Curriculum Vitae of Richard W. Marklin, Jr., Ph.D., CPE
(2005 to present)

Office:
Marquette University
Dept. of Mechanic., CPE

Home:
7204 Aetna Ct.

PROFESSIONAL REGISTRATION

CPE, Certified Professional Ergonomist, #405, August 5, 1994

MEMBERSHIPS

1987 to present Human Factors and Ergonomics Society (HFES)
1987 to present International Ergonomics Association (IEA)

PATENTS AND TECHNICAL DISCLOSURES

September 8, 2017. r Assisted Device for . Inventors: Jonathon E. Slightam, Mark L. Nagurka and Richard W. Marklin, Jr. PCT application No. PCT/US2017/050715. Andrus Ref # 5528 00140.

April 15, 2016. U.S. and international utility patent a
Mark L. Nagurka and Richard W. Marklin, Jr. Andrus Ref # 5528 00098.

September,
U.S. utility patent will be issued to Marquette U. in Sept. 2016. Inventors: Richard W. Marklin, Jr., and six undergraduate engineering students. Invention was the culmination of a senior design project.

2001. U.S. Patent on Ergonomic Dental Stool US D439,066 S (Kevin Cherney) (Note: The stool was designed to a large extent by Kevin Cherney, a former graduate student of R.W. Marklin and a co-holder of this patent, while he was supported by a grant from The Brewer Co. and performing graduate work at Marquette University. Although R.W. Marklin is not a holder of this patent, he was the P.I. of the grant from The Brewer Co.)

1985, 1987. U.S. Patents on the IBM 5362 and 5364 systems.

1984, 1986. Technical disclosures in IBM Technical Disclosure Bulletin.

AWARDS AND HONORS TO R.W. MARKLIN AND STUDENTS (since 2005)

2012-2013 – *Outstanding Teacher Award in Mechanical Engineering*. *Presented by Dept. of Mechanical Engineering Industrial Advisory Board, April 2014.*

2010 – *Best Presentation* *at the Ergonomics Committee sessions during the American Industrial Hygiene Conference & Exhibition (AIHCE), Denver, CO, May 24, 2010.*

2009 - *1st Place in* ***Department of Mechanical and Industrial Engineering Graduate Poster Competition****: Stephen Freier (R. Marklin and P. Papanek, Advisors).*

2008-2009 – *Outstanding Teacher Award in Mechanical Engineering*. *Presented by Dept. of Mechanical Engineering Industrial Advisory Board, April 2010.*

2007 – *2nd Place in* ***Department of Mechanical Engineering Graduate Poster Competition****: Hector Sánchez (R. Marklin Advisor).*

2006 – *Robert and Mary Gettel Faculty Award for Teaching Excellence* *(one of 3 awarded annually from Marquette University). Cash award of $5000.*

2006 ***Outstanding Researcher Award in the College of Engineering*** *(one awarded annually from the College). Cash award of $1000.*

JOURNAL ARTICLES IN PRINT (since 2005)

Marklin, R.W., Toll, A.M., Bauman, E.H., Simmins, J.J., LaDisa, J.F., and Cooper, R. (August 24, 2020). Do head-mounted augmented reality devices affect muscle activity and eye strain of utility workers? Studies of plant operators and manhole workers. *Human Factors,* DOI: 10. 1177/ 0018 7208 20943710, pp. 1-18.

EPRI (2019). (Marklin, R.W., PI). *Safety Aspects of Using Augmented Reality Technologies: Field Tests with Electric Utility Power Plant Operators and Manhole Workers*. EPRI Report, 10008884.

EPRI (2018) (Marklin, R.W., PI). *Program on Technology Innovation: Augmented Reality—Literature Review of Human Factors Issues in the Electric Power Industry*. EPRI Report, 3002012532.

EPRI (2017) (Marklin, R.W., PI). *Decision Tool for Implementation of Recommended Overhead and Underground Distribution Ergonomic Interventions*. EPRI Report, 3002011194.

EPRI (2017) (Marklin, R.W., PI). *Aerial Bucket Pistol Grip Control to Reduce Muscle Fatigue of Electric Utility Line Workers*. EPRI Report, 3002012047.

Nagurka, M.L. and Marklin, R.W. (2017). Smart trigger: Development of a system to improve nail gun safety. *Professional Safety,* pp. 31-38.

Marklin, R.W. and Yager, J. (2005). *EPRI Ergonomics Handbook for the Electric Power Industry: Ergonomic Interventions for Direct-Buried Cable Applications*, EPRI, Palo Alto CA, 1005574.

Marklin, R.W. and Yager, J. (2004). *EPRI Ergonomics Handbook for the Electric Power Industry: Ergonomic Interventions for Manhole, Vault and Conduit Applications*, EPRI, Palo Alto CA, 1005430.

Marklin, R.W. and Yager, J. (2001). *EPRI Ergonomics Handbook for the Electric Power Industry: Overhead Distribution Line Workers Interventions*, EPRI, Palo Alto CA, 1005199.

REFEREED CONFERENCE PROCEEDINGS IN PRINT (since 2005)

Toll, A.M., Marklin, R.W., Bauman, E.H., and Simmins, J.J. (2020). Effect of head-mounted augmented reality systems on electric utility manhole workers: neck muscle activity and eye strain. *Proceedings of the Human*

28, 2017.

Marklin, R.W., Wilzbacher, J.W. and Krishen, L. (2016). How ergonomics improved occupational health in electric power industry with battery-powered tool. Presented at Applied Ergonomics Conference, Orlando, FL, March 24, 2016.

Marklin, R.W. (2010). Recommendations of alternative computer keyboards for industrial hygienists. Presented at the American Industrial Hygiene Conference & Exposition, Denver, CO, May 24-27, 2010.

Marklin, R.W. (2010). Electric utility workers are taller and heavier than typical anthropometry databases indicate. Presented at the American Industrial Hygiene Conference & Exposition, Denver, CO, May 24-27, 2010.

Marklin, R.W. Freier, S., and Papanek, P. (2009). A general-purpose office chair reduces heart rate during typical office tasks. Presented at the American Industrial Hygiene Conference & Exposition, Toronto, CANADA, June 1, 2009.

Marklin, R.W. and Weiszczyk, S. (2009). Low rolling resistance wheels reduce force to push carts. Presented at the American Industrial Hygiene Conference & Exposition, Toronto, CANADA, June 1, 2009.

Marklin, R.W. (2008). A methodology to assess musculoskeletal injury risk of workers in the electric utility industry. Presentation in the Roundtable: Exposure Assessment Tools for Ergonomic Analysis of Highly Variable Jobs. Presented at the American Industrial Hygiene Conference & Exposition, Minneapolis, MN, J(kel)5(et)5(al)-5( )

b) Jan. 1, 2008 to March 31, 2009
c) $54,000 USD
d) The purpose of this study is to evaluate substations to determine how physical injuries and accidents can be prevented.

a) **Electric Power Research Institute (EPRI)**
Title of Project: *Ergonomics Process for Workers in Fossil Electric Power Plants*
b) June 15, 2005 to Dec. 31, 2008
c) $468,254 USD
d) The purpose of this study is to build upon the success of the 2 previous EPRI studies for overhead and underground workers, which resulted in 3 published handbooks, and tailor an erg 1 110.3 -4(e)6(cs)-p5(g)11(r)--4(ce6

a) **Electric Power Researc**

c)
d) The purpose of this study is t