, Cambridge, MA

AWARDS AND HONORS:

1985 - 1986 Zimmer Memorial Scholarship, SUNY at Buffalo
 1985 Member Pi Tau Sigma, Mechanical Engineering honor society
 1984 Member Tau Beta Pi, engineering honor society
 1989 Associate member Sigma Xi, research honor society
 1990 - 1991 GE Aircraft Engines Young Engineer Award Nomination
 1998 Harvard University Derek Bok Distinction in Teaching Award
 2000 - 2003 Whitaker Foundation Investigator Award
 2003 Citation for Excellence in Teaching, Harvard T.H. Chan School of Public Health
 2004 - 2005 Junior Faculty Sabbatical Award, Harvard T.H. Chan School of Public Health
 2008 Occupational Medicine Residency Academic Teacher of the Year Award
 Harvard T.H. Chan School of Public Health
 2008 - 2009 Juror, International Bicycle Design Competition, Taichung, Taiwan
 2008 - 2013 Fulbright Specialist Roster in Public Health
 2013 Occupational Medicine Residency Academic Teacher of the Year Award
 Harvard T.H. Chan School of Public Health
 2013 Northeastern University Research Leadership Initiative Program
 2015 Excellence in Teaching Citation, Executive and Continuing Professional Education
 Harvard T.H. Chan School of Public Health
 2016 Elected Fellow, Human Factors and Ergonomics Society

MAJOR PROFESSIONAL SERVICE:

National

2004 National Institute for Occupational Safety and Health Member Conflict Review Group (Ad hoc). Safety and Occupational Health (SOH) Study Section, U.S. Department of Health and Human Services
 2004 - 2005 Center for Disease Control, Center for Injury Prevention and Control, Review Group (Biomechanics Study Section)
 2004-2006 Member, ANSI/HFES 100-2007 Committee: *Human Factors Engineering for Computing Work Stations*.
 2006 - 2010 Permanent Member, Safety and Occupational Health (SOH) Study Section, U.S. Department of Health and Human Services,
 2009—2019 Consortium Member, Center for Construction Research and Training, Silver Springs MD
 2011 - Ad hoc reviewer, Safety and Occupational Health (SOH) Study Section, U.S. Department of Health and Human Services
 2011 - Advisory Board Member, Occupational Health Surveillance Program, Department of Public Health, Commonwealth of Massachusetts.
 2012 - 2014 Hospital Ergonomics Task Force Member, Occupational Health Surveillance Program, Department of Public Health, Commonwealth of Massachusetts.
 2013-2016 Project Panel Member, Transportation Research Board of the National Academies.
 2014 - Co-Scientific Director, Marconi Research Conferences of the Office Ergonomics Research Committee (www.oerc.org)
 2015 FISH Workshop Steering Committee, *Fishing Partnership Support Services*, Burlington, MA

- 2015 - Hospital Ergonomics Stake-Holders Committee Member, Occupational Health Surveillance Program, Department of Public Health, Commonwealth of Massachusetts.
- 2017 Member, Musculoskeletal Conditions and Pain Management Policy Working Group, Stay-at-Work/Return-to-Work (SAW/RTW) Policy Collaborative, U.S. Department of Labor's Office of Disability Employment Policy (ODEP)
- 2017 - Project Panel Member, Transportation Research Board of the National Academies of Sciences, Engineering, and Medicine.
- 2017 - 2019 Member, Committee on Functional Assessment for Adults with Disabilities, National Academies of Sciences, Engineering, and Medicine, Health and Medicine Division
- 2019 Member, Special Emphasis Panel for Occupational Safety and Health Training Project Grants (TPG).

International

- 2004 International Program Committee IASTED International Conference on Biomechanics
- 2004 -2007 Organizing Committee, Sixth International Scientific Conference on Prevention of Work-related Musculoskeletal Disorders, (PREMUS), Boston, MA 2007
- 2014-2016 International Scientific Committee, Ninth International Scientific Conference on Prevention of Work-related Musculoskeletal Disorders, (PREMUS), Toronto, Canada, 2016
- 2018- Scientific Advisory Board, Institute for Work and Health, Toronto, Canada.
<https://www.iwh.on.ca/scientific-advisory-committee>

PROFESSIONAL SOCIETIES:

Member, Human Factors and Ergonomics Society (HFES)

OTHER PUBLIC SERVICE:

- 1985-1986 President, New York Nu (Buffalo) Chapter of Tau Beta Pi (Engineering Honor Society)
- 1990-1991 Board Member, Longwood Symphony Orchestra, Boston, MA
- 2003 Program Committee American Society of Biomechanics Conference
- 2006 Symposium Organizer: "Future Directions for Occupational Biomechanics" American Society of Biomechanics, Blacksburg, VA
- 2010- Founding member of Boston Cyclists' Union, Boston, MA.

DEPARTMENT AND SCHOOL SERVICE:

- 1992-1995 Member, UC Berkeley Mechanical Engineering Graduate Student Council
- 1995-1996 Member, Chancellor's Campus Advisor Committee, for Lesbian, Gay, Bisexual, and Transgender Concerns, University of California, Berkeley
- 2000 - 2012 Faculty Advisory Committee, Center for Continuing and Professional Education Harvard T.H. Chan School of Public Health
- 2001 - 2004 Working Group on Woman, Gender and Health, Harvard T.H. Chan School of Public Health
- 2002 - 2004 Assistant Professor Representative, Faculty Council, Harvard T.H. Chan School of Public Health,
- 2005 - 2008 Great Place to Work Committee and Awards Reviewer, Harvard T.H. Chan School of Public Health
- 2006 - 2012 Exposure, Epidemiology, and Risk Program Curriculum Committee, Harvard T.H. Chan School of Public Health
- 2007 - 2008 Faculty Advisory Committee for Career Services Office, Harvard T.H. Chan School of Public Health
- 2008 - 2012 Committee on Admissions and Degrees, (CAD), Harvard T.H. Chan School of Public Health
- 2009- Internal Advisory Board, Center for Work, Health, and Wellbeing Harvard T.H. Chan School of Public Health,

- 2014 - 2016 Chair Search Committee, Department of Health Sciences, Northeastern University
- 2012 - 2014 Research Committee, Bouvé College of Health Sciences, Northeastern University
- 2014 - 2016 Faculty Council, Bouvé College of Health Sciences, Northeastern University
- 2014 - 2016 Provost's Advisory Committee on Tenure and Promotions, Northeastern University
- 2016 - 2017 Advance STRIDE Workshop Committee, Northeastern University
- 2012 - Faculty Search Committees (Chair), Department of Physical Therapy, Movement, and Rehabilitation Sciences, Northeastern University
- 2016 - Co- Chair, Tenure and Promotions Committee, Department of Physical Therapy, Movement, and Rehabilitation Sciences, Northeastern University
- 2017 Chair, Ad-Hoc Tenure and Promotions Committee, Department of Physical Therapy, Movement, and Rehabilitation Sciences, Northeastern University
- 2017-2019 Senator representing Bouvé College of Health Sciences, Northeastern University Faculty Senate.
- 2018-2019 Faculty Senate Agenda Committee, Northeastern University Faculty Senate

MAJOR ADMINISTRATIVE RESPONSIBILITIES:

- 1994-1995 Chairperson, Berkeley Mechanical Engineering Graduate Student Council
- 2001 - Director and Co-Director, Occupational Injury Prevention Research Training Program
Harvard Education and Research Center for Occupational Safety and Health
- 2010 - Associate Director Harvard T.H. Chan School of Public Health's Center for Work, Health, and Wellbeing
- 2012 - 2016 Director of Research Department of Physical Therapy, Bouvé College of Health Sciences, Northeastern University
- 2015 - 2016 Chair Faculty Council, Bouvé College of Health Sciences, Northeastern University

BUSINESS EXPERIENCE:

- 1999 - Consultant Clients include, Immersion, Logitech, Intuitive Surgical, WorkSafe, Myan Specialties, and Valeant Pharmaceuticals

EDITORIAL BOARDS:

- 2002 - Contributing Editor: *Journal of Applied Biomechanics*
- 2005 - Editorial Board: *Human Factors*
- 2007 - Editorial Board: *Human Movement Science*
- 2011 - Editorial Board: *IIE Transactions on Occupational Ergonomics and Human Factors*
- 2012 - International Editorial Board: *Applied Ergonomics*
- 2013- Editorial Board *Preventing Chronic Disease: Public Health Research, Practice, and Policy*
- 2014- Senior Associate Editor, *Ergonomics in Design*
- 2015 Guest Editor for Special Issue *Ergonomics in Design: Combatting the Sedentary Workplace*
- 2017 Editorial Board, *Safety Science*

Ad hoc manuscript reviewer for: *American Industrial Hygiene Association Journal, American Journal of Industrial Medicine, American Society of Mechanical Engineering (ASME) Journal of Biomechanical Engineering, American Society of Mechanical Engineering (ASME) Journal of Dynamic Systems, Measurement, and Control, Applied Ergonomics, Clinical Biomechanics, Clinical Orthopaedics and Related Research®, Ergonomics, Institute of Electronic and Electrical Engineering (IEEE) Transactions on Systems, Man and Cybernetics, Institute of Electronic and Electrical Engineering (IEEE) Transactions on Biomedical Engineering, Institute of Electronic and Electrical Engineering (IEEE)*

Transactions on Neural Systems & Rehabilitation Engineering, *Journal of Applied Physiology*, *Journal of Biomechanics*, *Journal of Electromyography and Kinesiology*, *Journal of Motor Behavior*, *Journal of Occupational and Environmental Hygiene*, *Journal of Occupational and Environmental Medicine*, and *Muscle and Nerve*.

MAJOR RESEARCH INTERESTS:

Trained as an engineer, my research in public health takes a human systems approach to understand and prevent work-related injuries in order to improve worker safety, health and wellbeing. Work-related injuries are a large public health burden. In the United States, estimated costs of work related injuries put the public health burden at \$192 billion per year, which is comparable to the \$219 billion annual burden of cancer (Leigh *Milbank Quarterly*, 2011: 89 (4), 728–772). In addition, work and work-related injuries are major social determinants of health. While for the most part occupational physical activity has decreased significantly in the past 50 years, workers in physically demanding jobs have higher rates of all-cause mortality indicating that we need to create more knowledge about the design of work and its effect on health and wellbeing.

Our research has made significant contributions to science specifically in the areas of occupational safety and health with a focus in human-systems integration. These contributions address several industries including office work environments, commercial construction, health care (acute care hospitals), mining and transportation (truck drivers and bicyclists). My research interests fall under four major categories, which serve as a basis for my future research.

Identifying organization pathways that influence worker safety and health outcomes: At the heart of our work, especially our work at the Harvard T.H. Chan School of Public Health's Center for Work, Health, and Wellbeing, we believe that workers and their health and safety behaviors are a response to the work environment and the conditions of work. Through organizational pathways, we have identified potential work organizational and work environmental factors that affect workers' health. We have documented relationships between health outcomes and an organization's policies and programs. In patient care units, we have reported associations between worker low back pain and a unit's ergonomic practices. In construction we have documented associations between an organizations safety climate and worker injury outcomes. From these observed associations and theorized pathways we have built a conceptual framework routed with a human-systems approach that serves as a road map for our research within the Center.

Intervention evaluation (comparative effectiveness) studies of workplaces programs and tools aimed at improving worker safety and health (Construction, Health Care, and Trucking) Our intervention research spans several industries as well as spanning both organizational and physical ergonomic interventions. In terms of organizational ergonomics, we have developed and tested workplace programs on construction worksites. Our *Building Safety for Everyone* program tested through a cluster randomized controlled trial, demonstrated a significant and improved effect on worksite safety climate scores through a low-cost safety communication and recognition program that emphasizes safe working conditions rather than reports of injuries. The Program is now being adopted by national commercial construction companies. Our *All the Right Moves* project (ARM) demonstrated through a cluster randomized controlled trail the positive effects on pain, diet and physical activity of a Total Worker Health program that integrates an ergonomics program into existing safety practices with a health week custom designed for construction workers. In terms of physical ergonomics, our Ride Project is testing the effects of a new tool, a seat suspension system that reduces whole body vibration by 50%, has on reducing trucker driver low back pain and fatigue. Our pilot studies that demonstrated a 25% reduction in low back pain scores with the use of this vibration canceling technology.

Exposure assessment of physical risk factors and musculoskeletal disorders (Office, Trucking, and Mining): While in theory physical risk factors are thought to be the immediate cause of work-

related musculoskeletal disorders the empirical evidence linking these factors to outcomes has been limited due to the difficulty associated with directly measuring these risk factors. We have developed methods utilizing state of the art technology to measure risk factors for office workers and vehicle operators ranging from taxi drivers to heavy equipment operators in open pit coal mines. Through these methods, we have documented relationships between duration of computer use and acute reports of upper extremity pain as well as identified physiological pathways for stress and biomechanics. Specifically, we have measured increased shoulder muscle activity in a set of office workers reporting higher job stress. We also documented that these stressed workers take fewer breaks than their less stressed counterparts. For taxi drivers and operators of heavy equipment operators we have developed estimates of whole body vibration exposure based on driving records and vehicle characteristics. For both we have observed associations between the health outcome and the exposure as well as high risk exposures.

The effects of computer technology and tool design on upper extremity biomechanics: Within the ecological framework of computer related musculoskeletal disorders, computer technology has a direct effect on the biomechanics of the user. As a result, this technology places loads on the upper extremity, increasing risk for these disorders. However, as technology changes to include more mobile computing technology and dynamic workstations such as sit-to-stand desks the effects of these changes are often unknown. Our work has continuously followed technology and evaluated the effects of design on the proximal outcomes of biomechanics. We have demonstrated that devices do matter and that some, but not all innovative designs can reduce biomechanical load. Our results have both influenced and validated the design of devices that are currently on the market. In addition, we have developed user and designer guidelines to optimize upper extremity biomechanical loads.

RESEARCH SUPPORT

Past funding:

| | | | |
|-----------|-------------------------|--------------|---|
| 1999-2009 | NIOSH | PI | R01 OH003997 Tools for exposure assessment of physical risk factors of VDT Workers |
| 2000-2003 | Whitaker Foundation | PI | Predicting the Dynamic Tension of the Finger Flexor Muscles & Tendons of VDT Workers |
| 2004-2009 | NIOSH/CPWR ⁱ | Investigator | U54OH008307 Interventions for falls from ladders in construction (CPWR, PI: Perry) |
| 2007-2012 | NIOSH | PI | R01 OH008373 Upper Extremity Dynamics during Keying |
| 2008-2013 | NIOSH | PI | R01 OH008781 Interactions of biomechanics & psychosocial stressors & MSDs in the modern office) |
| 2009-2014 | NIOSH | PI | U60OH009762-01. Safety Culture/Safety Incentives in the Construction Industry (CPWR). |
| 2012-2013 | SHIP ⁱⁱ | | |

ⁱ Center for Construction Research and Training, formally the Center for the Protection of Workers' Rights

ⁱⁱ Safety and Health Investment Projects (SHIP) Washington State Department of Labor & Industries

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|------------------------|---------------------------|---------------------|--|
| | | Co-PI | Randomized Controlled Trial of a Whole Body Vibration intervention in Truck Drivers (University of Washington) |
| 2013-2014 | Mylan Specialties | PI | Evaluating the Physical Form of Autoinjectors on the Effectiveness of Transmitting Force and Maintaining Position and Orientation of the Injector (\$114,953) |
| 2010-2016 | NSF ⁱⁱⁱ | Co-PI | 0964220. A Toolkit to Evaluate the Effect of Multitouch Interaction on the Musculoskeletal System and Design Safe Multitouch Systems (Subcontract to Arizona State University, \$476,558) |
| 2011-2016 | NIOSH | Co-PI ^{iv} | Northeast Fisheries Winch Safety Improvement Project. (Subcontract from New York Center for Agricultural Disease and Injury Research, Education, and Prevention/(CDC/NIOSH) \$1,196,912) |
| 2013-2016 | Alpha Foundation | PI | Whole Body Vibration Exposure and Injury Prevention of Heavy Equipment Operators in Open Pit Coal Mine (\$617,204) |
| 2014-2017 | NIOSH | Investigator | R21OH010564. Modifying the Workplace to Decrease Sedentary Behavior and Improve Health. (PI: John) |
| 2013-2019 | NIOSH | PI | 1 R01 OH010097 Randomized Controlled Trial of a Whole Body Vibration intervention in Truck Drivers (\$2,188,880) |
| 2014-2019 | NIOSH | Investigator | U60OH009762. Enhancing Safety Climate through OSHA 30 Transformational Leadership Training (CPWR PI: Goldenhar). |
| Current Funding | | | |
| 2007-2021 | NIOSH | Co-PI | U19 OH008861 Harvard T.H. Chan School of Public Health, Center for Work, Health, and Wellbeing (PI – Sorensen G.) Project B: Integrated Approaches to Health and Safety in the Dynamic Construction Work Environment (1,387,805 for Project B for 2011-2016) |
| 2014-2020 | NIOSH/CPWR ⁱⁱⁱ | PI | U60OH009762. Development and Evaluation of Contractor Safety Pre-Qualification Tool (Subcontract to CPWR, \$986,000). |
| 2017-2020 | Alpha Foundation | | |

ⁱⁱⁱ National Science Foundation

^{iv} PI during submission and year 1 at Harvard T.H. Chan School of Public Health, but relinquished PI when appointed at Northeastern

Investigator Systematic Evaluation of Multi-axial Suspension to Reduce Whole Body Vibration Exposures in Heavy Equipment Mining Vehicle Operators (\$480,818 PI: Kim)

TRAINING

2001-2018 NIOSH Program-Director
T42 OH008416 Training Program in Occupational Injury Prevention Research (Part of the Harvard Education and Research Center for Occupational Safety and Health)

INTERNAL RESEARCH SUPPORT

2000 Changes in the EMG signal power spectrum during repetitive tasks (Liberty Mutual Harvard Pilot Projects PI: Jack Dennerlein)

2001 Occupational injuries among bicycle messengers (CDC Harvard Injury Center Pilot Projects PI: Jack Dennerlein)

2001 Postural Stability Measurement of a clinical population (Liberty Mutual Harvard Pilot Projects PI: Maura Iversen)

2004 Effects of keyboard horizontal position within the workstation (NIOSH Harvard ERC Pilot Projects PI: Jack Dennerlein)

2006 Cellular responses of muscle cells to mechanical stretch (Department of Environmental Health Jr. Faculty Initiative PI: Jack Dennerlein)

2006 Physical exposure assessment for epidemiological research of musculoskeletal disorders (NIOSH Harvard ERC Pilot Projects PI: Jack Dennerlein)

2010 Upper Extremity Kinematics and Kinetics among Computer Workers with Hand Osteoarthritis (NIOSH Harvard ERC Pilot Projects PI: Jack Dennerlein)

2011 Biomechanics of the thumb during tablet use (NIOSH Harvard ERC Pilot Projects PI: Jack Dennerlein)

2012 Development and Validation of an Ergonomic Survey Instrument among New England Construction Workers (NIOSH Harvard ERC Pilot Projects PI: Jack Dennerlein)

2012 Protecting Every Construction worker's Knee (PECK) Pilot Study (NIOSH Harvard ERC Pilot Projects PI: Jack Dennerlein)

2012 Examining Safety Climate Perceptions and Health Outcomes (NIOSH Harvard ERC Pilot Projects PI: Jack Dennerlein)

2013 'Standing Up' Against Sedentary Behavior: A Pilot Study in Office Workers (PI Jack Dennerlein with Denish John) (HSPH Center for Work, Health, and Well-being Pilot Project)

2013 Simulation modeling of construction workers to estimate and mitigate the effects of the dynamic construction worksite. (PI Jack Dennerlein with Justin Manjourides) (HSPH Center for Work, Health, and Well-being Pilot Project)

2014 The relationship between musculoskeletal pain and length of time spent working on commercial construction sites – the workers' perspective. (NIOSH Harvard ERC Pilot Project PI: Jack Dennerlein with Emily Sparer)

2016 Mental health and wellbeing in Construction Workers (PI: Jack Dennerlein) Northeastern Tier 1 Interdisciplinary Grants

2019 Opioid Crisis Among Construction Workers Construction Workers (PI: Jack Dennerlein) Northeastern Tier 1 Interdisciplinary Grants

INDUSTRIAL RESEARCH GIFTS

2001 Office Ergonomics Research Committee

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|------|--------------------------------------|
| 2004 | Microsoft |
| 2005 | Office Ergonomics Research Committee |
| 2006 | Microsoft |
| 2006 | Intuitive Surgical |
| 2008 | Microsoft |
| 2010 | Office Ergonomics Research Committee |
| 2011 | Microsoft |
| 2010 | Office Ergonomics Research Committee |
| 2012 | Contour |
| 2012 | Office Ergonomics Research Committee |
| 2015 | MicroSoft |
| 2016 | Office Ergonomics Research Committee |
| 2017 | MicroSoft |
| 2018 | Oculus (Facebook) |
| 2020 | Office Ergonomics Research Committee |

REPORT of TEACHING

SEMESTER COURSES

| | |
|-----------|--|
| 1985 | University at Buffalo FORTRAN Teaching Assistant Supervised ~30 Undergraduate engineering students once a week in a computer laboratory |
| 1993 | University of California, Berkeley Controls and System Dynamics Teaching Assistant, supervised ~30 undergraduate students in one-hour recitations that met once per week. |
| 1997 | Harvard John A. Paulson School of Engineering and Applied Sciences Robotics (ES 178) Teaching Fellow, 12 undergraduate and graduate students. |
| 1999 | Harvard John A. Paulson School of Engineering and Applied Sciences System Analysis with Physiologic Applications (ES145) Course Instructor, 30 undergraduate and graduate engineering students |
| 2001 | Harvard John A. Paulson School of Engineering and Applied Sciences Muscles, Reflexes and Locomotion (DEAS ES148) Instructor, 18 undergraduate and graduate bioengineering students |
| 1999-2014 | Harvard T.H. Chan School of Public Health Ergonomics and Human Factors (EH243) Course Instructor; ~15 graduate students and medicine residents in occupational health |
| 2001-2015 | Harvard T.H. Chan School of Public Health Occupational Safety and Injury Prevention (EH241) Course Instructor; ~10 graduate students in occupational health |

- 2001-2012 Harvard T.H. Chan School of Public Health
Occupational Biomechanics (EH296)
Course Instructor; ~5 graduate students in occupational health
- 2001-2012 Harvard T.H. Chan School of Public Health
Industrial Hygiene/Ergonomic Internship & Environmental Sciences Research Seminar
(EH 267)
Co-Instructor; ~1 graduate student per year
- 2000 - 2012 Harvard T.H. Chan School of Public Health
Industrial Hygiene/Ergonomics Internship (EH273)
Co-instructor: ~ 1 graduate student per year
- 2003 Harvard T.H. Chan School of Public Health
Field Methods in Environmental Health (EH280)
Co-instructor: ~10 graduate students in occupational and environmental health.
- 2008 - 2012 Harvard T.H. Chan School of Public Health
Bicycle Environments (ID539)
Co-instructor: ~8 graduate students in public health and design.
- 2012 Harvard T.H. Chan School of Public Health
Transdisciplinary Research in the Study of Occupational Health and Safety (EH528)
Grading Instructor: ~ 5 graduate students in public health.
- 2012 - Northeastern University
PT Capstone Project (PT5000)
Course Instructor, ~3 Doctoral of Physical Therapy Students
- 2015- Northeastern University
Ergonomics and the Work Environment (PT5600)
Course Instructor, ~5 Doctoral of Physical Therapy Students
- 2017 -2018 Northeastern University
Research (HLTH 5450)
Course Instructor, ~110 1st year Doctoral of Physical Therapy Students.

EXECUTIVE AND CONTINUING PROFESSIONAL EDUCATION

- 2000- Executive and Continuing and Professional Education, Harvard T.H. Chan School of
Public Health
Ergonomics and Human Factors: Strategic Solutions for Workplace Safety and Health
Course Director: ~45 health and safety professionals from the US and abroad per year
- 2002-2015 Executive and Continuing and Professional Education, Harvard T.H. Chan School of
Public Health
Comprehensive Industrial Design
Course Faculty: ~50 health and safety professionals from the US and abroad
- 2006 Cyprus International Institute, Nicosia, The Republic of Cyprus
Occupational Ergonomics and Safety (3-day class)
Course Director: ~30 health and safety professionals from South Eastern Europe

- 2006-2015 Executive and Continuing and Professional Education, Harvard T.H. Chan School of Public Health
Guidelines for Laboratory Design
Course Faculty: ~50 architects, engineers and health and safety professionals from the US and abroad
- 2007 Department of Continuing Education, Harvard Medical School
The Global Clinic 2007: Healthcare Management for Physician Executives
Guest Faculty: ~100 Healthcare managers and physicians.
- 2008 Centro de Education Continua, Universidad Javeriana
Electromyography and applications in occupational health.
Course Faculty (Fulbright Senior Specialist): ~15 Occupational health students, physicians, and practitioners.
- 2009 - 2013 Executive and Continuing and Professional Education, Harvard T.H. Chan School of Public Health
Safety in Design & Construction
Course Co-Director: ~35 architects, engineers and health and safety professionals from the US and abroad
- 2012- Executive and Continuing and Professional Education, Harvard T.H Chan School of Public Health
Work, Health, and Wellbeing: Strategic Solutions for Integrating Wellness and Occupational Safety and Health in the Workplace
Course Faculty – 50 Health and Safety Professionals from the US and abroad.
Course Co-Director for 2015

GUEST LECTURES

| Year | Institution | #Lectures/year | #Students | Class Name |
|-----------|-----------------|----------------|-----------|--|
| 1999-2012 | Harvard Chan | 1 | ~50 | Intro to Environmental Health (EH201) |
| 2000-2006 | Harvard Chan | 1 | ~50 | Environmental and Occupational Epidemiology (EPI 215) |
| 2000-2012 | Harvard Chan | 3 | ~20 | Practice of Occupational Health (ID263) |
| 2000-2009 | Harvard Chan | 1 | ~12 | Analytical Methods and Exposure Assessment (EH 263) |
| 2000-2004 | Harvard Chan | 1 | ~18 | Epi of Environmental and Occupational Regulations (EH236) |
| 2000-2003 | Harvard Paulson | 4 | ~30 | System Analysis with Physiologic Applications (ES145) |
| 2001-2011 | Harvard Chan | 1 | ~15 | Exposure Assessment for Epidemiology (EH269) |
| 2003- | Harvard Chan | 1 | ~40 | Women and Gender Health, Introductory Perspectives (WGH 211) |
| 2004-2013 | BU SPH | 1 | ~15 | Exposure Assessment |
| 2009 - | Harvard Chan | 1 | ~16 | Bicycle and Urban Designs. |
| 2015 - | Northeastern | 1 | ~19 | Introduction to Public Health |

STUDENTS, POST-DOC FELLOWS, AND JUNIOR FACULTY ADVISEES

Junior faculty and K-grant trainees

| | | <u>Position</u> |
|-----------|----------------------------|---|
| 2005-2009 | Judith Gold (K) | Assistant Professor, Temple University |
| 2012- | Steven Yen | Assistant Professor, Northeastern University |
| 2012- | Justin Manjorides | Assistant Professor, Northeastern University |
| 2013-2016 | Alberto Caban-Martinez (K) | Assistant Professor, University of Miami |
| 2013-2018 | Dennis Anderson (K) | Instructor in Orthopedic Surgery, Harvard Medical School |
| 2012-2014 | Amee Seitz (K) | Assistant Professor, Northwestern University |
| 2014-2017 | Erika Sabbath (K) | Assistant Professor, Boston College |
| 2015-2018 | Jennifer Cavalari (K) | Assistant Professor, University of Connecticut Medical Center |
| 2016- | Lauren Murphy | Assistant Clinical Professor, Northeastern University |
| 2017 - | Emily Sparer (K) | Research Fellow, Harvard University |

Post-Doctoral Fellows (*co-mentorship)

| | | <u>Current Position</u> |
|-----------|----------------------------|---|
| 1999-2000 | Yanhong Zhou, Ph.D. | Faculty, Huazhong University, China |
| 1999-2000 | Peter Johnson, Ph.D. | Faculty, University of Washington |
| 1999-2001 | Kirsty Bennie Kerin, Ph.D. | Private Industry |
| 2001-2003 | Devin Jindrich, Ph.D. | Faculty, California State University, San Marcos |
| 2002-2004 | Ernst Lee, MD | Private Practice |
| 2002-2004 | Erik Won, MD | Private Practice |
| 2005-2007 | Ramaswamy Krishnan* | Instructor, Harvard University |
| 2007-2007 | Lope Barerro, Sc.D. | Associate Professor, Javeriana University, Bogota |
| 2008-2009 | Che-Hsu Chang, Sc.D. | Consultant, Private Industry |
| 2008-2009 | Robert Catena, Ph.D. | Assistant Professor, Washington State University |
| 2007-2010 | Krishna Asundi, Ph.D. | Private Industry (Apple) |
| 2008-2010 | Xu Xu, Ph.D. | Assistant Professor, NC State University |
| 2010-2012 | Gert Faber, Ph.D. | Assistant Professor, VU University |
| 2010-2012 | Justin Young | Assistant Professor, Kittering University |
| 2011-2013 | Alberto Cabán-Martinez*, | DO, PhD, MPH Associate Professor, University of Miami |
| 2011-2014 | Lauren Murphy, Ph.D. | Assistant Clinical Professor, Northeastern University |
| 2012-2013 | Sohit Karol, Ph.D. | Private Industry (MicroSoft) |
| 2013-2014 | Ana Barbir, Ph.D. | Private Industry |
| 2013-2015 | Shu-Ling Chiu, Ph.D. | Post-doctoral Fellow, Harvard University. |
| 2014-2016 | Erin Teeple, MD, MOH | Post-doctoral Fellow, Harvard University |
| 2015-2018 | Philip Dixon, Ph.D. | Post-doctoral Fellow, Harvard University, Northeastern U. |
| 2016-2018 | Boyi Hu, Ph.D. | Faculty, University of Florida |
| 2017-2019 | Susan Peters, Ph.D. | Post-doctoral Fellow, Harvard University |

Doctoral Student Advisor (12 total)

| | | <u>Current Position</u> |
|-----------|----------------------|---|
| 2004-2007 | Lope Barerro, Sc.D | Assistant Professor, Javeriana University, Bogota |
| 2003-2007 | David Lee, Sc.D. | Design Ergonomist, Google, Sunnyvale, CA |
| 2003-2008 | Joe Chang Sc.D. | Consultant, Private Industry |
| 2005-2010 | Jin Qin | National Institute for Occupational Safety and Health |
| 2008-2013 | Jennifer Bruno Garza | Post-Doctoral Fellow, University of Connecticut |
| 2009-2010 | Karen Hopcia | Occupational Health, Partners, Chicago |
| 2009-2013 | Matthieu Trudeau | Private Industry |
| 2009-2014 | Oscar Arias | Associate Director, UCLA, ERC |
| 2011-2015 | Emily H. Sparer | Post-Doctoral Fellow, Harvard University |
| 2013-2015 | Michael Lin | Usability and Product Developer, MicroSoft |
| 2013-2016 | Michael Grant | Fellow, National Institute for Occupational Safety and Health |

2015-2019 Sara Coppola Post-Doctoral Fellow, John Hopkins

Master Student Advisor (16 total)

| | | <u>Current Position</u> |
|-----------|-------------------------|---|
| 1999-2001 | Korrie Mapp, SM | CEO of Organic Ergonomics |
| 2001-2003 | Antonio Chemor-Ruiz, SM | Manager, Mexico Regional Government |
| 2001-2003 | Maria-Helena DiMarino | Harvard University (Deceased 2003) |
| 2002-2004 | Lope Barerro, Sc.D | Assistant Professor, Javeriana University, Bogota |
| 2003-2004 | Sara Mortenson, MBA/SM | Private Industry |
| 2007 | Karen Oude Hengel, MSc | Researcher, VU University Amsterdam |
| 2007 | Annemeik Houwink, MSc | Researcher, Radboud University Nijmegen |
| 2008-2010 | Hua Chen | Private Industry |
| 2008-2010 | Tawan Udtamadilok | Private Industry |
| 2009-2010 | Julia Roos | Private Industry |
| 2009-2011 | Emily Sparer | Graduate Student, Harvard University |
| 2010-2012 | Lynn Onyebeke | University Research Assistant |
| 2011-2013 | Michael Lin | Graduate Student, Harvard University |
| 2011-2013 | Torey Jerauld | Private Industry |
| 2011-2013 | Michael Grant | Graduate Student, Harvard University |
| 2013-2015 | Emily Eshleman | Medical Student, University of Maine |
| 2014-2016 | John Schilkowsky | Graduate Student, Northeastern University |
| 2015-2016 | Rory Steward | Graduate Student, Harvard University |

Doctoral Student Committee Member or Mentor*

| | | |
|-----------|--------------------------------|--|
| 1999 | Maria Yang*, Ph.D. | Faculty, MIT |
| 1999 | Paris Wellman, Ph.D. | Private Industry |
| 2000 | Allison Okamura*, Ph.D. | Faculty, Stanford University |
| 2000 | Fuji Lai, S.M. | Private Industry |
| 2002 | J.C. Chen, Sc.D. | Faculty, University of Southern California |
| 2004 | Solomon Diamond, Ph.D. | Faculty, Dartmouth |
| 2006 | Christopher Wagner, Ph.D. | Private Industry |
| 2006 | Monica Daley, Ph.D. | Lecturer, RVC University of London |
| 2007 | Camie Chaumont Menéndez, Ph.D. | Epidemiologist, Center for Disease Control |
| 2005-2009 | Chris Richards, Ph.D. | Research Fellow, The Rowland Institute, Harvard University |
| 2009-2010 | Christopher Ronk | Private Industry |
| 2012-2014 | Jorge Andrés Alvarado | Assistant Professor, Javeriana University, Bogotá |
| 2013-2015 | Jean Alexander Pulido | Student, Javeriana University, Bogotá (Deceased 2015) |
| 2015-2017 | Adina Elena Draghici | Student, Bioengineering, Northeastern, University |

Doctoral Student Defense Opponent

| | | <u>Institution</u> |
|------|----------------------|--|
| 2004 | Bart Visser, Ph.D. | VU University, Amsterdam |
| 2010 | Gert Faber, Ph.D. | VU University, Amsterdam |
| 2011 | John Collins, Ph.D. | University of Limerick, Ireland |
| 2013 | Pieter Coenen, Ph.D. | VU University, Amsterdam |
| 2014 | Kaitlin Gallagher | University of Waterloo, Ontario Canada |
| 2016 | Morten Villumsen | Aalborg University, Denmark |
| 2016 | Tessy Luger | VU University, Amsterdam |

Undergraduates and DPT Students.

| | | |
|-----------|---------------|---|
| 1997-1998 | Jay Kimmelman | Harvard: Founding Principal at New Globe Partners |
| 1997-1999 | Ken Ihara | Harvard: Past Vice President at Citigroup |

| | | |
|-----------|--------------------|---|
| 1999 | David Martin | Dartmouth |
| 1999-2001 | Michael Brody | Harvard |
| 1999-2000 | Thomas J. Withrow | Harvard: Faculty, Vanderbilt University |
| 2000-2001 | Silas Wang | Harvard: M.D., Private Practice |
| 2001-2003 | Aruna Balakrishnan | Harvard: Google User Experience |
| 2008 | Karen Lin | University of British Columbia |
| 2009 | Arun Saigal | M.I.T. |
| 2012 | Erik Iversen | Northeastern University |
| 2012-2013 | Brian Conlon: | Northeastern University |
| 2012-2013 | Shannon Harrington | Northeastern University |
| 2012-2013 | Linnea Peterson | Northeastern University |
| 2013 | Kaylin Mai | University of Massachusetts, Boston |
| 2013-2014 | Vanessa Peck | Northeastern University |
| 2013-2014 | Eric Heath | Northeastern University |
| 2013-2014 | Dewang Chauhan | Northeastern University |
| 2014-2015 | Mark Janelli | Northeastern University |
| 2015-2016 | Kelsey Jonas | Northeastern University |
| 2015-2016 | Nickolas Ing | Northeastern University |
| 2016-2017 | Jessica L Orpen | Northeastern University |
| 2016-2017 | Marin Kitamura | Northeastern University |
| 2017 | Kyle Nameth | Northeastern University |
| 2017-2018 | Tavia Allen | Northeastern University |
| 2017-2018 | Kayla Wegener | Northeastern University |
| 2017-2018 | Meghan McPhee | Northeastern University |
| 2019-2020 | Gesele Henderson | Northeastern University |

INVITED TALKS and GUEST LECTURES

NATIONAL & INTERNATIONAL:

| | |
|------|--|
| 1994 | Fingertip Kinematics and Forces During Typing. Marconi Conference, Office Ergonomics Research Committee, Marshall CA. |
| 1996 | Force Transmission of the Fingertip Pulp During Keyboard Like Work. Marconi Conference, Office Ergonomics Research Committee, Marshall CA |
| 1996 | In Vivo Measures of Finger Flexor Tendons Force. Occupational Medicine Research in Progress Forum, University of California, San Francisco |
| 1996 | Determining Tissue Dosage: In Vivo Finger Flexor Tendon Force. MPH Seminar Series, Department of Public Health, University of California, Berkeley |
| 1996 | The Biomechanics and Control of Human Finger Movement During Computer Keyboard Work: The Forces of the extrinsic finger muscles. The Occupational and Industrial Orthopaedic Center, Hospital for Joint Diseases and New York University. |
| 1997 | Tendon Force during a Keystroke. Marconi Conference, Office Ergonomics Research Committee, Marshall CA, 1997. |
| 2001 | The biomechanics and exposure assessment of computer interface designs Robens Centre for Health Ergonomics, University of Surrey, United Kingdom |

- 2002 Haptic Technologies for Computer Pointing Devices.
Marconi Conference, Office Ergonomics Research Committee, Marshall CA.
- 2002 Exposure assessment of computer interface designs: from biomechanics to human factors.
Department of Industrial Engineering Seminar Series, University at Buffalo, State University of New York
- 2002 Aspects of finger biomechanics during touch typing.
Center for Ergonomics Seminar Series, University of Michigan, Ann Arbor, MI
- 2003 Work-related musculoskeletal disorders and injuries: From office workers to bicycle messengers
ENVH 580 Department of Environmental Health, University of Washington, Seattle, WA.
- 2004 Dynamical aspects of the finger during typing and tapping
Rehabilitation Institute of Chicago, Northwestern University, Chicago, IL
- 2004 Dynamical aspects of the finger during typing and tapping
Department of Biomedical Engineering, Marquette University Milwaukee, WI
- 2004 Occupational Ergonomics and Injury Prevention
Jishou University, Jishou, China
- 2004 Finger biomechanics during typing and tapping
Faculty of Human Movement Sciences, VU University, Amsterdam, The Netherlands
- 2005 Relating Worker Fatigue with Keyboard Forces and Typing Performance.
Marconi at Marigold Conference, Office Ergonomics Research Committee, Marigold, MI
- 2005 The Office Environment and Health.
IIDEX (International Interior Design Exhibition), Toronto, Ontario
- 2006 Measuring biomechanics in the field for ergonomic studies. Athens University Medical School, Greece
- 2006 The Contribution of the Wrist, Elbow and Shoulder Joints to fingertip tapping. Center for Ergonomics Seminar Series, University of Michigan, Ann Arbor, MI, 2006.
- 2007 Validating Computer Usage Monitors,
Marconi at Marigold Conference, Office Ergonomics Research Committee, Marigold, MI
- 2008 Urban design for biking: Removing environmental impediments around safety in the United States
Cycling and Health Tech Industry R&D Center, Taichung, Taiwan
- 2009 Estimating Computer Exposures ,
Marconi Conference, Office Ergonomics Research Committee, Marshall, CA
- 2009 Injury rates on cycle tracks: the myth that bike lanes are unsafe
Cycling and Health Tech Industry R&D Center, Taichung, Taiwan

- 2009 Biomechanical Exposures: Determining Injury and Disorder Mechanisms **Keynote Speaker**: X2009 Sixth International Conference on Innovations in Exposure Assessment, Boston, MA
- 2010 Linking Research to Reality - Prevention of Upper Extremity Musculoskeletal Injury: **Keynote Speaker**. Association of Canadian Ergonomists 41st Annual Conference, Kelowna, BC October, 2010
- 2010 Fatigue of the forearm muscles associated with repetitive wrist movements. Ergonomic Interventions and Research: Preventing Musculoskeletal Fatigue and Injury Conference, University of Michigan and University of California, Oakland, CA, December 2010
- 2011 Using a Work Systems Analysis to Redesign Computer Task Exposures in Radiologists. Marconi Conference, Office Ergonomics Research Committee, Marshall CA. January 2011
- 2012 Tablet computer use and upper extremity postures and muscle load, Marconi at Marigold Conference, Office Ergonomics Research Committee, Holland, MI, June 2012
- 2012 Preventing work-related musculoskeletal disorders in the modern office. Lawrence Berkeley National Laboratory Ergonomics Distinguished Lecture Series, Berkeley, CA. July 2012
- 2012 Evidence-based Ergonomics in Computer Use. **Keynote Speaker**. Twenty-Fifth Annual Occupational Safety and Health Institute, University of California, Center for Occupational and Environmental Health, Oakland, CA July 2012
- 2014 How mobile technology is changing the paradigm of office ergonomics. **Featured Speaker**, Applied Ergonomics Conference, Orlando, FL 26 March 2014
- 2014 Occupational physical activity in health care and construction: work's contribution to workers' weekly recommended levels of physical activity. Chevron Global Wellness Network Meeting. 20 May 2014
- 2014 Physical Ergonomics Biomechanics and Ergonomics of the Modern Office: Identifying Injury Pathways. **Keynote Speaker**. HFES Inter-University Workshop, University of Buffalo, Buffalo NY, 15 November 2014.
- 2015 Improving Safety Culture through Workplace Programs. National Perspectives on Ergonomics, Workplace Design, and Health, 2015 Center for Occupational and Environmental Health Lela Morris Symposium, Berkeley, California. 22 May 2015
- 2015 Demystifying ergonomics for the modern office. Ergo-X (Human Factors and Ergonomics Society), **Featured Speaker**. Anaheim, CA 18 June 2015
- 2015 Safety management and culture. **Keynote Speaker** Working on Safety 2015, www.wos2015.net, University of Minho, Porto, Portugal, 24 September 2015
- 2016 The effects of systems and design on employee health and safety from the office to the construction site: identifying causal pathways through modern ergonomics and human factors. ERC Weekly Seminar, School of Public Health, University of Michigan, 8 January 2016

- 2016 Building-SAFE: Safety Incentives and Safety Climate in Construction. Webinar, The Center for Construction Research and Training – CPWR, 20 January 2016
- 2016 Reflecting on experiences and lessons learned in integrated approaches for worker health and safety. **Keynote/Closing Session Speaker**. Mutual Summit 2016, Santiago, Chile, 27 May 2016
- 2016 Safety Incentives, Safety Climate, and Total Worker Health® in the Dynamic Environment of Commercial Construction. The Summer Institute, Oregon Health State University and Portland State University, Portland Oregon, 17 July 2016
- 2017 Demystifying ergonomics in the Modern Office. **Hallman Lecture**, Applied Health Sciences, University of Waterloo, Ontario, Canada. 26 October 2017
- 2017 The effects of systems and design on employee health and safety from the office to the construction site: identifying causal pathways through modern ergonomics and human factors. Student Chapter of the Human Factors and Ergonomics Society, Virginia Tech, Blacksburg, VA 16 November 2017
- 2018 Ergonomics and the surgeon: Ideas to optimize performance and improve wellbeing. American Society for Reconstructive MicroSurgery Annual Meeting, Phoenix AZ 14 January 2018
- 2018 Making the Business Case for Total Worker Health® Workers' Compensation Educational Conference and Safety & Health Conference, Orlando FL, 16 August 2018
- 2018 A Total Worker Health® Intervention on Commercial Construction Sites. Work Wellness and Disability Prevention Institute (WWDPI) and Centre of Research Expertise for the Prevention of Musculoskeletal Disorders (CRE-MSD) Webinar 18 September 2018
- 2018 Assessment of contractor safety (ACES) through prequalification organizational surveys. The Center for Construction Research and Training (CPWR) Webinar, 26 September 2018
- 2018 Moving from wellness to well-being with sit-stand desks. Human Factors and Ergonomics Society Webinar 22 October 2018
- 2018 Sent from my phone, please excuse the new functional challenges for thumbs. **Keynote Speaker**, 3rd International Thumb Osteoarthritis Workshop (ITOW 2018), Palo Alto, CA 9 November 2018
- 2019 Applying Total Worker Health®: Key Characteristics to Build a Culture of Health, **Plenary Speaker** The Danish Working Environment Authority and The National Research Centre for the Working Environment, 12 March 2019
- 2019 Worker safety, health, and wellbeing: Applying Ergonomics within a Total Worker Health® framework. Program in Public Health, Oregon State University, Corvallis, OR, 23 April 2019
- 2019 Total Worker Health® : Evidence for integrating workplace policies, programs, and practices. **Keynote Speaker** Central New York Healthy Workforce Business Conference, Hamilton New York, October 15, 2019

2019 Design of Head Mounted Displays & Cervical Spine Loading, Ergo X 2019, Seattle, Washington, 28 October 2019

REGIONAL (New England)

- 1997 Sensing the Forces of the Human Hand during Touch-Typing.
Harvard Robotics Seminar Series, Cambridge, MA
- 1998 Finger flexor tendon forces and the control of finger movements during typing.
Boston University Neuromuscular Research Center Seminar Series, Boston MA
- 1999 Forces of a finger flexor tendon during keyboard-work: They're higher than you think.
University of Massachusetts, Lowell, Lowell MA
- 1999 Biomechanics of the Hand and Finger: An Ergonomic Question.
Sargent College of Physical Therapy, Boston University, Boston MA
- 2000 Adding Vibrotactile Feedback to Real-World Telerobots
Quarterly Biomedical Engineering and Minimally Invasive Surgery Symposium,
University of Massachusetts, Worcester, MA.
- 2000 The Role of Passive & Active Muscle Force During Touch-Typing
Biodynamics and Ergonomics: Improving Health and Human Performance and
Identifying Opportunities for Technology Transfer Symposium, Department of Medicine,
University of Connecticut, Farmington, CT..
- 2001 The Ergonomics of a Force-Feedback Mouse,
Media Lab, Massachusetts Institute of Technology, Cambridge, MA
- 2002 Office Ergonomics Workshop Lecture, **Keynote Speaker**
Eighth Annual Millender Occupational Medicine Conference, New England Baptist
Hospital, Boston, MA.
- 2002 Musculoskeletal Disorders and the Computer Workstation: Research Supporting
Ergonomic Interventions.
NECOEM/MaAOHN Annual Conference, Bedford, MA
- 2003 Office Ergonomics Workshop Lecture
Ninth Annual Millender Occupational Medicine Conference, New England Baptist
Hospital, Boston, MA
- 2003 Exposure Assessment of Computer Work: From Design to Usability.
Dept of Work Environment, University of Massachusetts, Lowell, MA
- 2003 Bicycle Messenger Injuries: Lessons from Urban Cyclists
Moving Together 2003: Massachusetts Statewide Bicycle and Pedestrian Conference,
Worcester, MA

- 2004 Occupational Bicycle Injuries
Department of Environmental and Occupational Medicine, Yale University New Haven, CT
- 2004 Ergonomics for the operating room nurse
Association of periOperative Registered Nurses (AORN), Massachusetts Chapter 1, Boston, MA
- 2005 - Exposure Assessment for Work-Related Injury and Musculoskeletal Disorders, Boston University
- 2006 Ergonomics and Musculoskeletal Disorders
Workplace Theory and Policy seminar, Yale Law School
- 2006 The Contribution of the Wrist, Elbow and Shoulder Joints to fingertip tapping.
Kinesiology Department Seminar, University of Massachusetts, Amherst.
- 2007 The dynamics of the finger and upper extremity during repetitive occupational tasks
Department of Mechanical Engineering, Cornell University
- 2008 Upper extremity dynamics during keying.
Department of Mechanical Engineering, Tufts University
- 2008 Ergonomics and Injury Prevention in Health Care
Grand Rounds, Department of Radiology, Beth Israel Deaconess Medical Center, Boston MA
- 2008 Ergonomics and Upper Extremity Disorders Among Computer Users.
NECOEM/MAAOHN Annual Conference, Bedford, MA
- 2009 Work-related musculoskeletal disorders: identifying injury pathways through biomechanics. Grand Rounds to the Harvard Combined Orthopaedic Surgery Residency Program, Boston, MA
- 2010 Applying ergonomics in health care: The challenges and successes for radiology.
Grand Rounds, Department of Radiology, Beth Israel Deaconess Medical Center, Boston MA
- 2011 Motor Control in Ergonomics: Applications in Human Computer Interfaces. The Boston Action Club, Northeastern University.
- 2012 Prevention of Work and Computer Related Musculoskeletal Disorders<
Department of Occupational Therapy Student Seminar Series, Boston University, Boston, MA
- 2012 Fundamental ergonomics in design.
Rhode Island School of Design, Providence, RI, October
- 2013 Upper extremity biomechanics in environmental and public health, from design to behavior. Rhode Island Hospital, Lifespan. February 2013

- 2014 Occupational physical activity in health care and construction: work's contribution to workers' weekly recommended levels of physical activity. Massachusetts Department of Public Health, Occupational Health Surveillance Seminar. 20 March 2014
- 2014 Ergonomics of the modern office: mobile technology to dynamic workstations: Harvard Club and the Massachusetts Chapter of the Fulbright Association. 18 November 2014
- 2017 Safety Culture and Climate: Construction Worker Safety and Health. New England Chapter of American Industrial Hygiene Meeting, Norwood, MA, 1 November 2017
- 2017 Improving Conditions of Work: What Impacts Worker Health? Massachusetts Working on Wellness Webinar Series, 6 December 2017
- 2018 Safety Culture and Climate: Construction Worker Safety and Health. OSHA Summer Summit, Amherst, MA, 14 June 2018
- 2018 Ergonomics – Design and Systems for Human Wellbeing. Northeastern University STEM summer program for high school students. <https://stem.neu.edu/summer/ysp/>
- 2019 Building a culture of safety, health, and wellbeing for construction workers: Overcoming (or not) the organizational challenges. MIT Sloan School of Management and Social Sciences, February 8, 2019
- 2019 Construction Worker Safety, Health and Well-being: Ten years of research in New England Commercial Construction Industry. OSHA District 1 Construction Safety Round Table, Boston, MA 11 June 2019
- 2019 The three domains of modern ergonomics in worker health and safety research. Department of Environmental Safety and Health, Massachusetts Institute of Technology, Cambridge, MA, June 20, 2019

Selected Citations in the General Media

- Boston Globe** Goldberg D. (2002) Dicey deliveries survey finds risk runs high for Boston's bike couriers. 21 November 2002.
<http://www.messarchives.com/articles/articles2002/bostonglobe211102.html>
- Seattle Times.** Sanders E (2003). Keeping Downtown Rolling: Flouting the system and serving it, messengers deliver. <http://old.seattletimes.com/pacificnw/2003/0831/cover.html>
- Boston Globe** Lewis E. (2004) Lab aims to cut rate of injuries on the job. 28 June 2004
- Slate** Perlstein L (2010) Rethinking the School Desk: Is the best way to fix the American classroom to improve the furniture? 26 October 2010
http://www.slate.com/articles/news_and_politics/the_hive/2010/10/rethinking_the_school_desk.html
- Boston Globe** (2011) Health Answers. 14 March 2011
- Los Angeles Times** (2012) Harvard study finds the iPad can be a pain in the neck. 25 January 2012
<http://latimesblogs.latimes.com/technology/2012/01/harvard-researchers-ergonomics-ipad.html>

- Boston Globe** Kotz, D. (2012) 3 ways to avoid iPad neck strain. 6 February 2012
<https://www.bostonglobe.com/lifestyle/health-wellness/2012/01/30/ways-avoid-ipad-neck-strain/iAnSo2Y84p6kOzAqg09p1O/story.html>
- Boston Globe** Pierce K. (2012) Many employees abandon sitting while working 31 May 2012
<https://www.bostonglobe.com/business/2012/03/25/employees-take-stand/GWtLOR2tUKRoeuB9ymEU2I/story.html>
- New York Times Magazine**
Kennedy P (2012) Who Made That Escape Key? 5 October 2012
http://www.nytimes.com/2012/10/07/magazine/who-made-that-escape-key.html?_r=0
- New York Times** Parker-Pope T (2013) Ask Well: Help for the Deskbound. 15 January 2013
<http://well.blogs.nytimes.com/2013/01/15/ask-well-help-for-the-deskbound/>
- Cook's Illustrated** (2013) Chef's Knives. September 2013
https://www.cooksillustrated.com/equipment_reviews/1433-chefs-knives
- The Wall Street Journal**
Fowler G. (2014) Find the Best Phone-Screen Size for you. 26 March 2014
<http://www.wsj.com/articles/how-to-find-the-phone-that-fits-your-hand-1395795606>
- Wired** Bonnington C (2014) A Bigger iPhone May Not Be Better, But It Makes Sense for Apple. 8 August 2014. <http://www.wired.com/2014/08/a-bigger-iphone/>
- Cook's Illustrated** (2016) Sauciers. February 2016
https://www.cooksillustrated.com/equipment_reviews/1661-sauciers
- Forbes** Chamary JV (2016) Was Steve Jobs Right About Apple's Small iPhone SE? 23 March 2016 <http://www.forbes.com/sites/jvchamary/2016/03/23/small-phone-ergonomics/#6d3d53b336ff>
- The Wall Street Journal**
Johannes L (2016) A Cure for Digital Addicts' 'Text Neck'? 23 March 2016
<http://www.wsj.com/articles/a-cure-for-digital-addicts-text-neck-1464019660>
- Business Insurance** Gonzalez G (2016) OSHA puts incentive plans under scrutiny 27 March 2016
<http://www.businessinsurance.com/article/20160327/NEWS08/303279982/osha-puts-workplace-safety-incentive-plans-under-scrutiny?tags=%7C80%7C304>
- Boston Magazine** Ducharme J (2016) Six Tips for Using Standing Desks Correctly 10 May 2016
<http://www.bostonmagazine.com/health/blog/2016/05/10/standing-desks/print/>
- The Washington Post**
Cavanaugh Simpson, J. (2016) Digital disabilities – text neck, cellphone elbow – are painful and growing. 13 June 2016
https://www.washingtonpost.com/national/health-science/digital-disabilities--text-neck-cellphone-elbow--are-painful-and-growing/2016/06/13/df070c7c-0afd-11e6-a6b6-2e6de3695b0e_story.html
- Wired** Rhodes, M (2016) You'll Miss the Escape Key Even Less Than Your Headphone Jack. 27 October 2016. <https://www.wired.com/2016/10/youll-miss-escape-key-even-less-headphone-jack/>
- Reuters** Rapaport, L. (2016) Safe patient handling linked to fewer worker injuries. 4 November 2016 <http://www.reuters.com/article/us-health-safety-patient-handling-idUSKBN12Z25G>

- Boston Globe** Ruckstuhl L (2018) Is your device giving you 'iPad neck,' 'i-hunch,' or 'text neck'? 28 June 2018 <https://www.bostonglobe.com/metro/2018/06/28/your-device-giving-you-ipad-neck-hunch-text-neck/5MWkMc9O7ZS8HR3UDugHaN/story.html>
- Washington Post** Fowler GA (2018) Review: Apple's new iPad Pro still isn't a laptop 10 November 2018 <https://www.dailyherald.com/business/20181110/review-apples-new-ipad-pro-still-isnt-a-laptop>
- New York Times:** Murphy H (2019) Here's How to Type Faster on Your Phone Get those index fingers off your screen. October 4, 2019 <https://www.nytimes.com/2019/10/04/technology/phone-typing.html>
- WHYY** Radio Times with Marty Moss-Coane: Office Space Episode Panelist <https://whyy.org/episodes/office-space/> November 7, 2019

BIBLIOGRAPHY

PEER-REVIEWED JOURNAL ARTICLES:

1. Rempel D, **Dennerlein J**, Mote CD, Jr., Armstrong T. A method of measuring fingertip loading during keyboard use. *J Biomech* 1994; 27:1101-4. PMID: 8089165
2. **Dennerlein JT**, Miller JM, Mote CD, Jr., Rempel DM. A low profile human tendon force transducer: the influence of tendon thickness on calibration. *J Biomech* 1997; 30:395-7. PMID: 9075009
3. **Dennerlein JT**, Diao E, Mote CD, Jr., Rempel DM. Tensions of the flexor digitorum superficialis are higher than a current model predicts. *J Biomech* 1998; 31:295-301. PMID: 9672082
4. **Dennerlein JT**, Mote CD, Jr., Rempel DM. Control strategies for finger movement during touch-typing. The role of the extrinsic muscles during a keystroke. *Exp Brain Res* 1998; 121:1-6. PMID: 9698184
5. **Dennerlein JT**, Diao E, Mote CD, Jr., Rempel DM. In vivo finger flexor tendon force while tapping on a keyswitch. *J Orthop Res* 1999; 17:178-84. PMID: 10221833 (Open Access <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2665300/>)
6. **Dennerlein JT**, Yang MC. Haptic force-feedback devices for the office computer: performance and musculoskeletal loading issues. *Hum Factors* 2001; 43:278-86. PMID: 11592668
7. Okamura AT, Cutkosky MR, **Dennerlein JT**. Reality-Based Models for Vibration Feedback in Virtual Environments. *ASME/IEEE Transactions on Mechatronics* 2001; 6:245-253.
8. Ciriello VM, Bennie KJ, Johnson PW, **Dennerlein JT**. Comparison of Three Psychophysical Techniques to Establish Maximum Acceptable Torques of Repetitive Ulnar Deviation. *Theoretical Issues in Ergonomics Science* 2002; 3:274-284
9. **Dennerlein JT**, Soumekh FS, Fossel AH, Amick BC, 3rd, Keller RB, Katz JN. Longer distal motor latency predicts better outcomes of carpal tunnel release. *J Occup Environ Med* 2002; 44:176-83. PMID: 11851219
10. Bennie KJ, Ciriello VM, Johnson PW, **Dennerlein JT**. Electromyographic activity of the human extensor carpi ulnaris muscle changes with exposure to repetitive ulnar deviation. *Eur J Appl Physiol* 2002; 88:5-12. PMID: 12436265
11. **Dennerlein JT**, Meeker JD. Occupational injuries among Boston bicycle messengers. *Am J Ind Med* 2002; 42:519-25. PMID: 12439875
12. Jindrich DL, Zhou Y, Becker T, **Dennerlein JT**. Non-linear viscoelastic models predict fingertip pulp force-displacement characteristics during voluntary tapping. *J Biomech* 2003; 36:497-503. PMID: 12600340
13. Chen JC, Chang WR, Shih TS, Chen CJ, Chang WP, **Dennerlein JT**, Ryan LM, Christiani DC. Predictors of whole-body vibration levels among urban taxi drivers. *Ergonomics* 2003; 46:1075-90. PMID: 12850932
14. **Dennerlein JT**, Ciriello VM, Kerin KJ, Johnson PW. Fatigue in the forearm resulting from low-level repetitive ulnar deviation. *AIHA J (Fairfax, Va)* 2003; 64:799-805. PMID: 14674796
15. Chen JC, **Dennerlein JT**, Shih TS, Chen CJ, Cheng Y, Chang WP, Ryan LM, Christiani DC. Knee pain and driving duration: a secondary analysis of the Taxi Drivers' Health Study. *Am J Public Health* 2004; 94:575-81. PMID: 15054008 (Open Access <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1448301/>)
16. Chen JC, Chang WR, Shih TS, Chen CJ, Chang WP, **Dennerlein JT**, Ryan LM, Christiani DC. Using exposure prediction rules for exposure assessment: an example on whole-body vibration in taxi drivers. *Epidemiology* 2004; 15:293-9. PMID: 15097009

17. Jindrich DL, Balakrishnan AD, **Dennerlein JT**. Effects of keyswitch design and finger posture on finger joint kinematics and dynamics during tapping on computer keyswitches. *Clin Biomech* (Bristol, Avon) 2004; 19:600-8. PMID: 15234484
18. Jindrich DL, Balakrishnan AD, **Dennerlein JT**. Finger joint impedance during tapping on a computer keyswitch. *J Biomech* 2004; 37:1589-96. PMID: 15336934
19. **Dennerlein JT**. Finger flexor tendon forces are a complex function of finger joint motions and fingertip forces. *J Hand Ther* 2005; 18:120-7. PMID: 15891970
20. Lee EC, Rafiq A, Merrell R, Ackerman R, **Dennerlein JT**. Ergonomics and human factors in endoscopic surgery: a comparison of manual vs telerobotic simulation systems. *Surg Endosc* 2005. PMID: 16021368
21. Chen JC, **Dennerlein JT**, Chang CC, Chang WR, Christiani DC. Seat inclination, use of lumbar support and low-back pain of taxi drivers. *Scand J Work Environ Health* 2005; 31:258-65. PMID: 16161708 (Open Access http://www.sjweh.fi/show_abstract.php?abstract_id=881)
22. Kuo PL, Lee DL, Jindrich DL, **Dennerlein JT**. Finger joint coordination during tapping. *J Biomech* 2006; 39:2934-42. PMID: 16161708
23. **Dennerlein JT**, Johnson PW. Different computer tasks affect the exposure of the upper extremity to biomechanical risk factors. *Ergonomics* 2006; 49:45-61. PMID: 16393803
24. Balakrishnan AD, Jindrich DL, **Dennerlein JT**. Keyswitch orientation can reduce finger joint torques during tapping on a computer keyswitch. *Hum Factors* 2006; 48:121-9. PMID: 16696262
25. **Dennerlein JT**, DiMarino MH. Forearm electromyographic changes with the use of a haptic force-feedback computer mouse. *Hum Factors* 2006; 48:130-41. PMID: 16696263
26. **Dennerlein JT**, Johnson PW. Changes in upper extremity biomechanics across different mouse positions in a computer workstation. *Ergonomics* 2006; 49:1456-69. PMID: 17028089
27. Barrero LH, Hsu YH, Terwedow H, Perry MJ, **Dennerlein JT**, Brain JD, Xu X. Prevalence and physical determinants of low back pain in a rural Chinese population. *Spine* 2006; 31:2728-34. PMID: 17077743
28. Lee DL, McLoone H, **Dennerlein JT**. Observed finger behaviour during computer mouse use. *Appl Ergon* 2008; 39:107-13. PMID: 17400173.
29. Chang CH, Amick BC, 3rd, Menendez CC, Katz JN, Johnson PW, Robertson M, **Dennerlein JT**. Daily computer usage correlated with undergraduate students' musculoskeletal symptoms. *Am J Ind Med* 2007; 50:481-8. PMID: 17450542
30. **Dennerlein JT**, Kingma I, Visser B, van Dieën JH. The contribution of the wrist, elbow and shoulder joints during single finger tapping. *J. Biomechanics*, 2007; 40, 3013-22, 2007. PMID: 17467717
31. Menendez CC, Amick BC, 3rd, Jenkins M, Janowitz I, Rempel DM, Robertson M, **Dennerlein JT**, Chang CH, Katz JN. A multi-method study evaluating computing-related risk factors among college students. *Work* 2007; 28:287-297. PMID: 1752245
32. Kotani K, Barrero LH, Lee DL, **Dennerlein JT**. Effect of horizontal position of the computer keyboard on upper extremity posture and muscular load during computer work. *Ergonomics* 2007; 50:1419-32. PMID: 17654034
33. Lee DL, Fleisher J, McLoone HE, Kotani K, **Dennerlein JT**. Alternative computer mouse design and testing to reduce finger extensor muscle activity during mouse use. *Hum Factors* 2007; 49:573-84. PMID: 17702210
34. Menendez CC, Amick BC 3rd, Chang CH, **Dennerlein JT**, Harrist R., Jenkins M, Robertson M, Katz JN. Computer Use Patterns Associated with Upper Extremity Musculoskeletal Symptoms. *J Occup*

- Rehabil*, 2008 18(2), 166-174. PMID: 18204927 (Open Access <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3268069/>)
35. Won EJ, Johnson PW, Punnett L, **Dennerlein JT**. Upper extremity biomechanics in computer tasks differ by gender. *Journal of Electromyography and Kinesiology* 2009;19, 428-436. PMID: 18207419
 36. Oude Hengel KM, Houwink A, Odell D, van Dieën J, **Dennerlein JT**. Smaller external notebook mice have different effects on posture and muscle activity. *Clinical Biomechanics*, 2008; 23: 727–734. PMID: 18348899
 37. Lee DL, Kuo P, Jindrich DJ, **Dennerlein JT**. Computer Keyswitch Force-Displacement Characteristics Affect Muscle Activity Patterns During Index Finger Tapping. *Journal of Electromyography and Kinesiology*. 2009 Oct;19(5):810-20. PMID: 18515146
 38. Barrero LH, Katz JN, Perry M, Krishnan R, Ware JH, **Dennerlein JT**. Intermittent work causes bias in self-reported activity duration: Mechanisms and implications for exposure assessment and epidemiology. *Occupational and Environmental Medicine*, 2009 66(1): 38-44. PMID: 18805887 (Open Access <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3257319/>)
 39. Chang CH, Johnson PW, Katz JN, Eisen EA, **Dennerlein JT**. Typing keystroke duration changed after submaximal isometric finger exercises. *European Journal of Applied Physiology*, 2009: 105(1): 93-101. PMID: 18853179 (Open Access <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3256245/>)
 40. Chang CH, Johnson PW, **Dennerlein JT**. A Wide Range of Activity Duration Cutoffs Provided Unbiased Estimates of Exposure to Computer Use. *Journal of Occupational & Environmental Hygiene*, 2008; 5(12): 790-6. PMID: 18932082
 41. Jacobs, K, Johnson P, **Dennerlein J**, Peterson D, Kaufman J, Gold J, Williams S, Richmond N, Karban S, Firm E, Ansong E, Hudak S, Tung K, Hall V, Pencina K, Pencina M. University students' notebook computer use, *Applied Ergonomics* 2009, 40(3):404-9. PMID: 19101663
 42. Barrero LH, Katz JN, **Dennerlein JT**. Validity of self-reported mechanical demands for occupational epidemiologic research of musculoskeletal disorders. *Scandinavian Journal of Work, Environment & Health*. 2009;35(4):245-260. PMID: 19562235 (Open Access http://www.sjweh.fi/show_abstract.php?abstract_id=1335)
 43. Gold JE, Cherniack M, Hanlon A, **Dennerlein JT**; Dropkin J. Skin temperature in the dorsal hand of office workers and severity of upper extremity musculoskeletal disorders. *International Archives of Occupational and Environmental Health*. 2009. 82(10):1281-92. PMID: 19633984
 44. Houwink A, Oude Hengel KM, Odell D, **Dennerlein JT**. Providing ergonomic instructions enhances the biomechanical improvements of an alternative computer mouse design. *Human Factors*, 2009: 51(1): 46 -55. PMID: 19634308
 45. Asundi K, Johnson P, **Dennerlein JT**. Inertial artifacts and their effect on the parameterization of keyboard reaction forces. *Ergonomics*, 2009 Oct;52(10):1259-64. PMID: 19787505
 46. Xu X, Chang CC, Faber GS, Kingma I, **Dennerlein JT**. Comparing polynomial and cubic spline interpolation of segment angles for estimating L5/S1 net moment during symmetric lifting tasks. *J. Biomechanics*. 2010 Feb 10;43(3):583-6. PMID: 19880119
 47. Kennedy CA, Amick BC, **Dennerlein JT**, Brewer S, Catli S, Williams R, Serra C, Gerr F, Irvin E, Mahood Q, Franzblau A, Van Eerd D, Evanoff B, Rempel D. Systematic review of the role of occupational health and safety interventions in the prevention of upper extremity musculoskeletal symptoms, signs, disorders, injuries, claims and lost time. *Journal of Occupational Rehabilitation* 2010; 20(2): 127-162. PMID:19885644
 48. Asundi K; Odell D; Luce A; **Dennerlein JT**. Notebook computer use on a desk, lap, and lap support: Effects on posture, performance, and comfort. *Ergonomics*. 2010; 53(1):74-82. PMID: 20069483

49. Chaumont Menéndez C, Amick Iii BC, Joe Chang CH, **Dennerlein JT**, Harrist RB, Jenkins M, Robertson M, Katz JN,. The epidemiology of upper extremity musculoskeletal symptoms on a college campus. *Work*. 2009; 34(4):401-8. PMID:20075517 (Open Access <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3257316/>)
50. Chaumont Menéndez C, Amick III BC, Chang CH, Harrist RB, Jenkins M, Robertson M, Janowitz I, Rempel DM, Katz JN, **Dennerlein JT**. Evaluation of two posture survey instruments for assessing computing postures among college students. *Work*. 2009; 34(4):421-30. PMID:20075519 (Open Access <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3268067/>)
51. **Dennerlein JT**, Ronk CJ, Perry MJ. Portable ladder assessment tool development and validation-quantifying best practices in the field. *Safety Science*, 2009 47: 636-639. PMID: 20161250 . (Open access <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2710809/>)
52. Qin J, Lee D, Li Z, Chen H, **Dennerlein JT**. Estimating in vivo passive forces of the index finger muscles: Exploring model parameters. *J. Biomechanics*. 2010; 7;43(7):1358-63. PMID: 20181338
53. Straker L, Maslen B, Burgess-Limerick R, Johnson PW and **Dennerlein JT**. Evidence-based guidelines for the wise use of computers by children: Physical development guidelines. *Ergonomics, Ergonomics*. 2010; 53(4):458-77. PMID: 20309743
54. Xu X, Chang CC, Faber GS, Kingma I, **Dennerlein JT**. Interpolation of segment Euler angles can provide a robust estimation of segment angular trajectories during asymmetric lifting tasks. *J. Biomechanics*, 2010 Jul 20;43(10):2043-8.. PMID: 20378116
55. Mehrdad R, **Dennerlein JT**, Aminian O, Haghighat M. Association between psychosocial factors and musculoskeletal disorders among Iranian nurses. *Am J Ind Med*. 2010 53(10):1032-9. PMID: 20568267
56. Chang CH, Menéndez CC, Robertson MM, Amick BC 3rd, Johnson PW, Del Pino RJ, **Dennerlein JT**. Daily self-reports resulted in information bias when assessing exposure duration to computer use. *Am J Ind Med*. 2010; 53(11):1142-1149. PMID: 20632313
57. Catena R, DiDomenico A, Banks J, **Dennerlein JT**. The effect of load weight on balance control during lateral box transfers. *Ergonomics*. 2010; 53(11): 1359-1367. PMID: 20967658
58. Siegal DS, Levine D, Siewert B, Lagrotteria D, Affeln D, **Dennerlein J**, Boiselle PM. Repetitive stress symptoms among radiology technologists: prevalence and major causative factors. *J. American College of Radiology* 2010; 7(12):956-960. PMID: 21129687
59. Qin J, Trudeau M, Katz JN, Buckholz B, **Dennerlein JT**. Biomechanical loading on the upper extremity increases from single key tapping to directional tapping. *Journal of Electromyography and Kinesiology* 2011; 21(4) 587–594. PMID: 21216620
60. Lusk AC. Furth PG, Morency P, Miranda-Moreno LF, Willett WC, **Dennerlein JT**. Risk of Injury for Bicycling on Cycle Tracks vs in the Street. *Injury Prevention*, 2011; 17 (2):131-135. PMID: 21307080 (Open Access <http://injuryprevention.bmj.com/content/17/2/131.long>)
61. Ronk CJ, **Dennerlein JT**, Hoffman E, Perry MJ. Is renovation riskier than new construction? An observational comparison of risk factors for stepladder-related falls. *Am J Ind Med*. 2011;54(8):579-585. PMID: 21520211
62. Xu X, Chang CC, Faber GS, Kingma I, **Dennerlein JT**. Estimation of 3-D peak L5/S1 joint moment during asymmetric lifting tasks with cubic spline interpolation of segment Euler angles. *Applied Ergonomics*. 2012; 43(1):115-120. PMID: 21529774
63. Asundi A. Johnson PW, **Dennerlein JT**. Does elevating and tilting the input device support surface affect typing force and postural exposures of the wrist? *Work: A Journal of Prevention, Assessment and Rehabilitation*. 2011; 39(2):187-193. PMID: 21673446

64. Asundi K; Odell D; Luce A; **Dennerlein JT** Changes in posture through the use of simple inclines with notebook computers placed on a standard desk. *Applied Ergonomics*, 2012: 43(2):400-407. PMID: 21774912.
65. Sorensen G, Stoddard, AM, Stoffel S, Buxton O, Sembajwe G, Hashimoto DM, **Dennerlein JT**, Hopcia K. The Role of the Work Context in Multiple Wellness Outcomes for Hospital Patient Care Workers. *Journal of Environmental and Occupational Medicine*. 2011: 53(8):899-910. PMID: 21775897 (Open Access <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3693572/>)
66. Xu X, Chang CC, Faber GS, Kingma I, **Dennerlein JT**. The validity and inter-rater reliability of video-based posture observation during asymmetric lifting tasks. *Hum Factors*. Aug 2011;53(4):371-382. PMID: 21901934
67. Bruno J, Li, Z, Trudeau M, Raina S, **Dennerlein JT**. A single video-camera based postural assessment system to measure rotation of the shoulder during computer use. *Journal of Applied Biomechanics*. 2012;28(3):343-348. PMID: 21908899
68. Catena RD, DiDomenico A, Banks JJ, **Dennerlein JT**. Balance control during lateral load transfers over a slippery surface. *Ergonomics*. Nov 2011;54(11):1060-1071. PMID: 22026949
69. **Dennerlein JT**, Hopcia K, Sembajwe G, Kenwood C, Stoddard AM, Tveito TH, Hashimoto DM, Sorensen G,. Ergonomic practices within patient care units are associated with musculoskeletal pain and limitations, *American Journal of Industrial Medicine*. 2012: 55(2): 107-116. PMID 22113975 (Open access <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3679918/>)
70. Young JG, Trudeau M, Odell D, Marinelli K, **Dennerlein JT**. Touch-screen tablet user configurations and case-supported tilt affect head and neck flexion angles. *Work: A Journal of Prevention, Assessment and Rehabilitation*. 2012: 41(1):81-91. PMID: 22246308
71. Trudeau M, Udtamadilok T, Karlson AK, **Dennerlein JT**. Thumb Motor Performance Varies by Movement Orientation, Direction, and Device Size during Single-Handed Mobile Phone Use. *Human Factors*, 2012: 54(1): 51-59. PMID: 22409102
72. Faber GS, Chang CC, Kingma I, Schepers HM, Herber S, Veltink PH, **Dennerlein JT**. A force plate based method for the calibration of force/torque sensors. *Journal of Biomechanics*, 2012: 45(7):1332-8. PMID: 22444348
73. Reme SE, **Dennerlein JT**, Hashimoto D, Sorensen G. Musculoskeletal Pain and Psychological Distress in Hospital Patient Care Workers. *Journal of Occupational Rehabilitation*. 2012; 22(4):503-510 PMID: 22466375
74. Bruno Garza JL., Eijkelhofb, BHW, Johnson, PW, Raina SW. Rynelf P, Huysman MA, van Dieën JH, van der Beek A.J. Blatter, BM, **Dennerlein, JT**. Observed differences in upper extremity forces, muscle efforts, postures, velocities, and accelerations across computer activities in a field study of office workers. *Ergonomics*. Jun 2012; 55(6):670-681. PMID: 22455518
75. Johnson PW, Ciriello VM, Kerin KJ, **Dennerlein JT**. Using electrical stimulation to measure physiological changes in the human extensor carpi ulnaris muscle after prolonged low-level repetitive ulnar deviation. *Appl Ergon*. 2013;44(1):35-41. PMID: 22595493.
76. Mehrdad R, **Dennerlein JT**, Morshedizadeh M. Musculoskeletal Disorders and Ergonomic Hazards among Iranian Physicians. *Archives of Iranian medicine*. Jun 2012;15(6):370-374. PMID: 22642248 (Open Access <http://www.ams.ac.ir/AIM/NEWPUB/12/15/6/0011.pdf>)
77. Asundi K, Johnson PW, **Dennerlein JT**. Variance in direct exposure measures of typing force and wrist kinematics across hours and days among office computer workers. *Ergonomics*. 2012;55(8):874-884. PMID: 22676481.
78. Buxton OM, Hopcia K, Sembajwe G, Porter JH, **Dennerlein JT**, Kenwood C, Stoddard AM, Hashimoto D, Sorensen G. Relationship of Sleep Deficiency to Perceived Pain and Functional

Limitations in Hospital Patient Care Workers. *J Occup Environ Med.* Jul 2012;54(7):851-858. PMID: 22796931 (Open Access <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3720240/>)

79. Trudeau M, Young JG, Jindrich DL, **Dennerlein JT**. Thumb motor performance varies with thumb and wrist posture during single-handed mobile phone use. *J. Biomechanics*, 2012; 45(14):2349-54. PMID: 22858316.
80. Sparer E. **Dennerlein JT**. Determining Safety Inspection Thresholds for Employee Incentives Programs on Construction Sites. *Safety Science*. 2013; 51:77–84.
81. Hopcia K, **Dennerlein JT**, Hashimoto D, Stoddard A, Orechia T, Sorensen G. Occupational Injuries for Consecutive and Cumulative Shifts Among Hospital Registered Nurses and Patient Care Associates: A Case-Control Study. *Workplace Health & Safety* 2012 Sep 24:437-444, PMID: 22998692.
82. Kim S-S, Okechukwu C, Boden L, **Dennerlein JT**, Buxton OM, Hashimoto D, Sorensen G. Association between work-family conflict and musculoskeletal pain among hospital patient care workers. *Am J Ind Med* 2013;56(4):488-495. PMID: 23019044
83. Bruno-Garza JL, Catalano PJ, Katz JN, Huysmans MA, **Dennerlein JT**. Developing a framework for predicting upper extremity muscle activities, postures, velocities, and accelerations during computer use: the effect of keyboard use, mouse use, and individual factors on physical exposures. *J Occup Environ Hyg.* 2012;9(12):691-698. PMID: 23066993.
84. Eijkelhof BH, Bruno Garza JL, Huysmans MA, Blatter BM, Johnson PW, van Dieen JH, van der Beek AJ, **Dennerlein JT**. The effect of overcommitment and reward on muscle activity, posture, and forces in the arm-wrist-hand region - a field study among computer workers. *Scand J Work Environ Health* 2013;39(4):379-389. PMID: 23377125. (Open Access <http://tinyurl.com/lf9fs2x>)
85. Faber GS, Chang CC, Kingma I, **Dennerlein JT**. Lifting style and participant's sex do not affect optimal inertial sensor location for ambulatory assessment of trunk inclination. *J Biomech.* 2013; 46(5):1027-1030. PMID: 23394716
86. Xu X, Chang CC, Faber GS, Kingma I, **Dennerlein JT**. Estimating 3-D L5/S1 moments during manual lifting using a video coding system: validity and interrater reliability. *Hum Factors.* 2012;54(6):1053-1065. PMID: 23397813
87. Sembajwe G, Tveito TH, Hopcia K, Kenwood C, O'Day ET, Stoddard AM, Dennerlein JT, Hashimoto D, Sorensen G. Psychosocial Stress and Multi-site Musculoskeletal Pain: A Cross-sectional Survey of Patient Care Workers. *Workplace health & safety.* 2013;61(3):117-125. PMID: 23452130.
88. Kim SS, Okechukwu CA, **Dennerlein JT**, Boden LI, Hopcia K, Hashimoto DM, Sorensen G. Association between perceived inadequate staffing and musculoskeletal pain among hospital patient care workers. *Int Arch Occup Environ Health.* Mar 12 2013. PMID: 23475312.
89. Young JG, Trudeau MB, Odell D, Marinelli K, **Dennerlein JT**. Wrist and shoulder posture and muscle activity during touch-screen tablet use: Effects of usage configuration, tablet type, and interacting hand. *Work: A Journal of Prevention, Assessment and Rehabilitation.* 2013; 45(1):59-71. PMID: 23531566.
90. Eijkelhof BHW, Bruno-Garza JL, Huysmans MA, Blatter BM, van Dieën JH, **Dennerlein JT**, van der Beek AJ. The effects of workplace stressors on muscle activity in the neck-shoulder and forearm muscles during computer work: a systematic review and meta-analysis. *European Journal of Applied Physiology* 2013 Dec;113(12):2897-912 PMID: 23584278
91. Qin J, Chen H, **Dennerlein JT**. Wrist posture affects hand and forearm muscle stress during tapping. *Applied Ergonomics.* 2013; 44(6):969-976. PMID: 23591089

92. Lusk A, Morency P, Miranda-Moreno L, Willett W, **Dennerlein, JT**. Bicycle Guidelines and Crash Rates on Cycle Tracks in the United States. *American Journal of Public Health* 2013;103(7):1240-8. PMID: 23678920 (Open Access <http://tinyurl.com/ocb2a2t>)
93. Bruno Garza JL, Eijkelhof BHW, Huysmans MA, Catalano PJ, Katz JN, Johnson PW, van Dieën JH, van der Beek AJ, **Dennerlein JT**. The effect of over-commitment and reward on trapezius muscle activity and shoulder, head, neck, and torso postures during computer use in the field. *American Journal of Industrial Medicine*. 2013 56(10):1190-200 PMID: 23818000.
94. Trudeau M, Catalano PJ, Jindrich DI, **Dennerlein JT**. Tablet keyboard configuration affects performance, discomfort and task difficulty for thumb typing in a two-handed grip. *PLoS One*. 2013;8(6):e67525. Print 2013.PMID: 23840730. (Open Access <http://tinyurl.com/k93j26v>)
95. Faber GS, Chang CC, Rizun P, **Dennerlein JT**. A novel method for assessing the 3-D orientation accuracy of inertial/magnetic sensors. *J. Biomechanics* 2013 Jul 30. doi:pii: S0021-9290(13)00355-2. 10.1016/j.jbiomech.2013.07.030. [Epub ahead of print]PMID: 23992763
96. Faber GS, Chang CC, Kingma I, **Dennerlein JT**. Estimating dynamic external hand forces during manual materials handling based on ground reaction forces and body segment accelerations. *J. Biomechanics* 2013 46(15):2745-51. PMID: 24016678
97. Sparer EH, Murphy LA, Taylor KM, **Dennerlein JT**. Correlation between Safety Climate and Contractor Safety Assessment Programs in Construction. *American Journal of Industrial Medicine*. 56:1463–1472. PMID: 24038403
98. Onyebeke LC, Young JG, Trudeau MB, **Dennerlein JT**. Effects of Forearm and Palm Supports on the Upper Extremity during Computer Mouse Use. *Applied Ergonomics*. 2014 May;45(3):564-70. PMID: 24054504
99. Jacobsen HB, Caban-Martinez A, Onyebeke LC, Sorensen G, **Dennerlein JT**, Reme SE. Construction Workers Struggle with a High Prevalence of Mental Distress and this is Associated with Their Pain and Injuries. *J Occup Environ Med* 2013;55(10):1197-1204. PMID: 24064778.
100. Caspi CE, **Dennerlein JT**, Kenwood C, Stoddard AM, Hopcia K, Hashimoto D, Sorensen G. Results of a pilot intervention to improve health and safety for healthcare workers. *J Occup Environ Med* 2013;55(12):1449-1455. PMID: 24270297
101. Umukoro PE, Arias O, Stoffel SD, Hopcia K, Sorensen G, **Dennerlein JT**. Physical activity at work contributes little to patient care workers' weekly totals. *Journal of Occupational and Environmental Medicine. J Occup Environ Med* 2013;55(12):S63-S68. PMID: 24284756. Open Access <http://tinyurl.com/p29cdzb>)
102. Sorensen G, McLellan D, **Dennerlein JT**, Pronk NP, Allen JD, Boden LI, Okechukwu CA, Hashimoto D, Stoddard A, Wagner GR. Integration of Health Protection and Health Promotion: Rationale, Indicators, and Metrics. *J Occup Environ Med* 2013; 55(12):S12-S18. PMID: 24284762. (Open Access <http://tinyurl.com/oz9fgog>)
103. **Dennerlein JT**. Anaphylaxis Treatment: Ergonomics of Epinephrine Autoinjector Design. *Am J Med*. 2014: 127(1 Suppl):S12-6. PMID: 24384133
104. Reme SE, Shaw WS, Boden LI, Tveito TH, O'Day ET, **Dennerlein JT**, Sorensen G. Worker assessments of organizational practices and psychosocial work environment are associated with musculoskeletal injuries in hospital patient care workers. *Am J Ind Med*. 2014 Jul;57(7):810-8. PMID: 24737462
105. Caban-Martinez AJ, Lowe KA, Herrick R, Kenwood C, Gagne JJ, Becker JF, Schneider SP, **Dennerlein JT**, Sorensen G. Construction workers working in musculoskeletal pain and engaging in leisure-time physical activity: Findings from a mixed-methods pilot study. *Am J Ind Med*. 2014 Jul;57(7):819-25. PMID: 24760608

106. Eijkelhof BH, Huysmans MA, Blatter BM, Leider PC, Johnson PW, van Dieën JH, Dennerlein JT, van der Beek AJ. Office workers' computer use patterns are associated with workplace stressors. *Appl Ergon*. 2014 Nov;45(6):1660-7. PMID: 25005311
107. Qin J, Trudeau M, Buchholz B, Katz JN, Xu X, **Dennerlein JT**. Joint Contribution to Fingertip Movement during a Number Entry Task – an Application of Jacobian Matrix. *Journal of Applied Biomechanics*. 2014 Apr;30(2):338-42. PMID: 25083699
108. Tveito TH, Sembajwe G, Boden LI, **Dennerlein JT**, Wagner GR, Kenwood C, Stoddard AM, Reme SE, Hopcia K, Hashimoto D, Shaw WS, Sorensen G. Impact of organizational policies and practices on workplace injuries in a hospital setting. *J Occup Environ Med*. 2014 Aug;56(8):802-8 PMID: 25099405
109. Bruno Garza JL, Eijkelhof BH, Huysmans MA, Johnson PW, van Dieen JH, Catalano PJ, Katz JN, van der Beek AJ, **Dennerlein JT**. Prediction of trapezius muscle activity and shoulder, head, neck, and torso postures during computer use: results of a field study. *BMC Musculoskelet Disord*. 2014 Sep 3;15(1):292. PMID: 25186007 (Open Access <http://tinyurl.com/l6zznbp>)
110. Trudeau MB, Sunderland EM, Jindrich DL, **Dennerlein JT**. A data-driven design evaluation tool for handheld device soft keyboards. *PLoS One*. 2014 Sep 11;9(9):e107070 PMID: 25211465. (Open Access <http://tinyurl.com/q3fnddt>)
111. Garza JL, Cavallari JM, Eijkelhof BH, Huysmans MA, Thamsuwan O, Johnson PW, van der Beek AJ, **Dennerlein JT**. Office workers with high effort-reward imbalance and overcommitment have greater decreases in heart rate variability over a 2-h working period. *Int Arch Occup Environ Health*. 2015 Jul;88(5):565-75. PMID: 25249418
112. Lee JH, Asakawa DS, **Dennerlein JT**, Jindrich DL. Extrinsic and Intrinsic Index Finger Muscle Attachments in an OpenSim Upper-Extremity Model. *Ann Biomed Eng*. 2015 Apr;43(4):937-48 PMID: 25281408
113. Garza JLB, Fallentin N, **Dennerlein JT**. Patterns of Forearm Muscle Activity and Task Parameters Change During a Repetitive Sub-Maximum Forceful Wrist Flexion Task. *IIE Transactions on Occupational Ergonomics and Human Factors* 2015: 3 (3-4), 236-245
114. Lin MYC, Young JG, **Dennerlein JT**. Evaluating the Effect of Four Different Pointing Device Designs on Upper Extremity Posture and Muscle Activity during Mousing Tasks. *Applied Ergonomics*, 2015 47 259-264. PMID: 25479996
115. Arias OE, Caban-Martinez AJ, Umukoro PE, Okechukwu CA, **Dennerlein JT**. Physical activity levels at work and outside of work among Commercial Construction Workers. *J Occup Environ Med*. 2015 Jan;57(1):73-8. PMID: 25563543
116. Zhang MZ, Sparer EH, Murphy LA, **Dennerlein JT**, Fang DP, Katz JN, Caban-Martinez AJ. Development and Validation of a Fatigue Assessment Scale for U.S. Construction Workers. *Am J Ind Med*. 2015 Feb;58(2):220-8. PMID: 25603944
117. Sparer EH, Herrick R, **Dennerlein JT**. Development of a Safety Communication and Recognition Program for Construction. *New Solutions*. 2015 Mar 16. 25(1):42-58. PubMed PMID: 25815741
118. Lee JH, Asakawa DS, **Dennerlein JT**, Jindrich DL. Finger muscle attachments for an OpenSim upper-extremity model. *PLoS One*. 2015 Apr 8;10(4):e0121712. doi: 10.1371/journal.pone.0121712. eCollection 2015.
119. Chiu SL, Chang CC, **Dennerlein JT**, Xu X. Age-related differences in inter-joint coordination during stair walking transitions. *Gait Posture*. 2015 Jul;42(2):152-7. PubMed PMID: 26043669.
120. Sparer EH, Okechukwu CA, Manjourides J, Herrick RF, Katz JN, **Dennerlein JT**. Length of time spent working on a commercial construction site and the associations with worker characteristics. *Am J Ind Med*. 2015 Sep;58(9):964-73 PMID: 26122700

121. Trudeau MB, Asakawa DS, Jindrich DL, **Dennerlein JT**. Two-handed grip on a mobile phone affords greater thumb motor performance, decreased variability, and a more extended thumb posture than a one-handed grip. *Applied Ergonomics*. 2016; 52: 24-28. PMID: 26360191
122. **Dennerlein JT**. The state of ergonomics for mobile computing technology. *Work* 2015 Oct 1;52(2):269-77: PMID: 2655934.
123. van Eerd D, Munhall C, Irvin E, Rempel D, Brewer S, van der Beek AJ, **Dennerlein JT**, Tullar J, Skivington K, Pinion C, Amick B. Effectiveness of workplace interventions in the prevention of upper extremity musculoskeletal disorders and symptoms: an update of the evidence. *Occup Environ Med*. 2016 Jan;73(1):62-70.
124. Faber GS, Chang CC, Kingma I, **Dennerlein JT**, van Dieën JH. Estimating 3D L5/S1 moments and ground reaction forces during trunk bending using a full-body ambulatory inertial motion capture system. *J Biomech*. 2016 Apr 11;49(6):904-12.
125. Sorensen G, Nagler EM, Hashimoto D, **Dennerlein JT**, Theron JV, Stoddard AM, Buxton O, Wallace LM, Kenwood C, Nelson CC, Tamers SL, Grant MP, Wagner G. Implementing an Integrated Health Protection/Health Promotion Intervention in the Hospital Setting: Lessons Learned From the Be Well, Work Well Study. *J Occup Environ Med*. 2016; 58(2):185-94. PMID: 26849263
126. Lin MYC, Catalano P, Dennerlein JT. A Psychophysical Protocol to Develop Ergonomic Recommendations for Sitting and Standing Workstations. *Human Factors*, 2016 Jun;58(4):574-85.
127. Sparer EH, Herrick RH, Catalano P, **Dennerlein JT**. Safety Climate Improved through a Safety Communication and Recognition Program for Construction: A Mixed Methods Study. *Scandinavian Journal of Work, Environment, and Health*. 2016 Jul 1;42(4):329-37
128. Alvarado-Valencia J, Barrero LH, Önkalb D, Dennerlein JT. Expertise, credibility of system forecasts and integration methods in judgmental demand forecasting. *International Journal of Forecasting*. 2017; 33(1): 298–313
129. Barbir A, Janelli MV, Lin MY, **Dennerlein JT**. Effects of Epinephrine Auto-Injector Shape and Size on Human Factors Influencing Drug Delivery. *Hum Factors*. 2016 Nov;58(7):1020-1030
130. Kim JH, Zigman M, Aulck LS, Ibbotson JA, **Dennerlein JT**, Johnson PW. Whole Body Vibration Exposures and Health Status among Professional Truck Drivers: A Cross-sectional Analysis. *Ann Occup Hyg*. 2016 Oct;60(8):936-48
131. Sorensen G, McLellan DL, Sabbath EL, **Dennerlein JT**, Nagler EM, Hurtado DA, Pronk NP, Wagner GR. Integrating worksite health protection and health promotion: A conceptual model for intervention and research. *Prev Med*. 2016 Aug 12;91:188-196.
132. Asakawa DS, **Dennerlein JT**, Jindrich DL. Index finger and thumb kinematics and performance measurements for common touchscreen gestures. *Appl Ergon*. 2017 Jan;58:176-81.
133. Padula RS, Comper ML, Sparer EH, **Dennerlein JT**. Job rotation designed to prevent musculoskeletal disorders and control risk in manufacturing industries: A systematic review. *Appl Ergon*. 2017 Jan;58:386-97. PMID: 27633235
134. Sparer EH; **Dennerlein JT**. Safety Communication & Recognition: From Research to Practice in Construction. *Professional Safety*; Des Plaines Vol. 62, Iss. 3, (Mar 2017): 30-31.
135. **Dennerlein JT**, O'Day ET, Mulloy DF, Somerville J, Stoddard AM, Kenwood C, Teeple E, Boden LI, Sorensen G, Hashimoto D. Lifting and exertion injuries decrease after implementation of an integrated hospital-wide safe patient handling and mobilization program. *Occup Environ Med* 2017 May;74(5):336-343. PMID: 27919058
136. Arias OE, Umukoro PE, Stoffel SD, Hopcia K, Sorensen G, **Dennerlein JT**. Associations between trunk flexion and physical activity of patient care workers for a single shift: A pilot study. *Work*. 2017;56(2):247-255.

137. Comper MLC, **Dennerlein JT**, dos Santos Evangelista G, Rodrigues P, Padula RS. The effectiveness of job rotation to prevent and control work-related musculoskeletal diseases: A cluster Randomized Controlled Trial. *Occup Environ Med*. 2017 Aug;74(8):543-544. PMID: 28250047
138. Lin MY, Barbir A, **Dennerlein JT**. Evaluating biomechanics of user-selected sitting and standing computer workstation. *Appl Ergon*. 2017 Nov;65:382-388. PMID: 28499555
139. Teeple E, **Dennerlein JT**, Hashimoto D, Soto LA, Losina E, Katz JN. An Ergonomic Assessment of Hospital Linen Bag Handling. *New Solut*. 2017 Aug;27(2):210-224. PMID: 28541160
140. Hurtado DA, Kim SS, Subramanian SV, **Dennerlein JT**, Christiani DC, Hashimoto DM, Sorensen G. Nurses' but not supervisors' safety practices are linked with job satisfaction. *J Nurs Manag*. 2017 Oct;25(7):491-497. PMID: 28547876
141. Marin LS, Rodriguez A, Rey E, Piedrahita H, Barrero LH, Dennerlein, **Dennerlein JT**, Johnson PW. Assessment of Whole Body Vibration Exposure in Heavy Equipment Mining Vehicles. *Ann Work Expo Health*. 2017 Jul 1;61(6):669-680
142. Grant MP, Okechukwu CA, Hopcia K, Sorensen G, **Dennerlein JT**. Preventing Work-related Musculoskeletal Disorders: An Inspection Tool and Process to Identify Modifiable Aspects of Acute Care Hospital Patient Care Units. *Workplace Health Saf*. 2018 Mar;66(3):144-158. PMID: 28786326
143. van der Beek AJ, **Dennerlein JT**, Huysmans MA, Mathiassen SE, Burdorf A, van Mechelen W, van Dieën JH, Frings-Dresen MH, Holtermann A, Janwantanakul P, van der Molen H, Rempel D, Straker L, Walker-Bone K, Coenen P. A research framework for the development and implementation of interventions preventing work-related musculoskeletal disorders. *Scand J Work Environ Health*. 2017 Nov 1;43(6):526-539. PMID: 28945263
144. Teeple E, Collins JE, Shrestha S, Dennerlein JT, Losina E, Katz JN. Outcomes of safe patient handling and mobilization programs: A meta-analysis. *Work*. 2017 58(2):173-184. PMID: 29036857
145. Faber GS, Koopman AS, Kingma I, Chang CC, Dennerlein JT, van Dieën JH. Continuous ambulatory hand force monitoring during manual materials handling using instrumented force shoes and an inertial motion capture suit. *J Biomech*. 2018 Mar 21;70:235-241. PMID: 29157658
146. Huysmans MA, Eijkelhof BHW, Garza JLB, Coenen P, Blatter BM, Johnson PW, van Dieën JH, van der Beek AJ, **Dennerlein JT**. Predicting Forearm Physical Exposures During Computer Work Using Self-Reports, Software-Recorded Computer Usage Patterns, and Anthropometric and Workstation Measurements. *Ann Work Expo Health*. 2017 15;62(1):124-137. PMID: 29186308
147. Pulido J, Barrero LH, Mathiassen SE, **Dennerlein JT**. Correctness of Self-Reported Task Durations: A Systematic Review. *Ann Work Expo Health*. 2017 Dec 15;62(1):1-16. PMID: 29228093
148. Epstein S, Sparer EH, Tran BN, Ruan QZ, **Dennerlein JT**, Singhal D, Lee BT. Prevalence of Work-Related Musculoskeletal Disorders Among Surgeons and Interventionalists: A Systematic Review and Meta-analysis. *JAMA Surg*. 2018 Feb 21;153(2) PMID: 29282463
149. Epstein S, Tran BN, Capone AC, Ruan QZ, Fukudome EY, Ricci JA, Testa MA, **Dennerlein JT**, Lee BT, Singhal D. The Current State of Surgical Ergonomics Education in U.S. Surgical Training: A Survey Study. *Ann Surg*. 2018. PubMed PMID: 29381528
150. Sorensen G, Sparer E, Williams JAR, Gundersen D, Boden LI, **Dennerlein JT**, Hashimoto D, Katz JN, McLellan DL, Okechukwu CA, Pronk NP, Revette A, Wagner GR. Measuring Best Practices for Workplace Safety, Health and Wellbeing: The Workplace Integrated Safety and Health Assessment. *J Occup Environ Med*. 2018 May;60(5):430-439. PubMed PMID: 29389812
151. Manjourides J, Sparer EH, Okechukwu CA, **Dennerlein JT**. The Effect of Workforce Mobility on Intervention Effectiveness Estimates. *Ann Work Expo Health* 2018 2018 Mar 12;62(3):259-268 PMID: 29390128.

152. Kim JH, **Dennerlein JT**, Johnson PW. The effect of a multi-axis suspension on whole body vibration exposures and physical stress in the neck and low back in agricultural tractor applications. *Appl Ergon* 2018;68:80-89. PMID: 29409658
153. Dixon PC, Schutte KH, Vanwanseele B, Jacobs JV, **Dennerlein JT**, Schiffman JM. Gait adaptations of older adults on an uneven brick surface can be predicted by age-related physiological changes in strength. *Gait Posture* 2018;61:257-62. PMID: 29413794
154. Hu B, Dixon PC, Jacobs JV, **Dennerlein JT**, Schiffman JM. Machine learning algorithms based on signals from a single wearable inertial sensor can detect surface- and age-related differences in walking. *J Biomech*. 2018 Apr 11;71:37-42.
155. Coppola SM, Lin MYC, Schilkowsky J, Arezes PM, **Dennerlein JT**. Tablet form factors and swipe gesture designs affect thumb biomechanics and performance during two- handed use. *Appl Ergon*. 2018 May;69:40-46. PMID 29477328
156. **Dennerlein JT**. Chronic low back pain: a successful intervention for desk-bound workers. *Occup Environ Med* 2018;0:1–2.doi:10.1136/oemed-2017-104981.
157. Kim JH, Marin LS, **Dennerlein JT**. Evaluation of commercially available seat suspensions to reduce whole body vibration exposures in mining heavy equipment vehicle operators. *Appl Ergon*. 2018 Sep;71:78-86.
158. Dixon PC, Stirling L, Xu X, Chang CC, **Dennerlein JT**, Schiffman JM. Aging may negatively impact movement smoothness during stair negotiation. *Hum Mov Sci*. 2018 May 26;60:78-86. doi: 10.1016/j.humov.2018.05.008. [Epub ahead of print]
159. Sparer EH, Boden LI, Sorensen G, **Dennerlein JT**, Stoddard A, Wagner GR, Nagler EM, Hashimoto DM, Hopcia K, Sabbath EL. The relationship between organizational policies and practices and work limitations among hospital patient care workers. *Am J Ind Med*. 2018 May 29. doi: 10.1002/ajim.22864. [Epub ahead of print]
160. Johnson PW, Zigman M, Ibbotson J, **Dennerlein JT**, Kim JH A Randomized Controlled Trial of a Truck Seat Intervention: Part 1-Assessment of Whole Body Vibration Exposures. *Ann Work Expo Health*. 2018 Jul 17. doi: 10.1093/annweh/wxy062. [Epub ahead of print] PMID: 30016417
161. Kim JH, Zigman M, **Dennerlein JT**, Johnson PW A Randomized Controlled Trial of a Truck Seat Intervention: Part 2-Associations Between Whole-Body Vibration Exposures and Health Outcomes. *Ann Work Expo Health*. 2018 Jul 17. doi: 10.1093/annweh/wxy063. [Epub ahead of print] PMID: 30016393
162. Dixon PC, Jacobs JV, **Dennerlein JT**, Schiffman JM. Late-cueing of gait tasks on an uneven brick surface impacts coordination and center of mass control in older adults. *Gait Posture*. 2018 Jul 19;65:143-148 PMID: 30055391
163. Cochon L, Lacson R, Wang A, Kapoor N, Ip IK, Desai S, Kachalia A, **Dennerlein J**, Benneyan J, Khorasani R. Assessing Information Sources to Elucidate Diagnostic Process Errors in Radiologic Imaging - A Human Factors Framework. *J Am Med Inform Assoc*, 2018 Nov 1;25(11):1507-1515. PMID: 30124890
164. Sabbath EL, Hahimoto D, Bodn LI, **Dennerlein JT**, Williams JAR, Hopcia K, Orechia T, Tripodis Y, Stoddard A, Sorensen G. Cohort Profile: The Boston Hospital Workers Health Study (BHWHS). *International Journal of Epidemiology*. 2018 Dec 1;47(6):1739-1740. PMID: 30107500
165. Taylor KM, Kioumourtoglou MA, Clover J, Coull BA, Dennerlein JT, Bellinger DC, Weisskopf MG Concussion History and Cognitive Function in a Large Cohort of Adolescent Athletes. *Am J Sports Med*. 2018 Nov;46(13):3262-3270 PMID: 30230912
166. Peters SE, Grant MP, Rodgers J, Manjourides J, Okechukwu CA, **Dennerlein JT**. A Cluster Randomized Controlled Trial of a Total Worker Health® Intervention on Commercial Construction

- Sites. *Int J Environ Res Public Health*. 2018 Oct 25;15(11). pii: E2354. doi: 10.3390/ijerph15112354. PMID: 30366387
167. Lacson R, Cochon L, Ip I, Desai S, Kachalia A, **Dennerlein J**, Benneyan J, Khorasani R. Classifying Safety Events Related to Diagnostic Imaging from a Safety Reporting System using a Human Factors Framework, *J Am Coll Radiol*. 2019 Mar;16(3):282-288. PMID: 30528933.
 168. Liu KH, Tessler J, Murphy LA, Chang CC, **Dennerlein JT**. The gap between tools and best practice: an analysis of safety prequalification surveys in the construction industry. *New Solutions*. 2019 Feb;28(4):683-703. PMID: 30526326
 169. Coppola SM, Dixon PC, Hu B, Lin MYC, **Dennerlein JT**, Going short: the effects of short travel key switches on typing performance, typing force, forearm muscle activity, and user experience. *J Appl Biomech*. 2019 Apr 1;35(2):149-156. PMID: 30676185
 170. Manjourides J, **Dennerlein JT**. Testing the associations between leading and lagging indicators in a contractor safety pre-qualification database. *Am J Ind Med*. 2019 Apr;62(4):317-324. PMID 30724373
 171. Sabbath EL, Yang J, **Dennerlein JT**, Boden LI, Hashimoto D, Sorensen G. Paradoxical Impact of a Patient-Handling Intervention on Injury Rate Disparity Among Hospital Workers. *Am J Public Health*. 2019 Apr 109(4):618-625 PMID: 30789763
 172. Sorensen G, Peters S, Nielsen K, Nagler E, Karapanos M, Wallace L, Burke L, **Dennerlein JT**, Wagner GR. Improving Working Conditions to Promote Worker Safety, Health, and Wellbeing for Low-Wage Workers: The Workplace Organizational Health Study. *Int J Environ Res Public Health*. 2019 Apr 24;16(8). pii: E1449. doi: 10.3390/ijerph16081449. PMID: 31022886
 173. Dixon PC, Smith T, Taylor MJD, Jacobs JV, **Dennerlein JT**, Schiffman JM. Effect of walking surface, late-cueing, physiological characteristics of aging, and gait parameters on turn style preference in healthy, older adults. *Hum Mov Sci*. 2019 Jun 13;66:504-510
 174. Barrero LH, Cifuentes M, Rodríguez AC, Rey-Becerra E, Johnson PW, Marin LS, Piedrahita H, **Dennerlein JT**. Whole-body vibration and back pain-related work absence among heavy equipment vehicle mining operators. *Occup Environ Med*. 2019 Aug;76(8):554-559. doi: 10.1136/oemed-2019-105914. PMID: 31300561
 175. Chandran VD, Calalo JA, Dixon PC, **Dennerlein JT**, Schiffman JM, Pal S. Knee muscle co-contractions are greater in old compared to young adults during walking and stair use. *Gait Posture*. 2019 Sep;73:315-322. PMID: 31419759.
 176. Dixon PC, Schütte KH, Vanwanseele B, Jacobs JV, **Dennerlein JT**, Schiffman JM, Fournier PA, Hu B. Machine learning algorithms can classify outdoor terrain types during running using accelerometry data. *Gait Posture*. 2019 Sep 5;74:176-181. doi: 10.1016/j.gaitpost.2019.09.005. [Epub ahead of print] PMID: 31539798
 177. Katz AS, Pronk NP, McLellan D, **Dennerlein J**, Katz JN Perceived Workplace Health and Safety Climates: Associations With Worker Outcomes and Productivity. *Am J Prev Med*. 2019 Oct;57(4):487-494. doi: 10.1016/j.amepre.2019.05.013. PMID: 31542126
 178. Schwatka NV, Goldenhar LM, Johnson SK, Beldon MA, Tessler J, Dennerlein JT, Fullen M, Trieu H. A training intervention to improve frontline construction leaders' safety leadership practices and overall jobsite safety climate. *Journal of Safety Research* 2019 Sep;70: 253-262. Doi: 10.1016/j.jsr.2019.04.010
 179. Faber GS, Kingma I, Chang CC, Dennerlein JT, van Dieën JH. Validation of a wearable system for 3D ambulatory L5/S1 moment assessment during manual lifting using instrumented shoes and an inertial sensor suit. *J. Biomechanics* (In press)

BOOKS, BOOK CHAPTERS, TECHNICAL REPORTS, and NON PEER REVIEWED ARTICLES

1. Stewart JH, Horowitz M, Goldsmith P, **Dennerlein JT**, Labato F, McWilliams N. *Occupational Safety Calculations: A Professional Reference*. Boston: Millennium Associates, 1999.
2. **Dennerlein JT**. Measuring Human Finger Flexor Muscle Force in Vivo: Revealing Exposure and Function. In: Herzog W, editor. *Muscle Mechanics: From Molecules to Function*. New York: John Wiley & Sons; 2000. p. 429-451.
3. **Dennerlein JT**. Repetitive Strain Injury. In Bainbridge WS, editor. *Encyclopedia of Human-Computer Interaction*, Great Barrington, MA: Berkshire Publishing; 2004. p. 599 - 603
4. **Dennerlein JT**. The Computer Keyboard: System Designs as Interventions. In: Marras WS and Karwowski W, editors. *Occupational Ergonomics Handbook*. 2nd Edition, Boca Raton, FL: CRC Press; 2006. p. 39-1 – 10
5. **Dennerlein JT**. Ergonomics/Musculoskeletal Issues. In: Kris Heggenhougen and Stella Quah, editors *International Encyclopedia of Public Health*, Vol 2. San Diego: Academic Press; 2008. pp. 443-452.
6. **Dennerlein JT** and Johnson PW. Instrumentation for Evaluating Effective Human-Computer System Design. In: Duffy V, editor. *Handbook of Digital Human Modeling: Research for Applied Ergonomics and Human Factors Engineering*. Boca Raton, FL: CRC Press; 2008.
7. Amick BC, Kennedy CA, **Dennerlein JT**, Brewer S, Catli S, Williams R, Serra C, Gerr F, Irvin E, Mahood Q, Franzblau A, Van Eerd D, Evanoff B, Rempel D. Systematic review of the role of occupational health and safety interventions in the prevention of upper extremity musculoskeletal symptoms, signs, disorders, injuries, claims and lost time. Toronto: Institute for Work & Health; 2008. ([http://www.iwh.on.ca/system/files/documents/sys_review%20 upper extremity 2008.pdf](http://www.iwh.on.ca/system/files/documents/sys_review%20upper_extremity_2008.pdf))
8. Goldwasser M, Sparer E, **Dennerlein J**. Testing a better recognition tool. *Occup Health Saf*. 2013 Apr;82(4):42, 44, 46. (<http://ohsonline.com/articles/2013/04/01/testing-a-better-recognition-tool.aspx>) PMID: 23729150
9. Stewart JH, **Dennerlein JT**, Horowitz M. *Occupational Safety Calculations: A Professional Reference*. Third Edition, Boston: Millennium Associates, 2018.
10. National Academies of Sciences, Engineering, and Medicine. 2019. *Functional assessment for adults with disabilities*. Washington, DC: The National Academies Press. doi: [10.17226/25376](https://doi.org/10.17226/25376).

SELECTED PEER-REVIEWED CONFERENCE PAPERS (From over 40)

1. **Dennerlein JT**, Millman P, Howe RD. An Industrial Application of Vibrotactile Feedback. International Mechanical Engineering Conference and Exhibition of the American Society of Mechanical Engineering, 1997, Nov. 15-21; Dallas, TX, DSC-Vol. 61, pp. 189-195.
2. **Dennerlein JT**, Martin DB, Hasser C. Force-feedback improves performance for steering and combined steering-targeting tasks. *Proc. of the Conference of Human Factors in Computing Systems (CHI 2000)*. The Hague, The Netherlands, 2000, 1: 423 – 429.
3. **Dennerlein JT**, Shahion E, Howe R. Vibrotactile Feedback for an Underwater Teleoperated Robot. *Proc. Of the International Symposium on Robotics with Applications (ISORA)*, Maui Hawaii, 2000, p 56.
4. **Dennerlein JT**, Johnson P. Positions of the computer mouse within a thousand workstations. Proc of the Human Factors and Ergonomics Society Conference, Denver, CO 2003, pp 1279-1282.
5. Chang CH, Menéndez CC, Amick BC III, Robertson M, **Dennerlein JT**. Where and how college students use their laptop computers, *Proc. of the 52nd Annual Meeting of the Human Factors and Ergonomic Society*, New York, NY, 2008, p12.

6. Coppola S, **Dennerlein J**. Upper Extremity Biomechanics and Gender: The Effects of Modern Computing Technologies. *Proceedings of the Human Factors and Ergonomics Society 2018 Annual Meeting*, Philadelphia, PA, September 27, 2018; 62(1): pp. 967–971.
7. Kia K, Johnson P, Fitch S, **Dennerlein J**, Kim J. Evaluation of Multi-axial Active Suspension to Reduce Whole Body Vibration Exposures and Associated Biomechanical Loading in Mining Heavy Equipment Vehicle Operators. *Proceedings of the Human Factors and Ergonomics Society 2019 Annual Meeting*, Seattle, WA, November 20, 2019; 63(1): pp. 1034–1039.
8. Hu, B., Coppola, S., Liang, C., Dennerlein, J. (2019) Use Deep Learning to Classify Outdoor Terrain Categories During Walking Task. *Proceedings of Research Quarterly for Exercise And Sport*. 90: A19-A20

LETTERS TO THE EDITOR

Dennerlein JT. Hold Teachers to a Higher Standard. The New York Times 1998 July 8; Letters to the Editor. <http://www.nytimes.com/1998/07/08/opinion/l-hold-teachers-to-higher-standard-777455.html?scp=2&sq=jack+dennerlein&st=nyt>

OP-ED

Dennerlein JT. The Paradox of the Perfect Chair: Is all that sitting really killing us. The New York Times Room for Debate, 2010 April 23. <http://roomfordebate.blogs.nytimes.com/2010/04/23/is-all-that-sitting-really-killing-us/>

THESES

Dennerlein JT. EMG of electrically stimulated muscles [SM thesis] Advisor: William Durfee, Cambridge (MA): Massachusetts Institute of Technology; 1989.

Dennerlein JT. Finger Control and Biomechanics during Touch Typing [Ph.D. dissertation] Advisor, C.D. Mote, Jr. and David Rempel. Berkeley (CA): University of California; 1996.

SELECTED PEER-REVIEWED CONFERENCE ABSTRACTS (From over 180)

1. Durfee WK, **Dennerlein JT**. EMG As A Feedback Signal In Surface FES Applications: Issues And Preliminary Results. Proc. 11th Annual IEEE Engineering in Medicine & Biology Conference, Seattle, WA, pp. 1009-1010, 1989.
2. Martin B, Armstrong T, Reed M, **Dennerlein JT**, and Rempel D. Investigation of Techniques Designed To Evaluate Finger Forces In Alphanumeric Keyboard Work. Proc of 14th International Society of Biomechanics, Paris, France, 1993.
3. ^vKimmelman JS, **Dennerlein JT**, Howe R. Fingertip pressure distribution during pinch and lift tasks. International Mechanical Engineering Conference and Exhibition of the American Society of Mechanical Engineering, Anaheim, CA, 1998.
4. Galea A, **Dennerlein J**, Schlager fencing biomechanics: determinates of impact force. Annual Conference of the American Society of Biomechanics, Chicago, IL, 2000.
5. Chemor-Ruiz A, Barrero L, Becker T, Johnson P, **Dennerlein J**. Distribution of keyboard and mouse use across different computer tasks. Proceedings of the 15th Triennial Congress of the International Ergonomics Association (IEA 2003), Seoul, South Korea 2003.

^v Awarded Best Student Paper (ASME Bioengineering).

6. Johnson P, Ibboston J **Dennerlein JT**. Comparison of two EVA-based methods for characterizing force exposures during computer work. X2004-Exposure Assessment in a Changing Environment, Utrecht, The Netherlands. 2004.
7. Lehman SL, Dao KK, **Dennerlein JT**. Low-Frequency Fatigue: Dependence on Contraction Mode, Movement Speed and Duty Cycle During Repetitive Tasks. Proceedings of Experimental Biology. San Francisco, 2006
8. ^{vi}Roos J. Edic J, **Dennerlein JT**. Assessing General Contractor Adherence to Owner-Mandated Safety Program Requirements: Development of an Evaluation Tool *AIHce2010*, Denver, CO. 22-27 May 2010
9. ^{vii}Udtamadilok T, Dennerlein JT. Development of an Observational Walkthrough Tool used to Evaluate Health Care Worker Safety within a Patient Care Unit. *AIHce2010*, Denver, CO. 22-27 May 2010
10. ^{viii}Robertson M.M., Chang C.H., Dainoff M., Garabet A., **Dennerlein J.T**. Using a work systems analysis to redesign computer task exposures in radiologists. *Proceedings of the 7th International Conference on the Prevention of Work-Related Musculoskeletal Disorders, PREMUS 2010*, Anger, France.
11. Trudeau M, Asundi K, **Dennerlein JT**. Typing Style Affects Arm Kinetics, Kinematics and Muscle Activation *Proceedings of the American Society of Biomechanics Annual Meeting*, 2011, Long Beach, CA.
12. ^{ix}Trudeau MJ, **Dennerlein JT**. Thumb Motor Performance Varies According to Thumb and Wrist Posture during Single-Handed Mobile Phone Use, *Human Factors and Ergonomics Society - New England Chapter Student Conference*, Cambridge, MA 2011
13. Kim J, Johnson P, **Dennerlein J**. Comparisons of whole-body vibration exposures and related musculoskeletal stress between single- axial passive and multi-axial active suspension in a mining vehicle application. *Proceedings of 10th International Scientific Conference on the Prevention of Work-related Musculoskeletal Disorders, PREMUS 2019*, 2-5 September 2019, Bologna, Italy
14. **Dennerlein JT**, Kim J, Cavallari J The effects of an electro-mechanical seat suspension to reduce whole body vibration and low back pain in long haul truck drivers: Results from a randomized controlled trial. *Proceedings of 10th International Scientific Conference on the Prevention of Work-related Musculoskeletal Disorders, PREMUS 2019*, 2-5 September 2019, Bologna, Italy
15. **Dennerlein JT**, Peters SE, Manjourides J. Implementing an ergonomics program on commercial construction worksites reduced new incidents of pain and injury: Results from a cluster randomized controlled trial. *Proceedings of 10th International Scientific Conference on the Prevention of Work-related Musculoskeletal Disorders, PREMUS 2019*, 2-5 September 2019, Bologna, Italy.
16. **Dennerlein JT**, Eyllon M, Garverich S, Manjourides J, Vallas S, Lincoln A. Associations between work factors and psychological distress in a convenience sample of commercial construction workers. *Work, Stress and Health Conference*, 6-9 November 2017, Philadelphia, PA.
17. **Dennerlein JT**, Manjourides J, Peters SE, Trieu H. Partnering with construction companies for health and safety research adds value in a shared mission for improvement. *Work, Stress and Health Conference*, 6-9 November 2017, Philadelphia, PA

^{vi} Won Best Student Poster -- AIHA Construction Working Group

^{vii} Won Best Student Poster – AIHA Healthcare Working Group

^{viii} Nominated Best Poster

^{ix} Won Best Conference Presentation

18. **Dennerlein JT**, Manjourides J, Peters SE, Green N, Trieu H. Fitting an intervention in to the context of small construction sub-contractor company: Lessors learned from a pilot study. *Work, Stress and Health Conference*, 6-9 November 2017, Philadelphia, PA