Executive CV

Home Address:	
Work Address:	Department of Engineering Management and Systems Engineering Missouri University of Science and Technology

SELECTED LEADERSHIP ACCOMPLISHMENTS (all appointments)

Accomplishment in Academic Leadership

- Led multiple strategic planning efforts at both college and university-wide levels at two research universities
- Led re-establishment of academic colleges including the hiring and mentoring of Founding Deans at Missouri S&T
- Assembled highly capable and effective leadership teams in both College and University-wide Divisions at two different universities
 - O Several former direct reports now serve in higher capacities including Chairs, Deans, Provost, and Vice-Presidents (and recently one interim chancellor)
- Led restructuring of shared governance to increase faculty input into decision making (MSU Engr)
- Led initiative to create cross-disciplinary design experience for all engineering undergraduate majors (at MSU)—one of the most significant curricular reforms in many years
- Led College-wide accreditation activities to comply with (then) new EC2000 requirements for ABET in 1998—significant change to previous standards (MSU)
- Responsibility for 2018 self-study and HLC university accreditation visit and report—resulting in a reaffirmation and "meets all standards" declaration in 2019 (S&T)
- Successfully promoted enrollment growth in non-STEM areas, particularly in humanities and social sciences (S&T)
- Selected to represent S&T in UM System-wide analysis of administrative services and support staff, as well as eLearning Task Force.

Accomplishment in Faculty Development

- Led efforts to recruit exceptionally qualified and diverse faculty at both Montana State and Missouri S&T—in both institutions, strategic plans drove target areas of recruitment
 - Overseen over 200 tenure/tenure-track faculty hires cumulatively as dean and provost—created nationally competitive start-up packages for each hire (MSU and S&T)
 - Outcomes include faculty earning numerous NSF Career Awards (6 in last 8 years as Dean at MSU, plus 5 at S&T)—For perspective, only one other Career award earned by MSU engineering faculty in 15 years prior to my deanship
 - Other outcomes include two recent National Endowment for Humanities awards at S&T
- Created fund for faculty to participate in short-term developmental leave activities (MSU and S&T)
- Led update of College's promotion and tenure criteria and procedures (MSU)
- Created annual excellence award in each area of teaching, mentorship, research and outreach (MSU)

- Created permanent raise pool for faculty receiving significant awards and recognition (S&T)
- Created permanent raise pool for faculty demonstrating continued excellence in State-mandated post-tenure review—model later adapted by other UM System universities (S&T)
- Upgraded library director title to academic dean, while also creating professional progression plan for library staff (S&T)
- Facilitated adoption of Canvas as new Learning Management System in 2015 (S&T)
- Implemented fully electronic promotion/tenure dossier review process (S&T)
- Created Faculty Fellows program to provide administrative experience in Provost's Office (S&T)
- Facilitated new faculty hiring policy for dual-career couples to enhance recruitment/retention (S&T)
- Promote professional development of faculty including sponsorship of ACE Fellow (S&T), hosted at the University of Illinois
- Developed Center for Advancing Faculty Excellence (CAFE), launched in 2017 at Missouri S&T
 To provide mentoring and support throughout career span of both faculty and administrators
- Achieved record number of total faculty appointment lines (TT and NTT) achieved in 2018 (S&T).

Accomplishment in Research Development

- Facilitated a tripling of annual research expenditures during my deanship, helping secure an elevated University classification by Carnegie Foundation (labeled "highest activity," or R1,see MSU profile below)
- Led numerous initiatives to build multi-disciplinary programs for research and teaching excellence
- Developed and/or expanded strategic laboratories and other collaborative efforts which involved faculty from many areas of MSU campus and attracting significant external support
 - Examples included the Western Transportation Institute, the Center for Biofilm Engineering (a graduated NSF-ERC), the Montana Micro-Fabrication Facility, the Magnetic Resonance Microscopy Lab, the Big Sky Carbon Capture & Sequestration lab, and the Sub-Zero Science & Engineering Lab. The latter rated at that time by *Popular Science* magazine as one of top 10 "coolest university laboratories" in the US
- Created endowment for funds to increase recruitment of graduate students (MSU)
- Only academic dean to serve on founding board of MSU Innovation Campus
- Led MSU team in preparation for FAA's first Center of Excellence in unmanned systems
- Funded expanded vivarium for housing of test animals (S&T)
- Facilitated creation of PhD student recruiting match fund of \$3 Million (S&T)
- Facilitated upgrades to high performance computing system featuring new 40 teraflop cluster (S&T)
- Facilitating research partnership with regional medical center, now open in new space (S&T)
- Facilitating new Center for Science and Technology in Society (S&T)
- Facilitated NSF I-Corps site hosted at Missouri S&T, promoting commercialization, innovation and entrepreneurship from current or previous NSF research (S&T)
- Finalized funding for Advanced Construction and Materials Laboratory at \$6.4 Million (S&T)
- Oversight of record patent royalties at \$700K annually in 2018 (S&T)
- Oversight of record 54 new invention disclosures in 2018 (S&T).

Accomplishment in Faculty/Student Diversity and Inclusion

- At MSU, led diversity efforts which resulted in a *nearly five-fold* increase in tenure-track women faculty between 2001 and 2012 (levels above national average percentage for engineering and CS)
- Secured funding for Native American scholars/mentors through NSF CSE&M Program (MSU)
 - Outcome included MSU achieving national rank of 5th in the graduation of Native American students in engineering and computer science in 2009
- Implemented other new student diversity initiatives including expansion of the Engineering

Minority Program (MSU)—program received a 2012 Innovation Award from the College Board Advocacy & Policy Center

- o In addition The MSU COE achieved 6 straight record increases of women first-year and transfer students during my deanship
- Over 40% increase in women in ranked faculty positions at Missouri S&T since 2013
- Record enrollment of female students in Fall, 2017, including STEM fields (S&T)
 - o 3% increase over previous record
- Missouri S&T is a national leader in production of African American engineers and computer scientists
- Facilitated partnering with Tuskegee Univ and Tennessee State Univ on STEM faculty and student exchanges (S&T)

Accomplishment in Student Success

- Built numerous systems to support undergraduate and graduate student mentorship, experiential learning and advising
 - Outcomes include MSU engineering students received 2 Rhodes Scholars in last 3 years of my deanship, as well as several Goldwater scholarships, a Marshall scholarship, Gates-Cambridge fellowship, and other notable achievements—For perspective, no MSU student had earned a Rhodes Scholarship in previous 30 years.
 - During this time, MSU ranked 10th nationally in the cumulative number Goldwater scholars
 - o S&T Formula SAE and Solar Car teams consistently ranked in top programs nationally
 - o S&T Mars Rover team earned 1st place in world competition, 2017
- Provided funding to initiate MSU's Engineers Without Borders chapter that went on to receive the Magrath University-Community Engagement Award in 2011 from APLU
- Engineering students excelled in passing the Fundamentals of Engineering exam with a 13-year, cumulative pass rate of 91% (exam required of *all* engineering majors) at MSU
- Created and chaired first Strategic Enrollment Management Committee at MSU
- Oversaw launch of new technologies for aid in student advising, scheduling, catalog development and financial aid distribution (MSU)
- Assisted elected student executives in significant reorganization of staff lines reporting to student government (MSU)
- Facilitated statewide "Not in Our State" program against sexual assault (MSU)
- Implemented "Complete College Montana" initiatives (partnered with Complete College America)
- Oversaw compliance within Student Affairs with new Title IX, VAWA, and related policies (MSU)
- Added new counselor and physician positions for student health center as well as new assistant dean of students to help respond to significant enrollment growth (MSU)
- Assisted in preparation of student success proposals for regional AAU initiatives (TAMU)
- Facilitated funding for creation of new Student Veterans Center—opened in fall, 2016 (S&T)
- Instituted regular meetings with elected student leadership as well as increased student participation in shared governance (MSU and S&T)
- Expanded student writing center services (S&T)
- Led reform first-year student experience programming and advising (S&T)
- Led partnership with EAB for prospective student contact management strategies, and Ruffalo-Noel Levitz (RNL) for scholarship optimization services
- Achieved 15 year highs in both first year retention and 6-year graduation rate in 2019 (S&T)
- Achieved all time record student enrollment in fall, 2017 (S&T)
- S&T achieved ranking in top 100 US universities for highest entering ACT scores, leading to designation as Missouri's sole public, highly selective STEM university.

Accomplishment in Philanthropy

- Created concept, drafted first proposal, and led cultivation of donor for eventual gift of \$50 Million for the "Asbjornson Innovation Center," formally gifted to MSU in 2014, with new 110K SF facility opened in late 2018
 - o Also recently renamed as the "Norm Asbjornson College of Engineering"
- Facilitated other increases in MSU engineering endowments and current year donations—over \$30 Million raised during my deanship—in addition to the Asbjornson gift
- Established the MSU College of Engineering's first six named and endowed positions
 - The Boeing Professorship, the Joel Long Professorship, the Lysle Wood Professorship, the Benjamin Fellowship, the RightNow Technologies Distinguished Professorship, and the Gilhousen Chair of Telecommunications
- Mentor new deans in fundraising vision and strategy with new record returns for colleges (S&T)
- Facilitate and mend previously damaged donor relations (S&T).

Accomplishment in Program Development

- Led campus and Board approval of reorganization and addition of several new doctoral programs at Montana State
 - Outcome resulted in substantial increases in doctoral enrollments—from approximately 8 to over 60 in the subsequent five year period
 - o Doctoral program enrollment at Missouri S&T achieved record level of 689 in Fall, 2017
- Led development of new BS and MS programs at both MSU and Missouri S&T
- Led invited team of faculty to prestigious "Engineering Education Leadership Institute," hosted by National Academies of Engineering in 2006—leading to curricular reform and facility concepts (MSU)
- Facilitated development of strategic new undergraduate majors, minors, options, and certificates
- Led development of MSU's first accelerated Masters program in engineering and sciences
- Facilitated new distant delivery of entry level engineering courses to regional university partners
- Led development of a new professional Masters program in science and engineering management, involving faculty from three colleges at MSU
- Helped initiate a multi-department, multi-campus, doctoral program in material science and engineering (MSU with Montana Tech)
- Led development of certificate program for international engineering (MSU)
- Facilitated expansion of Missouri S&T engineering program delivery in Springfield (in cooperation with Missouri State University), as well as in Kansas City, complementing existing programs in St. Louis and Ft. Leonard Wood, Missouri
 - o Helped secure \$2 Million in direct line State support for these programs
- Facilitated elevation of teacher preparation and certification program to full academic department status (S&T).

Accomplishment in Fiscal Responsibility

- Led task force to establish identify sources of fiscal resources for newly formed deans offices at Missouri S&T
 - o Resulting in over \$4 Million in new, discretionary resources for deans
 - o Transitioned faculty hiring authority from centralized, to college-centric
- Created discipline-based, "benchmark budget model" and similar tools as planning guides (S&T)
 - o Model was adopted by UM System as a standard tool for all four campuses
- Discovered a serious practice in sponsored programs that was out of compliance with Federal and State Law (in existence prior to my arrival at S&T)—successfully corrected this issue, self-reported to Federal agency and avoiding potentially large fines
- Co-led State-mandated budget reduction though organizational redesign and strategic reallocation

- at Missouri S&T during 2016-17
- Identified approximately \$7 Million in unwarranted carryover funds to be used for faculty support and facility upgrades—this was a significant source for new classroom building project (projected completion in 2020).

System, State and Federal Relations

- Served as senior Provost in UM System (2017-19), assisted in leading system-wide initiatives.
 - o Facilitated face-to-face academic officers meeting within UM System campuses (S&T)
- Helped secure direct line support Missouri Legislature for new programmatic initiatives in 2017
- Represented MSU to Board of Regents and Legislature regarding issues of engineering, computer science, technology and related economic development issues
- Facilitated projects with both in-State and national universities involving significant new research and instructional initiatives (MSU)
- Worked with Montana's Congressional delegation to secure over \$25 Million in Federal support in twelve year period—including funds for transportation and energy research, and remote learning

Other Professional Leadership Experience

- Elected membership on national Board of Directors for ASEE
 - o Included serving on national committee promoting the scholarship of teaching
- Served as an associate editor for a leading journal in the area of ergonomics
- Elected as president of International Society for Occupational Ergonomics and Safety.

Other Administrative Accomplishments and Experience

- Led efforts to achieve "Gold" level of military friendly campus at MSU (militaryfriendly.com)
- Facilitated creation of Veteran Centers at both MSU and S&T.
- Led successful convergence of all course fees to single Program Fee with support of students, faculty, and Board of Regents (MSU)
- Led MSU as a founding member of the Engineering Schools of the West Initiative consortium with initial funding from William and Flora Hewlett Foundation
- Led efforts to increase degree-seeking enrollments of international students at MSU
- Led strategic expansion of existing international partnerships and student recruitment efforts (S&T)
- Participation/leadership in multiple regional accreditation agencies: NWCCU, SACS-COC, HLC
- Participation in integration of newly acquired law school and health sciences college (TAMU)
- Participation in renovation planning for Kyle Field football complex at TAMU (\$470M project)
- Facilitated ACE Internationalization Laboratory at both Montana State and Missouri S&T
- Led revision of process for approving student and faculty travel to international areas determined by the US State Dept or other agencies based on level of risk (S&T).

PROFESSIONAL APPOINTMENTS AND ASSIGNMENTS

Missouri University of Science and Technology - Rolla, Missouri

July, 2019 to present -- Robert B. Koplar Professor of Engineering Management.

July, 2014 through June, 2019 -- Provost and Executive Vice Chancellor for Academic Affairs.

Koplar Professorship—**Major Responsibilities:** Named to endowed professorship with focus on leadership development in complex organizations, particularly for under-represented minorities. Also focus on cultivating new corporate relations for distance/online graduate programs in EMSE Department. Other teaching and research interests in human-systems integration, occupational ergonomics and safety, engineering statistics, experimental design, financial management and economic decision making. On sabbatical during AY 2019-20.

Provost and Executive Vice Chancellor—Major Responsibilities: Chief Academic Officer of the University with oversight of academic colleges and programs, distance/on-line programs, the library, international programs, enrollment management, financial aid, Registrar, and pre-college programs. Until recent addition of a new Vice Chancellor for Research, was also responsible for research and sponsored programs, and technology transfer. Responsibility and oversight of approximately \$150 Million in general revenue, research expenditures, and financial aid within Academic Affairs (exclusive of gifts). Responsibility for promoting academic excellence, faculty and student recruitment, as well as implementation of the University's strategic plan. Plan included the hiring of the founding deans and a significant restructuring of Provost's Office. Plan also called for growth of student enrollment and faculty lines, which we achieved record levels in 2017 and 2018, respectively.

As Executive Vice Chancellor, authority for all personnel actions at S&T and serving in place of the Chancellor when unavailable. Final recommendation to the Chancellor for all promotion and tenure decisions of faculty. Holding rank as tenured professor in Department of Engineering Management and Systems Engineering.

<u>University Profile</u>: Founded in 1870 as a result of the Morrill Act, the Missouri School of Mines and Metallurgy, later as the University of Missouri-Rolla, now as Missouri S&T, the University has a basic Carnegie Classification as a doctoral research university—higher research activity—and was ranked as the 89th Best National Public University for 2020 by *US News & World Report*. S&T has an enrollment of approximately 9,000 students and just over 410 FTE ranked faculty (approx. 530 total faculty) plus over 2,100 total staff. S&T is one of four campuses now sharing in the land-grant mission of the University of Missouri System and is host to over 90 total degree programs, inclusive of 21 PhD degree programs, and with a collective 270 different minors, options and certificates offered. There are also 19 Masters and PhD programs offered via online or distance delivery. The institution is home to one of the few remaining university-based nuclear reactors in the United States.

S&T is highly ranked in many publications such as a recent #1 and #3 for "Best Investment" for non-resident and resident students, respectively, by *Newsweek*. High school counselors also recently ranked S&T in the "Top 50 Best Public Colleges" (*US News*). Online programs are highly ranked in previously released *US News* Best Online rankings for public institutions, including the 40th ranked online MBA program, 18th in graduate engineering, and 11th in Computer Information Technology. Missouri S&T was recently designated as Missouri's sole, highly selective public STEM-focused university with a recent incoming student average ACT of 28.8, ranking in top 100 of all institutions nationally. S&T competes in NCAA Division II athletics in the Great Lakes Valley Conference (GLVC).

Montana State University -- Bozeman, Montana

2013 to 2014 – Interim Vice President for Student Success.

2001 to 2013 -- Dean and Director, College of Engineering and Engineering Experiment Station.

1997 to 2001 -- Associate Dean, College of Engineering.

1990 to 2014 -- Assistant Professor / Associate Professor / Professor.

<u>Vice President for Student Success—Major Responsibilities:</u> Upon return from ACE Fellowship, accepted appointment as Interim Vice President for this reframed Division of MSU and key advisor to the President. Charged by President to better integrate and coordinate Division with Academic Affairs and other divisions of campus. Oversaw Dean of Students, recruitment/admissions, enrollment management, Registrar, Financial Aid, Veterans Affairs, Career Services, Disability Services, medical and counseling services. Responsible for approximately 235 staff and over 1500 student employees. Completed transition of NCAA DI programs to Presidential authority via the Director of Athletics (previously under Student Affairs). Also responsible for University point of contact with elected student leadership.

<u>Dean and Director—Major Responsibilities</u>: At the time I left the Deanship, the College of Engineering (COE) was the largest collection of professional programs in a 5-state region with nearly 3,500 students enrolled in one of 25 degree programs—12 undergraduate programs (ABET accredited) plus 13 Masters and Doctoral programs.

As Dean and Director, I served as chief executive and academic officer of the College including supervision of over 400 faculty, research and professional staff, and other support personnel (15 direct reports). Both Air Force and Army ROTC programs also reported to the Dean. Responsible for final College review of faculty promotion and tenure applications. Also responsible for developing and leading both academic program, research and philanthropic visions for College. In addition, responsibility for strategic planning and management of the Montana Engineering Experiment Station, with a mission to promote basic and applied engineering research solutions for Montana. Oversight responsibility for over \$35 Million in annual expenditures (excluding gifts) plus management of facilities in 5 buildings on the Bozeman campus and other statewide offices and labs.

Associate Dean—Major Responsibilities: College-wide administrative duties combined with ongoing instructional and research expectations within the Mechanical & Industrial Engineering Department. Oversight of College-wide portfolio of responsibilities including undergraduate and graduate curricula, student academic affairs, faculty affairs, and research working with all College faculty and administrators. Included limited supervision of individual faculty, depending upon assignment.

<u>Faculty Appointment—Major Responsibilities</u>: Tenure-track faculty appointment with expectations of teaching, research, and service. Developed new coursework and was responsible for instruction in ergonomics and safety engineering topics in Mechanical & Industrial Engineering Department. Other areas of instruction in industrial engineering (at all levels) included statistics, experimental design, work measurement and standards, project and engineering management. A complete listing of courses taught is provided below.

Regularly collaborated in cross-disciplinary research dedicated to examining basic and applied problems of both workplace and daily-living health and safety activities. Also served as an affiliate member of the both the Western Transportation Institute and Division of Health Sciences at MSU

(home of the WWAMI Medical Program), providing expertise in transportation systems, human factors, and occupational health and safety, respectively. I developed a positive national and international reputation as a scholar in the area of ergonomics and human factors engineering. More details of faculty accomplishments provided below and in appendices.

<u>University Profile</u>: Montana State University (MSU) is a land and space grant institution recognized as a student-centered, research-extensive university with a current enrollment of over 17,000 in Bozeman (and approx. 24,000 total on four campuses). At the time I left, MSU was ranked among the top 73 public research universities by the Carnegie Foundation for "very *high research activity*" institution (often referred to as "R1"), and was ranked 25th overall for research expenditures on a per faculty basis. MSU was also recognized for community engagement by Carnegie. During this timeframe, *The Chronicle of Higher Education Almanac* ranked MSU 6th nationally in the growth of research expenditures. *Business Week* had included MSU in its "Top 10" of small-medium institutions with innovative tech transfer, alongside others such as Iowa State, RPI and BYU in 2009.

MSU's profile emerged rapidly during this time and became recognized as the largest and one of the most high-achieving Universities within the surrounding 5-state region. Enrollment has surpassed 17,000 (next largest in region was approx. 12,000). MSU also attracted the largest share (over 60%) of Montana high school valedictorian and salutatorian students, as well as being the largest destination for transfer students from all other in-State institutions. Montana State competes in NCAA Division I athletics in the Big Sky Conference (FCS football).

Texas A&M University -- College Station, Texas

2012 to 2013 -- Fellow, American Council on Education (ACE), appointed as Special Assistant to the Provost and Executive Vice President (*on leave from Montana State*).

Scope of Activities: Selected in highly competitive, year-long Fellowship in a premier higher education leadership development program. Participated in numerous activities and functions hosted by ACE featuring seminars, team-based case studies, independent study and interaction with many education leaders throughout the U.S., providing deeper understanding of issues facing higher education and its executive leadership. Pursued educational objective in my Fellowship stated as: "To examine models of relationships between a flagship public research university and other state campuses operating within a mission-diverse system." Thus, pursued experience in complex environment matching these general criteria. Fellowship hosted by Texas A&M University with opportunity to work closely with (then) Provost Karan Watson, President Bowen Loftin, as well as most of the executive cabinet. Participated in key policy and decision making activities and other projects on the College Station campus, as well as within TAMU System (11 campuses). Assisted in analysis and justification for enrollment growth in targeted areas, as well as incorporation of new schools of medicine and law.

Wichita State University -- Wichita, Kansas

- 1988 to 1990 -- Boeing Fellow. Competitively awarded position funded by Boeing Corporation in the College of Engineering. Responsible for instructional duties as well as independent research.
- 1985 to 1988 -- Research Assistant. Participation in Federally-funded research in the Industrial Engineering Department related to employment opportunities for severely disabled populations through applications of technology and other designed, engineering solutions.

Rehabilitation Engineering Center -- Wichita, Kansas

1983 to 1985 -- Rehabilitation Engineering Technician. Served as rehabilitation engineering technician in the REC, part of the Cerebral Palsy Research Foundation of Kansas. Worked on multi-disciplinary team including other engineers, medical staff and social service providers. Primary duties included design and assessment of adaptive technologies allowing severely disabled adults to perform occupational and home tasks. Responsible for expanding sample populations for the Available Motions Inventory (AMI), a physical ability assessment tool developed by researchers at the REC, in order to improve the AMI's underlying statistical validity. The AMI was a key tool used by engineers to design or redesign workstations and devices for disabled populations in competitive employment environments.

SUMMARY OF FACULTY ACTIVITIES

Teaching Experience (with course level)

Approximately 34 years of instructional experience. Have earned honors for teaching and mentoring activities including an "Award of Excellence" from Montana State Alumni Association for "exceptional guidance and inspiration of students." Also awarded the national "Dow Outstanding New Faculty Award" from ASEE in 1994. Have taught most courses listed below several times.

- EngMgt 6211 (Gr): Advanced Financial Management (S&T)^{2,3}
- EngMgt 6212 (Gr: Leadership for Engineers (S&T)^{1,2}
- EngMgt 5210 (Gr): Economic Decision Analysis (S&T)^{2,3}
- Hist 4435 (Jr/Sr): History of Am. West, regular guest lecturer on Cherokee removal to Oklahoma (S&T)
- IME 313 (Jr): Work Design and Analysis¹
- IME 413 (Jr/Sr/Gr): Ergonomics and Safety Engineering I¹
- IME 513 (Gr): Ergonomics and Safety Engineering II¹
- IME 580 (Gr): Human Factors in Engineering Design¹
- IME 350 (Jr): Applied Engineering Data Analysis¹
- IME 354 (Jr): Engineering Probability & Statistics I
- IME 443 (Jr/Sr/Gr): Production Methods and Design
- IME 454 (Jr/Sr/Gr): Engineering Probability & Statistics II
- IME 474 (Jr/Sr/Gr): Manufacturing and Production Systems Management
- IME 434 (Jr/Sr/Gr): Engineering Project Management
- IME 554 (Gr): Design of Industrial Experiments²
- IME 501 (Gr): Advanced Manufacturing Systems
- ENGR 100 (Fr): Introduction to Engineering
- ENGR 610 (Gr): Research & Experimental Methods in Engineering (team taught)
- IE 357 (Jr): Engineering Safety Management (Wichita State)
- IE 452 (Jr/Sr): Work Measurement and Design (Wichita State)

Chaired Graduate Student Committees (see Appendix I for complete listing)

Served as principle advisor for over 20 graduate students in industrial engineering and project management, both masters and doctoral. Have also served as a contributing member on numerous

¹Courses developed or significantly revised

²Course developed for distant delivery format

³Delivered as part of Engineering Career Captain's Course for US Dept of Defense

other graduate committees—approximately 50 total—in engineering as well as in collaborative fields ranging from biomechanics to institutional research (post-secondary education). Note the first doctoral student listed in Appendix I was the first industrial engineering student to receive a PhD from MSU as the program was approved in late 2001.

Grants and Contracts (see Appendix II for complete listing)

Have worked for approximately 36 years in an environment based, at least in part, upon external grants and contracts. Have served as a PI or Co-PI on competitively awarded projects totaling \$2.6 million with funding from agencies including the NSF, the US Department of Transportation, as well as private foundations and corporations. Have also assisted faculty in working with a variety of other funding agencies and I remain personally active in proposal development. Prior to officially leaving Montana State in 2013, was a lead partner in securing a significant, multi-institutional FAA grant on unmanned aerial systems. Currently serving as a co-PI on a proposed NSF Advance at approximately \$1 million.

Publications (see Appendix III for complete listing)

Have authored over 100 works appearing in archived journals, juried conference proceedings, book chapters and technical reports. Also co-authorship of a textbook focusing on introductory-level ergonomics for engineers, safety and health professionals. A 4th edition was released in 2013 and a Spanish language version (with a 2nd edition currently in development) is being utilized in several universities in Mexico and Central America. Most papers resulted from laboratory-based investigations designed to develop and expand methodologies for the evaluation of human perception of physical work demand. The binding theme of these studies was to establish safe working limits when exposed to potentially harmful physical agents such as cumulative trauma.

Several works have been widely cited within important Federal guidelines dealing with ergonomics and engineering safety including OSHA, the National Institute for Occupational Safety & Health (NIOSH), the National Research Council (NRC) and others. In 1997, an earlier paper received recognition as one of the most "influential papers" within the discipline during a previous 10 year period (by Ergonomics and Human Factors Society).

Presentations and Lectures (see Appendix IV for complete listing)

Have delivered over 60 lectures to research and professional audiences, both nationally and internationally. Among these are several invited lectures and keynote addresses. I have also spoken to numerous other local and regional groups not listed here. In addition, I have also conducted numerous workshops for occupational health and safety professionals throughout the US and internationally.

Honors and Awards

- "Resolution of Appreciation," Tau Beta Pi National Executive Council, 2013
- "Fellow" of the American Council on Education, 2013
- "Meritorious Service Award," American Society for Engineering Education, Board of Directors, 2006.
- "Award of Excellence," MSU Alumni Association and Bozeman Area Chamber of Commerce, 2002.
- "Outstanding Campus Representative," American Society for Engineering Education, PNW Section, 2000
- "Most Influential Papers of Decade," 10 Years of Manual Materials Handling Research, Ergonomics and Human Factors Society, 1997
- "Order of the Engineer," 1995
- "Dow Outstanding New Faculty Award," American Society for Engineering Education, 1994
- "Briggs Award" nomination, Human Engineering Division of American Psychological Association for outstanding doctoral dissertation of 1990

- Boeing Fellowship, Wichita State University, 1988-1990
- Who's Who Among Students in American Universities & Colleges, 1989.

OTHER PROFESSIONAL ACTIVITIES

Professional Service Appointments (see Appendix V for complete listing)

Have served the ergonomics profession as an associate editor for a leading journal in ergonomics (2000-2004). Also served the engineering education community through several capacities in the American Society for Engineering Education (ASEE), including election to the national Board of Directors of the Society (2004-2006). Have served as President of the International Society for Occupational Ergonomics and Safety (ISOES, 2009-2010).

Professional Membership and Certification

- Board Certified Professional Ergonomist-CPE (BCPE # 466)--by nomination and peer review of works; recertified in 2010, 2016
- Professional Registry Member of the Institute of Ergonomics & Human Factors (M.Erg.S.)—by nomination and peer review of works
- Association of Chief Academic Officers, 2014-2019
- International Society for Occupational Ergonomics and Safety
- Society for Industrial and Systems Engineering
- Human Factors and Ergonomics Society (Industrial Ergonomics, Safety, and Surface Transportation technical groups)
- Institute for Transportation Engineers
- Institute of Industrial and Systems Engineers
- American Society for Engineering Education
- Alpha Pi Mu (Industrial Engineering Honorary)
- Tau Beta Pi (National Engineering Honorary)
- · Association for Institutional Research
- American Indian Science and Engineering Society.

Consulting Activities

- Expert/Facilitator, "Achievement Gap Summit," New Mexico Higher Education Department, Las Cruces, NM, May, 2011.
- Microsoft, Redmond, WA, 2009-2011
- JF Associates, Washington, DC, 2009 to present
- Montana Manufacturing Extension Center, Bozeman, MT, 1997-1998
- SGM-Biotech, Bozeman, MT, Sep., 1996-1999
- Western Energy and Communications Association, Burbank, CA, Oct., 1995
- Northwest Electric Light and Power Association, Portland, OR, April, 1995
- Green Building Design Team, BNIM Architects, Kansas City, MO, 1994
- Montana Power Company, Butte, MT, 1992-1994, 1997
- Pfizer Health Products Group, Boulder, CO, 1991
- PlumCreek Manufacturing, Belgrade, MT, 1991
- Dana Design, Bozeman, MT, 1990
- Pizza Hut Int'l Headquarters, Wichita, KS, 1990
- Rubbermaid Corporation, Winfield, KS, 1990
- Beech Aircraft Corporation, Wichita, KS, 1989
- Lear Jet Corporation, Wichita, KS, 1989.

Other Professional Development Activities

- Executive search during a pandemic and beyond, ACE Fellows Webinar, Nov., 2020
- ACE Advancing to the Presidency workshop, 2017
- ACE Institute for New Chief Academic Officers, class of 2015-16
- ACE Internationalization Laboratory, 2011-13 (MSU campus co-Chair)
- Engineering Deans Institute (ASEE), 2001, 2002, 2005, 2007, 2010
- Intel's Visionary Conference for Educational Leaders, Washington, DC, 2010
- ASEE Public Policy Colloquium, Washington, DC, 2002, 2003, 2005, 2007, 2009
- ASEE International Engineering Education Colloquium, Istanbul, Turkey, 2007
- CASE Development Institutes, 2002, 2006, 2007
- ACE Annual Meetings, 2013, 2015, 2016, 2019
- APLU Annual Meetings, 2006, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2018

SECURITY CLEARANCE

Top Security, DoD [currently inactive due to no longer serving as Key Management Personnel]

CITIZENSHIP

USA

Cherokee Nation of Oklahoma --Registry #42037

FORMAL EDUCATION

Ph.D. Industrial Engineering, 1990

Wichita State University

Major area: Occupational Ergonomics/Human Factors Engineering Minor areas: Statistics, Experimental Design, Engineering Psychology

M.S. Engineering Management Science, 1987

Industrial Engineering Department

Wichita State University

B.G.S. General Studies, 1983

Wichita State University

APPENDIX I: Chaired Graduate Committees

Doctoral Dissertations

- Stanley, Laura M., "Human haptic and auditory mechanisms in collision avoidance for ground transportation systems," May, 2006
 - Earned "Student of the Year" award for 2005 by US-Dept of Transportation (1 of 6 recognized nationally). Awarded "Eno Fellowship" in 2005 (one of top 20 U.S. graduate students in transportation engineering), as well as "Eisenhower Award" national finalist.
 - o Currently Associate Professor at Montana State Univ; previously tenured at Clemson Univ.
- Mueller, Jessica, "Driver compensatory strategies: The effect of increased mental effort while driving on real and virtual roads." Co-chair, March, 2015.
 - o Currently Software Development and Delivery Manager, Workiva, Bozeman, MT
- Wilson, Richard, ABD, tentatively scheduled completion in Dec, 2021 (Missouri S&T)
- Joshua Afari, newly admitted as of Fall, co-Chaired with Dr. Gosavi, 2020 (Missouri S&T).

MS Theses (chronological)

- Dugassani, Amar, "Biomechanical, physiological, and psychophysical effects of ergogenic corsets." 1993
- Willis, Michael, "A verification study of the psychophysical method for upper extremity work," 1994
- Wehrman, Robert, "Macro-to-micro systems modeling applied to work physiology," 1994
- Kattel, Bheem, "The effect of an upper-extremity activity on maximum acceptable weight of lift in a combined manual materials handling task," 1994
- Howell, Robert, "Developing predictive models for hand strength in dynamic grasping tasks based upon static strength and anthropometric measures," 1995
- DeBree, Thomas, "Effects of spinal supports and training on three dimensional lifting mechanics," 1995
- Stanley, Laura, "Whole body vibrations on the low back using a suspension versus non-suspension seat post during off-road cycling," 2002
- Yerneni, Harish, "Work factors associated with musculoskeletal disorders in power distribution jobs," 2003
- Pendergast, Brian, "Ergonomic design considerations for the elderly in home and daily living environments," 2005
- Muthumani, Anburaj, "Study of startle/panic responses to auditory and haptic warnings in roadway lane departures," May, 2010.

MS Terminal Project Reports (chronological)

- Huang, Nan, "An empirically-based biomechanical model for wrist range of motion in the radial/ulnar plane,"
 1991
- Yerrapotu, Vanketish, "Endurance time and perceived exertion as a function of different wrist postures and maximum voluntary contraction levels," 1992
- Kumar, Nirmal, "Musculoskeletal assessment," 1993
- Wirakesuma, Prakesh, "Determination of endurance time in relationship to grip strength," 1993
- Hafeez, Tarek, "Psychophysical aspects of hand force," 1993
- Ramalingam, Amar "Acceptable forces for dynamic grasping," 1994
- Briggeman, Vickie, "Diabetes Mellitus and known occupational risk factors in the development of upperextremity neuropathies," 2001
- Cook, Kevin, "Process and procedures for development, delivery, and administration of an online engineering course," 2003.

Masters of Project Engineering Management (MPEM)

- William Rhodes, 2003
- J.P. Gordon, 2003.

APPENDIX II: Selected Grants, Contracts and Related Activities

Current Projects

"Creating a Destination of Choice at Missouri University of Science and Technology." National Science Foundation, Organizational Change for Gender Equity in STEM Academic Professions (ADVANCE), 2021-2024, A Lueking, J Cundiff, S Long, **RJ Marley**, and K Drowne, Co-PIs, \$998,224. [submitted in 2020 receiving positive reviews, but unfunded—letter of intent filed for resubmission in October, 2021].

Selected Previous Funding

"Haptic and Auditory Interfaces as a Collision Avoidance Technique during Run-Off-Road and Head-On Collisions and Driver Perception of Modalities." Research and Innovative Technology Administration, US Department of Transportation, FHWA, 2004-2006, LM Stanley, **RJ Marley**, and MJ Kelly, Co-PIs, \$63,600.

"Designing Our Community," William and Flora Hewlett Foundation, Engineering Schools of the West Initiative, 2003-2006, **RJ Marley** and H Sherick, Co-PI's, \$734,580.

"Increasing CSE&M Degree Opportunities for Low-Income Students in Montana," National Science Foundation, 2000-2003, **RJ Marley**, PI, \$493,648.

"Building a Teaching and Learning Community at Montana State University," National Science Foundation, 1998-2000, M Malone, E Swanson, R Walker, **RJ Marley**, and J Adams, Co-PI's, \$200,000.

"Science for all: Opening the door for rural women," National Science Foundation, 1997-99, AS Pittendrigh, S Hapner, SL Young, and **RJ Marley**, Co-PI's. \$899,411.

"Development and evaluation of ergonomic intervention technologies in power distribution jobs," Montana Power Company, 1996. **RJ Marley**, PI, \$16,504.

"Evaluation methods and work design recommendations for high-risk activities in power distribution jobs," Montana Power Company, 1995-96. **RJ Marley**, PI, \$5,083.

"Laboratory Cooperative Program." Dept. of Energy/Associated Western Universities, 1995. RJ Marley, PI, \$5,000.

"Ergonomic analysis of occupational injuries in Montana." Montana Engineering Experiment Station, 1992-93. **RJ Marley**, PI, \$10,500.

"Kinetic data collection and analysis system." MONTS (NSF-EPSCoR), 1993. E Kreighbaum and **RJ Marley**, PI's, \$24,000.

"Biomechanical modeling of human wrist range-of-motion." Montana Engineering Experiment Station, 1991-92. **RJ Marley**, PI, \$11,540.

APPENDIX III: Authorship (reverse chronology)

Books and Chapters

Fernandez, JE and **Marley, RJ** (in preparation). <u>Applied Occupational Ergonomics: A Textbook</u>, 5th Edition. Fairfax, VA: Society for Industrial and Systems Engineering Press, ISBN: 97819384964-6-2, DOI pending.

Fernandez, JE **Marley**, **RJ**, Noriega, S, and Ibarra, G (in press). <u>Ergonomia Ocupacional: Diseno y Administracion</u> <u>del Trabajo</u>, 2nd Edition. Fairfax, VA: Society for Industrial and Systems Engineering Press, ISBN: 9781938496493.

Fernandez, JE and **Marley, RJ** (2013). <u>Applied Occupational Ergonomics: A Textbook</u>, 4th Edition. Fairfax, VA: Society for Industrial and Systems Engineering Press, ISBN: 9781938496486.

Fernandez, JE and **Marley, RJ** (2011). <u>Applied Occupational Ergonomics: A Textbook</u>, 3rd Edition. Cincinnati, OH: International Journal of Industrial Engineering Press, ISBN: 97809652558-9-9.

Fernandez, JE **Marley**, **RJ**, Noriega, S, and Ibarra, G (2008). <u>Ergonomia Ocupacional: Diseno y Administracion del Trabajo</u>. Cincinnati, OH, International Journal of Industrial Engineering Press, ISBN: 97809654506-5-2.

Fernandez, JE and **Marley, RJ** (2007). <u>Applied Occupational Ergonomics: A Textbook</u>, 2nd Edition. Cincinnati, OH: International Journal of Industrial Engineering Press, ISBN: 9780-9654506-4-5.

Fernandez, JE, and **Marley, RJ** (1998). <u>Applied Occupational Ergonomics: A Textbook</u>. Dubuque, IA: Kendall/Hunt Publishing Company, ISBN: 0-7872-5210-7.

Fernandez, JE and **Marley, RJ** (1997). Lifting physical work capacity as a function of frequency. In Karwowski, W, Wogalter, MS, and Dempsey, PG (Eds), <u>Ergonomics and Musculoskeletal Disorders: Research on Manual Materials Handling</u>, 1983-1996. Santa Monica, CA: The Ergonomics and Human Factors Society.

Kreighbaum, E and Barthels, KM (1996). <u>Biomechanics: A Qualitative Approach For Studying Human Movement</u>, 4th Edition. Needham Heights, NJ: Simon & Schuster, pp. 185-189. (*Authored chapter section entitled* "**The Wrist Joint**").

Edited Works

Marley, RJ, Editor. "Emerging Applications in Systems Thinking: Challenges and Successes." <u>Industrial and Systems Engineering Review, special issue</u>. Currently in preparation.

Marley, RJ, Kumar, AR, Ware, BF, and Graver, P (2010). <u>Proceedings of the XXII Annual International Society for Occupational Ergonomics and Safety Conference</u>. Tempe, AZ. ISBN: 97809652558-7-5.

Marley, RJ, Kumar, AR, Ware, BF, and Lockhart, TE (2009). <u>Proceedings of the XXI Annual International Society for Occupational Ergonomics and Safety Conference</u>. Dallas, TX. ISBN: 97809652558-4-4.

Fernandez, J, Marley, RJ, Pennathur, A, Mital, A, Fredericks, TK, Fuentes, AA (2001). <u>Advances in Industrial</u> Engineering Theory, Applications and Practice, VI. Amsterdam: IOS Press. ISBN: 0-9654599-69.

<u>Industrial and Occupational Ergonomics: User Encyclopedia</u> (1999). CD-ROM -based publication of the International Journal of Industrial Engineering, Cincinnati, OH. ISBN: 0-9654506-0-0. (*Contributing Author and Editor*).

Refereed Journals and Proceedings

Muthumani, A and **Marley, RJ**. Development of testing protocols for evaluating steering and braking responses to driver warning systems. <u>Applied Ergonomics</u>, (submitted).

Gosavi, A and **Marley, RJ** (2020). Public policy in a pandemic: A hazard-control perspective and case study of the BCG vaccine for COVID-19. <u>IEEE Engineering Management Review</u>, 48(3), pp. 111-117. Print ISSN: 0360-8581; Online ISSN: 1937-4178; DOI: 10.1109/EMR.2020.3010438.

Gosavi, A and **Marley, RJ** (2020). Strategic implications and data analysis for the COVID-19 pandemic in the coming season: Public policy-making with a hazard control perspective. <u>Proceedings of the 9th Annual World Conference of the Society for Industrial and Systems Engineering</u>. In A Subramanian, et al (Eds), pp. 74-75, ISBN: 97819384961-9-6; DOI Pending.

Christian, M, Fernandez, J, Ibarra-Mejia, and **Marley, RJ** (2016). Using the Revised NIOSH Lifting Equation in the Mexican Workplace: Biomechanical, Physiological, and Psychophysical Differences. <u>Proceedings of the 5th Annual World Conference of the Society for Industrial and Systems Engineering</u>. In A Subramanian, JE Fernandez, and DL Santos (Eds), pp. 283-287.

Ibarra-Mejia, G, Fernandez, JE, Choi, SD, Noriega-Morales, SA, and **Marley RJ** (2015). A survey of musculoskeletal pain and discomfort in Hispanic construction workers from El Paso Del Norte region. <u>Proceedings of the 27th Annual International Occupational Ergonomics and Safety Conference</u>. In R Wyatt, A Subramanian, and BF Ware (Eds), pp. 81-86.

Ibarra-Mejia, G, Moore, JS, Fernandez, JE, and **Marley, RJ** (2015). Identification of inflammatory biomarkers for the early detection of tendonitis during repetitive manual assembly tasks: a proposed study. <u>Proceedings of the 4th Annual World Congress of the Society of Industrial and Systems Engineering</u>. In A Subramanian, JE Fernandez, DL Santos, and BF Ware (Eds), pp. 237-240.

Fernandez, JE and **Marley**, **RJ** (2014). The development and application of psychophysical methods in upper-extremity work tasks and task elements. <u>International Journal of Industrial Ergonomics</u>, <u>44</u>(2), pp. 200-206. [selected as lead article for special issue]

Ibarra-Mejia, G, Fernandez, JE, **Marley, RJ**, Ware, BF, Noriega-Morales, SA, Torres-Arguelles, SV (2013). Grip and pinch strength in Northern Mexican adults. <u>Proceedings of the 2nd Annual World Conference of the Society for Industrial and Systems Engineering</u>, Las Vegas, NV, pp. 169-174.

Ibarra-Mejia, G., Fernandez, JE, Ware, BF, **Marley, RJ**, and Vazquez-Salinas, AG (2013). Maximum pinch endurance times in a sample of female adults from Northern Mexico. In <u>Proceedings of the XXV Annual Occupational Ergonomics and Safety Conference</u>, Atlanta, GA, pp. 152-156.

Shoho, AR, and **Marley, RJ** (2013). Shared efficiencies in troubled times: Session recap. <u>ACE Fellows Program Newsletter for Council of Fellows</u>, American Council on Education, Spring, 2013, <u>34</u>(1), pp. 3-7.

Marley, RJ and Fernandez, JE (2012). Psychophysics in Occupational Ergonomics. In, Fernandez, JE, Santos, DL, Subramanian, A, Schmeidler, N, Ware, BF, and Kumar, AR (Eds), <u>Proceedings of the 1st Annual World Conference of the Society of Industrial and Systems Engineering</u>, Washington, DC, pp. 189-195.

Ibarra-Mejia, G, Fernandez, JE, **Marley, RJ**, Ware, BF, Vazquez-Salinas, AG, and Navarro-Hernandez, I (2012). Differences in hand grip and key pinch grip strength between sitting and standing positions in a sample of healthy Mexican young adults. In, Fernandez, JE, Santos, DL, Subramanian, A, Schmeidler, N, Ware, BF, and Kumar, AR (Eds), <u>Proceedings of the 1st Annual World Conference of the Society of Industrial and Systems Engineering</u>, Washington, DC, pp. 134-138.

Paxton, J., Sherick, H., and **Marley**, **RJ** (2012). An international certificate: Incentivizing engineering students to pursue global experiences. <u>Proceedings of the 42nd ASEE/IEEE Frontiers in Education Conference</u>, Seattle, WA, pp. 49-50.

Ibarra-Mejia, G, Fernandez, JE, **Marley, RJ**, and Soto-Diaz, C (2012). Ankle dorsiflexion, medial-lateral stability, and perceived safety in stairs of different slope angles. <u>Proceedings of the XXIVth Annual Conference of the International Society for Occupational Ergonomics and Safety</u>, Ft. Lauderdale, FL, pp 267-272.

Fernandez, JE, Ware, BF, **Marley**, **RJ**, and Kumar, A (2011). The role of physical ergonomics in litigation. <u>Ergonomics in Design: The Quarterly of Human Factors Applications</u>, 19(1), pp. 4-8.

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Ibarra, G, Fernandez, J, Ware, BF, Mital, A, **Marley, RJ**, and Reyes, S (2010). Range of Motion of the upper extremity and spine joints in Mexican adults: A pilot study. <u>Proceedings of the 15th Annual Conference on Industrial</u> Engineering—Theory, Application and Practice, Mexico City, pp. 519-523.

Muthumani, A and **Marley, RJ** (2010). Evaluation of physical measures of steering and braking response for invehicle warning systems. <u>Proceedings of the XXIIst Annual International Society for Occupational Ergonomics and Safety Conference</u>, Phoenix, AZ, pp 156-162.

Ibarra-Mejia, G, Ware, BF, Garcia, JA, and **Marley, RJ** (2009). A survey on musculoskeletal complaints of pain and discomfort among Mexican nursing personnel. International Journal of Industrial Engineering, pp. 391-397.

E.Wang, C.Plumb, G.Denzine, J.Tester, J.Hamann, **R. Marley**, D Munoz, D.Porter, and A.Vollstedt (2009). Perception of teaching excellence by faculty and administrators in the Engineering Schools of the West. <u>Proceedings of ASEE/IEEE Frontiers in Education Conference</u>, 2009, San Antonio, TX, pp M4E-1 to 6.

Ibarra-Mejia, G, Ware, BF, Garcia, JA, and **Marley, RJ** (2009). Musculoskeletal pain symptoms in hospital nurse personnel in Juarez, Mexico. <u>Proceedings of the 14th Annual Conference on Industrial Engineering—Theory, Application and Practice</u>, Anaheim, CA, pp 550-555.

Ibarra-Mejia, G, Munoz, G, Najera, M, Lopez-Jimenez, S, Fernandez, J, **Marley, R**, and Noriega, S (2009). Power and pinch grip assessment in a group of healthy Mexican young adults. <u>Proceedings of the XXIst Annual International Society for Occupational Ergonomics and Safety Conference</u>, Dallas, TX., pp 129-135.

Fernandez, JE and **Marley**, **RJ** (2009). Occupational ergonomics: emphasis on identification and solutions. <u>Proceedings of SEMAC</u>, The Ergonomic Society of Mexico Annual Meeting, Juarez, Mexico.

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Stanley, LM and Marley, RJ (2008). Psychophysical methods for studying interface design in automotive advanced crash avoidance technologies. <u>Proceedings of the Annual Conference on Industrial Engineering—Theory, Applications and Practice</u>, Las Vegas, NV, pp 727-731.

Marley, RJ, Stanley, LM and Muthumani, A (2008). Recent evolutions in the curricula of leading industrial engineering programs within the United States. <u>Proceedings of the Annual Conference on Industrial Engineering—Theory, Applications and Practice, Las Vegas, NV, pp 330-334.</u>

Stanley, LM, **Marley**, **RJ**, and Kelly, M (2007). The design of interfaces for advanced crash avoidance systems. <u>Proceedings of the Annual Conference on Industrial Engineering—Theory, Applications and Practice</u>, Cancun, Mexico, pp. 767-773.

Stanley, LM, and **Marley**, **RJ** (2006). Whole Body Vibrations on the Low Back Using a Suspension Versus Non-Suspension Seat Post During Off-Road Cycling. <u>Journal of Medicine & Science in Sports & Exercise</u>, 38(5),

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Pendergast, B, and **Marley, RJ** (2005). A proposed framework for a human factors-based design guidelines handbook for the elderly in residential living environments. In, Lockhart, T, and Fernandez, JE (Eds), <u>Proceedings of the XIX Annual International Occupational Ergonomics and Safety Conference</u>. International Society for Occupational Ergonomics and Safety, ISBN: 0-9652558-2-4, pp. 425-429.

Stanley, LM, Carson, JL., **Marley, RJ**, (2004). Shifting the Design Paradigm to Accommodate Older Drivers at Intersections & Work Zone. Annual Regional National Occupational Research Agenda Symposium Proceedings, Salt Lake City, UT.

Stanley, LM, Carson, JL, and **Marley, RJ** (2004). Accommodating Older Drivers. Institute of Transportation Engineers, Intermountain Meeting Proceedings, Jackson, WY.

Marley, RJ and Yerneni, H (2003). Modeling of maximum acceptable weight of lift (MAWL) using artificial neural networks. <u>International Journal of Industrial Engineering</u>, 10(4), 577-583.

Marley, RJ, and Yerneni, H. (2003). A multivariate statistical model for whole-body related musculoskeletal disorders: Part I--Background and Methods. <u>Proceedings of the 8th Annual Conference on Industrial Engineering-Theory, Applications and Practice</u>, Cincinnati, OH: International Journal of Industrial Engineering, pp. 7-11.

Yerneni, H, **Marley**, **RJ**, Boik, RJ., and Mooney, EL (2003). A multivariate statistical model for whole-body related musculoskeletal disorders: Part II--Application and Practice. <u>Proceedings of the 8th Annual Conference on Industrial Engineering--Theory</u>, <u>Applications and Practice</u>, Cincinnati, OH: International Journal of Industrial Engineering, pp. 12-17.

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Technical Reports and Other

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- Marley, R (Chair), Bauerle, P, Burns, J, Fox, C, Harmsen, A, Hogan, S, Johnson, C, Schmidt, L, Watson, S, and Yellowtail, B, "Changing Winds: Service to Native American Students and Communities in Montana." Final Report of the MSU Native American Support Programs Task Force, October, 2011.
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- **Marley, RJ**. "A short course in applied occupational ergonomics," 1995. Instructional material used for professional workshops, 121 pages.
- Marley, RJ. "Summary of Ergonomic Protection Standard (EPS)," 1995. Prepared as supplementary material for invited lectures on proposed Federal regulations.
- **Marley, RJ**, et al. "Thompson Dental Tool Study Final Report," 1995. Report summarizing ergonomic analysis of dental cleaning instrument design prototypes prepared for the University Technical Assistance Program.
- **Marley, RJ**. "Ergonomic applications in the utility industry," 1994. Case studies in job/tool redesign prepared at request of Senior Ergonomist at OSHA (Roger Stephens).
- **Marley, RJ**. "Crimping tools in line operations: An initial ergonomic analysis," 1994. Final report prepared for the Montana Power Company.
- **Marley, RJ**. "Reducing cumulative trauma injuries: An ergonomic approach," 1993. Handout to supplement ergonomic awareness seminars.
- **Marley, RJ**. "Design recommendations for seated records-keeper in warehouse operations at the Bozeman service center," 1992. Final report prepared for the Montana Power Company.
- **Marley, RJ**. "An ergonomic analysis of the twin-saw operator workstation," 1991. Final report prepared for PlumCreek Manufacturing Company.

APPENDIX IV:

Presentations and Lectures (reverse chronology)

Research and Professional

"Strategic implications and data analysis for the COVID-19 pandemic in the coming season: Public policy-making with a hazard control perspective." Annual meeting of the Society for Industrial and Systems Engineering, Virtual presentation, September 18, 2020.

"Psychophysics in Occupational Ergonomics." Annual meeting of the Society for Industrial and Systems Engineering, Washington, DC, September, 2012.

"Occupational Ergonomics: Emphasis on identification and solutions." Annual meeting of the Ergonomics Society of Mexico, Juarez, Mexico, April, 2009.

"Recent evolutions in the curricula of leading industrial engineering programs within the United States." International Journal of Industrial Engineering Theory, Applications, and Practice Annual Meeting, Las Vegas, NV, September, 2008.

"Strategic management: Balancing internal parity, competitive position, and institutional priorities at a research university." Association for Institutional Research, Kansas City, June, 2007.

"Strategic management: Balancing internal parity, competitive position, and institutional priorities at a research university." European Association for Institutional Research, Rome, August, 2006.

"A multivariate statistical model for whole-body related musculoskeletal disorders." International Journal of Industrial Engineering Theory, Applications, and Practice 8th Annual Meeting, Las Vegas, NV, November, 2003.

"A conceptual model for MSD risk assessment." International Journal of Industrial Engineering Theory, Applications, and Practice 5th Annual Meeting, Taipei, Taiwan, December, 2000.

"Dynamic wrist strength." International Society for Occupational Ergonomics and Safety Conference, Orlando, FL, June, 1999.

"Psychophysically acceptable limits expressed as a percentage of sampling intervals." International Society for Occupational Ergonomics and Safety Conference, Orlando, FL, June, 1999.

"Physiological Demand of Protected Climbing in Overhead Utility Work." International Industrial Engineering Applications and Practice Conference, San Diego, CA, November, 1997.

"A proactive group surveillance protocol for musculoskeletal disorders." International Society for Occupational Ergonomics and Safety Conference, Washington, DC, June, 1997.

"Work factors associated with musculoskeletal disorders in power distribution jobs." 1997 American Industrial Hygiene Conference & Exposition, Dallas, TX, May, 1997.

"Psychophysics and biomechanical stress: The case of manual lifting." International Society for Occupational Ergonomics and Safety Conference, Seattle, WA, June, 1995.

"Psychophysically acceptable dynamic hand force." International Society for Occupational Ergonomics and Safety Conference, Seattle, WA, June, 1995.

"An improved musculoskeletal discomfort assessment tool." Annual Industrial Ergonomics and Safety Conference, San Antonio, TX, June, 1994.

"Grip strength as a function of forearm rotation and elbow posture." 36th Annual Meeting of the Human Factors

Society, Atlanta, GA, October, 1992.

"The importance of ergonomics in the concurrent engineering process." Flexible Automation and Information Management (FAIM) '92 Conference, Washington, D.C., July, 1992.

"Trends in the use of psychophysics in industrial work design." Flexible Automation and Information Management (FAIM) '92 Conference, Washington, D.C., July, 1992.

"Prediction models of grip strength at varying wrist positions." Annual Industrial Ergonomics and Safety Conference, Denver, CO, June, 1992.

"A psychophysical approach to establish maximum acceptable frequency for hand/wrist work." Annual Industrial Ergonomics and Safety Conference, Lake Tahoe, NV, June, 1991.

"Isokinetic wrist strength of females with carpal tunnel syndrome." 34th annual meeting of the Human Factors Society, Orlando, FL, October, 1990.

"A study of several performance measures of workers with carpal tunnel syndrome." 33rd annual meeting of the Human Factors Society, Denver, CO, October, 1989.

"Performance of severely disabled adults on simulated assembly tasks." Annual Industrial Ergonomics and Safety Conference, Cincinnati, OH, June, 1989.

"Human-machine modeling with AutoCAD." Annual Industrial Ergonomics and Safety Conference, New Orleans, LA, June, 1988.

"A multivariate analysis of directional movement time." Annual Industrial Ergonomics and Safety Conference, New Orleans, LA, June, 1988.

"Lifting physical work capacity as a function of frequency." Human Factors Society 31st Annual Meeting, New York, NY, October, 1987.

"Potential factors in movement time: Implications for functional evaluation of individuals with disabilities." Annual Industrial Ergonomics and Safety Conference, Miami, FL, June, 1987.

Invited Lectures

"Bridging the gap between practitioners and researchers: A call to action." Keynote Kickoff address to joint meeting of the International Society for Occupational Ergonomics & Safety (ISOES) and the American Society for Safety Professionals (ASSP). New Orleans, June 12, 2019.

"Observations from 25 plus years in Engineering Education," Keynote address to 3rd Annual World Conference of the Society for Industrial and Systems Engineering, San Antonio, TX, Oct 20, 2014.

"Be a Leader." Wichita State University College of Engineering Commencement address, May 17, 2014.

"ACE Fellows Program Experience at Texas A&M." MSU System Council, Nov. 6, 2013.

"Establishing Pre-STEM Educational Partnerships with Research Universities for Underrepresented Students." New Mexico Achievement Gap Summit, Las Cruces, NM, May 26, 2011

"National Academy of Engineering's Grand Challenges for the 21st Century." Presidential Inauguration Faculty Colloquia, Bozeman, MT, September 9, 2010. Panel with Dean Ricardo Jacquez, New Mexico State University, and Dean Zulma Toro-Ramos, Wichita State University.

"Work related musculoskeletal disorders: Types, risk factors, identification, and solutions." Ergonomics Society of

Mexico, Juarez, Mexico, April, 2009.

"Supporting technology development and transfer." Entrepreneurial Knowledge lecture series, Tech Ranch, Bozeman, MT, June 17, 2008.

"History, current status, and potential changes of OSHA ergonomics oversight: Balancing science and politics in occupational safety." OSHA Region 8 VPPP Conference, Denver, CO, May 16, 2007.

"History, current status, and potential changes to OSHA ergonomic regulation." Dept of Industrial Engineering Lecture Series, Virginia Tech, November 16, 2006.

"A model for preparing engineering doctoral students in teaching methods." Invited panelist for Best Practices in Graduate Education, Annual Meeting of the American Society for Engineering Education, Salt Lake City, June, 2004.

"State of the MSU College of Engineering." Montana Society of Engineers Annual Conference, Helena, MT, September 13, 2001.

"A conceptual and strategic process for engineering program assessment: A case study at Montana State University." *Best Assessment Process IV*, Rose-Hulman Institute of Technology, Terre Haute, IN, April 7, 2001.

"Ergonomics in engineering design." University of Inchon, Seoul, South Korea, December 8, 2000, repeated at Dong-A University, Pusan, South Korea, December 9, 2000.

"The new U.S. Federal ergonomic standard." Korean Occupational Safety and Health Administration, Seoul, South Korea, December 8, 2000.

"The role of engineering safety in modern business practice." Montana Society of Engineers, Bozeman, MT, September 12, 2000.

"Work-related cumulative trauma disorders." State Bar of Montana CLE Institute Seminar--Anatomy of Low-Impact Soft Tissue Injury Cases, Butte, MT, March 16, 2000.

"The science of ergonomics and basis for regulation." Montana Safety Services Council 1999 Hazardous Materials & Safety Conference, Billings, MT, April 22, 1999.

"Practical ergonomics and design in non-repetitive, field operations." U.S. Department of Labor-OSHA Seminar on Best Practices in Ergonomics (University of Washington-OHSA Training Institute, sponsor), Portland, OR, September 23, 1998.

"Introduction to the Science of Ergonomics." U.S. Department of Labor-OSHA Seminar on Effective Practices in Ergonomics (Rocky Mountain Education Center-OSHA Training Institute, sponsor), Denver, CO, June 4, 1998.

"Program Development for Upper-Extremity CTDs." U.S. Department of Labor-OSHA Seminar on Effective Practices in Ergonomics (Rocky Mountain Education Center), Denver, CO, June 4, 1998.

"Practical Ergonomics." Montana Manufacturing Extension Center Seminar Series, conducted at Bozeman, Billings, Missoula, and Butte, MT, September-December, 1997.

"Ergonomic strategies for the utility industry." Western Electric Power Institute Safety Conference, Portland, OR, September 10, 1997 (*Keynote Address*).

"Scientific studies of industrial back supports: should they be required?" Southwest Area Safety and Health Association, Bozeman, MT, April 9, 1997.

"OSHA's new role in ergonomics and work design." Montana Society of Engineers, Bozeman, MT, February 11, 1997.

"Increased productivity through ergonomics." MSU-Bozeman Noon Seminar Series for Technical Professionals (interactive video presentation for regional METNET sites), April 11, 1996.

"Ergonomic methods and practice for field and line crews in utilities." Western Energy & Communications Association Safety and Health Workshop, Reno, NV, September 28, 1995.

"Cases in engineering and management control in ergonomics." Northwest Electric Light & Power Association Annual Operations Meeting, Calgary, Canada, April 10, 1995.

"Improving work-place safety and ergonomics: regulation and reality." Deaconess Medical Center-HealthWorks seminar, Great Falls, MT, November 15, 1994.

"Decisions for health: a Montana perspective." Panelist for Montana Public Television (KUSM) program, October 23, 1994.

"The role of purchasing in ergonomic protection." Big Sky Public Purchasing Association annual meeting, Bozeman, MT, September 22, 1994.

"Industrial ergonomics." Montana Mining Association Annual Meeting, Butte, MT, May 4, 1994.

"Increased productivity and reduced injuries with ergonomics." 10th Annual Wyoming-Montana Safety and Health Conference, Bozeman, MT, May 3, 1994.

"Integration of engineering controls and occupational injury management." Vocational Resources, Inc., annual meeting, Big Sky, MT, September 17, 1993.

"Engineering controls for reducing risk of low-back injuries--Beyond compliance." Rehabilitation Association of Montana, Bozeman, MT, April 2, 1993.

"Psychophysically determined frequency for a drilling task." Division of Standards Development and Technology Transfer Ergonomic Seminar Series, National Institute for Occupational Safety and Health (NIOSH), Cincinnati, OH, March 12, 1993.

"A systematic method for reducing workplace injuries: The concurrent engineering approach." Montana-Made '92 Conference, Billings, MT, November 6, 1992.

"Toward a model for safe working limits--a psychophysical approach." Medical Rounds Lecture Series, Deaconess Hospital, Bozeman, MT, January 31, 1992.

"Working with employees to reduce injuries." Montana Association of Counties Loss Control Conference, Lewistown, MT, January 22, 1992.

"Ergonomics--Cumulative Trauma Disorders." 1991 Governor's Conference on Workers' Compensation and Safety, Butte, MT, October 23, 1991.

APPENDIX V: Appointments and Service Activities

Board Service

- MSU Innovation Campus, Advanced Technology, Inc, Board of Directors, 2011 to 2014
- MSU Office of International Programs, Advisory Board Chair, 2011 to 2014
- American Society for Engineering Education, National Board of Directors, Chair of Sections Zone IV, 2004-2006 (elected position).

Editorship

- Editorial Board, Industrial and Systems Engineering Review, 2012 to present
 - Currently serving as Co-Editor, 2020 to present
- Associate Editor, <u>International Journal of Industrial Ergonomics</u>, 2000-2004
- International Journal of Industrial Engineering: Theory, Applications and Practice
 - News Editor 1995-2002
 - Editorial Board, 2003-present
 - O International Advisory Committee (annual meetings), 2005-present.

Professional Service

- Review Panelist, USDA-NIFA "New Beginnings for Tribal Student Program" grant program, 2020.
- National Advisory Board for NSF funded project: "The formation of undergraduate engineers as engineering leaders," W. Schell, B. Hughes, B. Tallman, PIs, 2017-2020.
- Conference Advisory Committee, Society for Industrial & Systems Engineering Annual Meeting, 2012
- Boren Fellowship National Review Panel, Institute for International Education, 2012
- Review Panelist, National Institute for Standards & Technology, Manufacturing Extension Partnerships (MEP) Programs, 2011-12
- 2yr-4yr Engineering Transfer Policy Summit, National Academy of Engineering, Richmond, VA, June, 2011
- President, International Society for Occupational Ergonomics and Safety (ISOES), 2009-10
- Executive Council, International Society for Occupational Ergonomics and Safety (ISOES), 2008-2011.
- Regional Vice-President and Executive Council, Alpha Pi Mu, Executive Council, 2008 to 2014
- Tau Beta Pi, National Awards Committee, 2010-12
- American Society for Engineering Education (ASEE)
 - o National Constitution and By-Laws Committee, 2010-2012
 - o "Year of Dialog" National Advisory Committee, 2006-2007
 - o Nominating Committee for National Offices, 2006-2008
 - o National Board of Directors, Chair of Sections Zone IV, 2004-2006 (elected position)
 - o Conference Chair, Pacific-Northwest Section Annual Meeting, April, 2000
 - o Chair of Pacific-Northwest Section, 1999-2000
 - Secretary/Treasurer, Pacific-Northwest Section, 1995-1998
- College representative, Center for Advancement of Scholarship on Engineering Education (CASEE)
 Implementation Network for ENSEE Validation Pilot Study.
- Salish-Kootenai Tribal College Engineering Program, National Advisory Board, 2005-2011.
- Delphi Study Group, International Advisory Board for Service Sector Systems Engineering project, Michigan Technological Institute (NSF funded), April, 2004-2006.
- Task Committee on Faculty Registration, American Society for Civil Engineering (ASCE), Presidential Appt., 2004.
- Program Co-Chair, International Conference of Industrial Engineering Theory, Applications and Practice, San Francisco, 2001.
- Board of Directors, <u>International Journal of Industrial Engineering: Theory</u>, <u>Applications and Practice</u>, 1999-2004.
- Review Panelist, National Science Foundation, "Action Agenda for Systemic Engineering Education Reform,"

- 1998-2000.
- Secretary/Treasurer, Institute of Industrial Engineers, Yellowstone Senior Chapter, 1992-1999.
- Reviewer, International Journal of Industrial Ergonomics, various articles, 1994-present
- Reviewer, 4th Edition of <u>Work Design: Industrial Ergonomics</u>, by S. Konz. Gorsuch, Scarisbrick Publishers, 1994.
- Reviewer, 5th Edition of <u>Miller & Freund's Probability and Statistics for Engineers</u>, by R.A. Johnson, Prentice-Hall, 1994.
- Reviewer, ergonomics division, 2nd Industrial Engineering Research Conference Proceedings, 1993.

University/College/Department Service

- Co-Chair, Search Committee for Vice Provost and Dean of the Kummer College of Innovation, Entrepreneurship, and Economic Development, 2021-present
- EMSE Dept. Promotion and Tenure Committee, S&T, 2019-present
- EMSE Dept. Undergraduate Curriculum Committee, S&T, 2020-present
- Chair, University Strategic Planning Committee, S&T, 2016-2019
- Search Committee, UM System eLearning Vice President, 2018-19
- "eLearning" Task Force (reforming System-wide on-line learning programming), 2018-2019
- S&T representative, UM System Governance Committee on Activity Analysis, 2017-2018
- UM System Diversity Task Force, University of Missouri (System) Presidential appointment, 2016
- Chancellor's Council on African American Recruitment and Retention (CCAARR), S&T, 2015-2019
- Missouri S&T Chancellor's Cabinet, 2014-2019
- University of Missouri System Chief Academic Officers Council, 2014-2019
- Missouri Department of Higher Education Academic Council, 2014-2019
- MSU President's Executive Council, 2013-2014
- Chair, MSU International Advisory Committee, 2011-2014
- Chair, Dean Search Committee, MSU College of Business, 2011-12
- Search Committee, MSU Innovation Campus Director, 2011
- MSU University Council, 2010-2014
- MSU Research Council, 2010-2014
- MSU Enterprise IT Council, 2013-2014
- Chair, MSU Research Council Sub-Committee on Strategic Planning, 2011-12
- MSU Foundation Development Council, 2008-2014.
- Affiliate Faculty Appointment, Division of Health Sciences, Montana State University, 2005-2014.
- Chair, "Streamline" bus service sub-committee, 2008-09.
- University Task Force on Promotion & Tenure Procedures, 2005, 2008
- Chair, Dean Search Committee, MSU College of Letters & Sciences, 2002
- Deans Council, 2001-2014
- University Planning and Budget Analysis Committee (UPBAC), 2001-2014
- Montana State NSF-EPSCoR Advisory Board, 2004-2010.
- MSU Strategic Planning Committee, 2005-2014
- Faculty Advisor, MSU Baseball Club, 2003-2012
- Assistant/Associate Deans Council, 1995-2000
- NASC Accreditation Self-Study Committee, 1998-1999
- University Honors Program Advisory Committee, 1998-2001
- Assistant Deans Council representative to MSU Faculty Council, 1996-1997
- Curriculum Coordinator, Industrial & Management Engineering, 1995-1996
- University Assessment and Outcomes Committee, 1995-2001
- MSU Presidential Scholarship Selection Committee, 1996-1998
- Campus Representative, ASEE, Pacific Northwest Section, 1993-2000
- University Affirmative Action Advisory Board, 1992-1998
- Faculty Advisor, Institute of Industrial Engineers, MSU student chapter, 1990-1996