

# ROBERT MARLEY, Ph.D., CPE

## *Professional CV*

Work Address: Office of the Provost and Executive Vice Chancellor  
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### **PROFESSIONAL EXPERIENCE (reverse chronology)**

#### **Missouri University of Science and Technology – Rolla, MO**

Provost and Executive Vice Chancellor for Academic Affairs – July, 2014, to present.

**University Profile:** Founded in 1870, Missouri S&T is a national technological research university with an enrollment of approximately 8,600 students. Formerly known as the University of Missouri-Rolla, Missouri S&T shares in the land-grant mission of the University of Missouri System. Missouri S&T is also highly ranked in many publications such as #1 and #3 for “Best Investment” for non-resident and resident students, respectively, by *Newsweek*. Also ranked as in “Top 50 Best Public Colleges” by U.S. high school counselors in *U.S. News & World Report*. Missouri S&T competes in NCAA Division II athletics in the Great Lakes Valley Conference.

**Responsibilities:** Chief Academic Officer with oversight of programs within two academic colleges, the College of Arts, Science and Business, as well as the College of Engineering and Computing. In addition to overseeing research and sponsored programs (about \$43 Million in external grants and contracts), enrollment management, information technology, technology transfer, undergraduate and graduate studies, the Curtis Wilson Laws Library, and pre-college programs. Responsible for promoting academic excellence, faculty and student recruitment, as well as implementation of the University’s strategic plan. Also responsible for budget and accountability of resources within Academic Affairs. Hold rank as tenured professor in Department of Engineering Management and Systems Engineering.

#### **Montana State University -- Bozeman, MT**

Interim Vice President for Student Success – July, 2013, to June, 2014.

**University Profile:** Montana State University (MSU) is a land-grant institution recognized as a student-centered, research-extensive university with an enrollment of about 15,300 in Bozeman (and approx. 21,000 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*” (RU/VH), and 25<sup>th</sup> overall for research expenditures on a per faculty basis. MSU is also recognized for community engagement by Carnegie. Also during this timeframe, *The Chronicle of Higher Education Almanac* ranked MSU 6<sup>th</sup> 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

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Iowa State, RPI and BYU.

During my deanship, MSU ranked in the top 10 nationally in the cumulative number of Goldwater Scholarship recipients. MSU engineering students had also earned 2 Rhodes Scholarships, a Marshall Scholarship, and Montana's first recipient of a Gates Foundation Cambridge Fellowship.

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. Montana State competes in NCAA Division I athletics in the Big Sky Conference (FCS football).

**Student Success:** Upon return from ACE Fellowship, accepted appointment as Vice President for a recently reframed Division of MSU and key advisor to the President. Charged by President to better integrate and coordinate Division with Academic Affairs. Major responsibilities include:

- Oversaw Dean of Students, Recruitment/Admissions, enrollment management, Registrar, Financial Aid, Veterans Affairs, Career Services, Disability Services, medical and counseling services
  - Approximately 235 staff plus over 1500 student employees
- Student Success initiatives include co-curricular, retention and financial education programs
- "Complete College Montana" initiatives (partnered with Complete College America)
- Student affairs compliance to Title IX, VAWA, and related policies
- Working directly with elected student leadership.

### **Accomplishments:**

- Created and Chair first Strategic Enrollment Management Committee at MSU
- Continued strategic increases in student enrollment, retention and growth in non-residents
  - New record enrollment of about 15,300 in Fall, 2013
  - Growth in first year class of 8% since 2012, and 37% from 2008 to 2013
  - Retention rate increased by over 6 percentage points over 2012 (FT-FT)
  - Our non-resident population has increased to 44% of first year class
- MSU attracted largest share of in-state high school graduating class compared to all other post-secondary institutions in Montana
  - Over 60% of highest achieving students from Montana high schools
  - Average ACT for first year students is 25.2, highest in region.
- Oversaw launch of new technologies for aid in student advising, scheduling, catalog development and financial aid distribution
- Added new Associate Dean of Students position for urgent cases of student welfare
- Led creation of MOU to increase cooperation between student government and administration
- Assisted student executives in significant reorganization of MSU staff lines reporting to student government.

### **Texas A&M University -- College Station, TX**

Fellow, American Council on Education (ACE) – August, 2012, to June, 2013 (on leave from Montana State).

Highly selective Fellowship in premier leadership development program. Participated in numerous activities and functions hosted by ACE featuring seminars, team-based case studies, independent study and interaction with 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*

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*university and other state campuses operating within a mission-diverse system.” Thus, sought experiences in complex environment matching these general criteria. Fellowship hosted by Texas A&M University with opportunity to work with and observe President R. Bowen Loftin and Provost Karan Watson (co-mentors) at the College Station campus. [Note: Bowen Loftin is now Chancellor of Missouri University in Columbia]*

### **Major Activities:**

- Participation in key policy, decision making, and other events on the campus and within TAMU System (11 campuses)
- Assisted in preparation for and attendance of Regent and Legislative meetings
- Assisted in analysis and justification of enrollment growth in selected areas
- Assisted in preparation of proposals for AAU initiatives
- Participation in integration of new Law School and Health Sciences College
- Participation in regional accreditation meetings (SACS-COC)
- Participation in renovation meetings for Kyle Field football complex (approx. \$460M project)
- Participation in ACE sponsored learning exercises
- Meet and interview over 20 presidents, chancellors and other national educational leaders.

### **Montana State University -- Bozeman, MT**

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

**College Profile:** At the time I left Deanship, the College of Engineering (COE) was the largest collection of professional programs in a 5-state region with over 3,100 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 including supervision of over 400 faculty, research and professional staff, and other support personnel (15 direct reports). Responsible for final College review of promotion and tenure applications. Also oversight responsibility for over \$35 Million in annual expenditures plus management of facilities in 5 buildings on the Bozeman campus and other statewide offices and labs.

### **Accomplishments in Academic Leadership:**

- Assembled highly capable and effective leadership team in the College
  - Several former direct reports have gone on to serve in higher capacities including Chairs, Deans and Vice-Presidents
- Led development and implementation of College-wide strategic planning
- Led restructuring of College's shared governance to increase faculty input into decision making
- Led initiative to create cross-disciplinary design experience for all COE undergraduate majors— one of the most significant curricular reforms in many years
- As senior dean, served in numerous University-wide leadership roles.

### **Accomplishments in Faculty Development:**

- Led efforts to recruit exceptionally qualified and diverse faculty to the COE with over 50% of tenure-track faculty hired between 2001 and 2012
- Created nationally competitive start-up packages for new faculty as well as initiated hiring strategies which targeted areas for enhancement or new growth
- College faculty earned several NSF CAREER Awards (6 in 8 years) and other achievements
- Created fund for faculty to participate in short-term developmental leave activities

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- Created annual awards for excellence in each area of teaching, mentorship, research and outreach.

### **Accomplishments in Research Development:**

- Led numerous initiatives to build multi-disciplinary programs for research excellence
- Developed and/or expanded strategic laboratories and other collaborative efforts which involve faculty from many areas of our campus and attracting significant external support
  - Examples include the Western Transportation Institute, the Center for Biofilm Engineering (a former 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 recently rated 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
- Only academic dean to serve on founding board of MSU Innovation Campus
- Facilitated a near tripling of annual research expenditures during my deanship, helping to secure University recognitions and achievements mentioned earlier.

### **Accomplishments in Program Development:**

- Reorganized College’s doctoral program resulting in substantial increases in enrollment
- Led an invited team of faculty to prestigious "Engineering Education Leadership Institute," hosted by National Academies of Engineering in 2006
- Facilitated development of strategic new undergraduate majors, minors, options, and certificates
- 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
- Led development of international engineering certificate program.

### **Accomplishments in Faculty and Student Diversity:**

- Led diversity efforts which resulted in a nearly five-fold increase in tenure-track women between 2001 and 2012 (above the national average percentage for engineering)
- Led student diversity initiatives—now recognized as one of the nation's leading universities in the graduation of Native American students in engineering and computer science
- The COE recently achieved 6<sup>th</sup> straight record number of women freshmen and transfer students
- College minority recruitment program received a *2012 Innovation Award* from the College Board Advocacy & Policy Center.

### **Accomplishments in Fundraising:**

- Facilitated increases in College's endowment and current year donations—over \$30 Million raised
- Created concept and cultivated donor for \$50 Million “Asbjornson Innovation Center”
- Established College's first six named 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.

### **System, State and Federal Relations:**

- 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

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and instructional initiatives

- Worked with Montana's Congressional delegation to secure over \$25 Million in Federal support.

### **Professional Leadership:**

- Elected member on national Board of Directors for ASEE
  - Included serving on national committee promoting the scholarship of teaching
- Served as an associate editor for a leading journal in the area of ergonomics
- Served recently as president of an international ergonomics society.

### **Student Achievement:**

- College students received 2 Rhodes Scholars in last 3 years as well as several Goldwater scholarships, a Marshall scholarship, Gates-Cambridge fellowship, and other notable achievements
- MSU's Engineers Without Borders chapter received 2011 Magrath University-Community Engagement Award from APLU
- Engineering students excel in passing the Fundamentals of Engineering exam with a 13-year, cumulative pass rate of 91% (exam required of *all* engineering majors).

### **Other Accomplishments:**

- Led successful convergence of all course fees to single Program Fee with support of students and
- Led MSU as a founding member of the Engineering Schools of the West consortium with initial funding from Hewlett Foundation
- Led campus-wide efforts to increase degree-seeking enrollments of international students at MSU, including successful dual-degree programs partnering with international institutions.

Associate Dean, College of Engineering -- 1996 - 2000.

College-wide administrative duties combined with on-going 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.

### **Administrative Accomplishments:**

- Led College-wide accreditation activities to comply with (then) new EC2000 requirements for ABET in 1998
- Led update of College's promotion and tenure criteria and procedures
- Implemented new student diversity initiatives including an expansion of the Engineering Minority Program (EMPower)
- Secured funding for Native American scholar/mentors through NSF CSE&M Program.

Professor / Associate Professor / Assistant Professor -- 1990 to 2015.

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.

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Regularly collaborated in cross-disciplinary research dedicated to examining basic and applied problems of both workplace and daily-living health and safety activities. Previously 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 have 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.

### **Wichita State University -- Wichita, KS – 1985 - 1990**

Boeing Fellow -- 1988 to 1990: Competitively awarded position funded by Boeing Corporation in the WSU College of Engineering. Responsible for independent research as well as instructional duties.

Research Assistant -- 1985 to 1988: Participation in Federally-funded research related to employment opportunities for severely disabled populations through applications of technology and other designed, engineering solutions.

### **Rehabilitation Engineering Center -- Wichita, KS – 1983 - 1985**

Rehabilitation Engineering Technician: Served as rehabilitation engineering technician in the REC, part of the Cerebral Palsy Research Foundation. 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.

## **OVERVIEW OF FACULTY ACTIVITIES**

### **Teaching Experience (with course level)**

Approximately 29 years of experience at three different universities. Have earned honors for teaching and mentoring activities including an “Award of Excellence” from MSU Alumni Association for “*exceptional guidance and inspiration of students.*” Also awarded the “Dow Outstanding New Faculty Award” from ASEE in 1994. Have taught most courses listed below several times.

- IME 313 (Jr): Work Design and Analysis\*
- IME 413 (Jr/Sr/Gr): Ergonomics and Safety Engineering I\*
- IME 513 (Gr): Ergonomics and Safety Engineering II\*
- IME 580 (Gr): Human Factors in Engineering Design\*
- IME 350 (Jr): Applied Engineering Data Analysis\*
- 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

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- IME 554 (Gr): Design of Industrial Experiments\*\*
- 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 (Wichita State)

\*Courses developed or significantly revised

\*\*Course developed for distant delivery format

### **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 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 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 over 30 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.

### **Publications** (see Appendix III for complete listing)

Have authored over 90 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 4<sup>th</sup> edition was released in 2013 and a Spanish language version (scheduled for a 2<sup>nd</sup> edition release in 2014) 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.

### **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

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to many 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**

- “Fellow” of the American Council on Education, 2012
- “Resolution of Appreciation,” Tau Beta Pi National Executive Council, 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,” 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**

#### **Appointments and Service** (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). Recently served as President of the International Society for Occupational Ergonomics and Safety (ISOES, 2009-2010). Have been active representing broader engineering education interests and initiatives regionally, nationally, and internationally.

### **Professional Membership and Certification**

- Board Certified Professional Ergonomist-CPE (BCPE # 466)--by nomination and peer review of works; recertified in 2010
- Professional Registry Member of the Institute of Ergonomics & Human Factors (M.Erg.S.)—by nomination and peer review of works
- International Society for Occupational Ergonomics and Safety
- Human Factors and Ergonomics Society (Industrial Ergonomics, Safety, and Surface Transportation technical groups)
- Institute for Transportation Engineers
- Institute of Industrial 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.

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### **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**

- ACE Internationalization Laboratory, 2011-13
- Engineering Deans Institute, 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
- ASEE International Engineering Education Colloquium, Istanbul, Turkey, 2007
- CASE Development Institutes, 2002, 2006, 2007
- ACE Annual Meetings, 2013, 2014
- APLU / NASULGC Annual Meetings, 2006, 2008, 2009, 2010, 2011, 2012, 2013, 2014

### **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 Sciences—Experimental Psychology emphasis, 1983  
                  Wichita State University

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**CITIZENSHIP**

USA

Cherokee Nation of Oklahoma  
--Registry # C0042037

**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" finalist.
- Mueller, Jessica, "Driver compensatory strategies: The effect of increased mental effort while driving on real and virtual roads." Co-advisor, expected graduation, summer, 2015

**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 upper-extremity 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**

None.

**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 Mary Hewlett Foundation, Engineering Schools of the West Program, 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 **Marley, RJ**, Noriega, S, and Ibarra, G (in press). Ergonomia Ocupacional: Diseno y Administracion del Trabajo, 2<sup>nd</sup> Edition. Fairfax, VA: Society for Industrial and Systems Engineering Press, ISBN: 9781938496493.

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

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

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

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

Fernandez, JE, and **Marley, RJ** (1998). Applied Occupational Ergonomics: A Textbook. 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), Ergonomics and Musculoskeletal Disorders: Research on Manual Materials Handling, 1983-1996. Santa Monica, CA: The Ergonomics and Human Factors Society.

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

**Edited Works**

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

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

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

Industrial and Occupational Ergonomics: User Encyclopedia (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. Applied Ergonomics. (submitted).

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Fernandez, JE and **Marley, RJ** (2014). The development and application of psychophysical methods in upper-extremity work tasks and task elements. International Journal of Industrial Ergonomics, 44(2), pp. 200-206. [selected as lead article of 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. Proceedings of the 2<sup>nd</sup> Annual World Conference of the Society for Industrial and Systems Engineering, Las Vegas, NV, pp. 169-174.

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**Marley, RJ**. "A short course in applied occupational ergonomics," 1995. Instructional material used for professional workshops, 121 pages.

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**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.

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**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 & Professional**

"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 8<sup>th</sup> 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.

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"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**

"Observations from 25 plus years in Engineering Education," Keynote address to 3<sup>rd</sup> 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 University 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 21<sup>st</sup> 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,

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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 Incheon, 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.

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"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
- Associate Editor, International Journal of Industrial Ergonomics, 2000-2004
- International Journal of Industrial Engineering: Theory, Applications and Practice
  - News Editor 1995-2002
  - Editorial Board, 2003-present
  - International Advisory Committee (annual meetings), 2005-present.

**Professional Service**

- 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)
  - National Constitution and By-Laws Committee, 2010-2012
  - "Year of Dialog" National Advisory Committee, 2006-2007
  - Nominating Committee for National Offices, 2006-2008
  - National Board of Directors, Chair of Sections Zone IV, 2004-2006 (elected position)
  - Conference Chair, Pacific-Northwest Section Annual Meeting, April, 2000
  - 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, International Journal of Industrial Engineering: Theory, Applications and Practice, 1999-2004.

## **ROBERT MARLEY, Ph.D., CPE**

- 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 Work Design: Industrial Ergonomics, by S. Konz. Gorsuch, Scarisbrick Publishers, 1994.
- Reviewer, 5th Edition of Miller & Freund's Probability and Statistics for Engineers, by R.A. Johnson, Prentice-Hall, 1994.
- Reviewer, ergonomics division, 2nd Industrial Engineering Research Conference Proceedings, 1993.

### **University/College/Department Service**

- Missouri S&T Chancellor's Cabinet, 2014-present
- University of Missouri System Chief Academic Officers Council, 2014-present
- 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