

Curriculum Vitae

Jeremy A. Patterson Ph.D., ECP, FACSM
Edith & Kathrine Erker Endowed Professor
Dean, College of Innovation & Design
Executive Director, Office of Innovation & New Ventures

Executive Profile

Academic executive, founding dean, and endowed professor with 20+ years of experience advancing graduate education, applied learning, and innovation in a public research university context. As Dean of the College of Innovation & Design and Executive Director of the Office of Innovation & New Ventures at Wichita State University, I created and lead an interdisciplinary, degree-granting college that integrates design, technology, business, and human-centered innovation, offering cohort-based master's programs, certificates, and pathways that prepare diverse students for research-intensive and workforce-aligned careers. My portfolio includes program assessment and accreditation, faculty and staff evaluation, strategic planning, budgeting, enrollment management, international student recruitment, and the creation, scaling, and sunseting of academic programs in alignment with institutional priorities and student demand.

I provide campuswide leadership on emerging technologies, economic development, and academic innovation that parallels the work of a graduate dean at a large, urban-serving research university. Through the Office of Innovation & New Ventures, I oversee institutional partnerships, community-facing initiatives, and more than \$2.4M in active external funding from agencies such as NASA, the U.S. Economic Development Administration, NSF, and the Kauffman Foundation, supporting innovation ecosystems, entrepreneurship, and workforce development. I chair the University Technology Strategic Planning Committee and the University Strategic Council on Artificial Intelligence, lead a university-wide career pathways initiative for early- and mid-career upskilling, and direct WSU's largest innovation seed fund. As an exercise physiologist and long-time laboratory director, I have translated research into patents, startups, and industry partnerships in XR, biosensing, health tech, and human-spaceflight-related technologies, including NASA EPSCoR and Space Grant-supported projects and the founding of an Open XR Laboratory that houses NASA SUITS and Micro-G teams.

Graduate education, student success, and equity have been central threads throughout my career. I have chaired doctoral committees, supervised more than 20 master's theses, served on dozens of additional graduate committees, and mentored students into careers at NASA, SpaceX, and across the innovation economy. My leadership includes guiding WSU's progress toward HSI designation; designing programs that reach first-generation, low-income, and historically underserved learners; mentoring McNair Scholars; and partnering to bring the Delfin Program's international summer research experiences to campus. I approach resource stewardship through data-informed planning, experience with modern ERP and budgeting environments, and a strong record of grant management and advancement work with industry, philanthropic, and civic partners. Known for collaborative, transparent leadership and a focus on belonging, well-being, and career outcomes, I work across colleges and central units to align graduate education, research infrastructure, and external partnerships in ways that enhance social mobility, support regional workforce needs, and strengthen the graduate enterprise at a research-intensive institution.

Education

Victoria University, Melbourne Australia	Clinical Vascular Physiology	Ph.D. 2004
Victoria University, Melbourne Australia	Exercise Rehabilitation	M.Sc. 2002
Linfield College, McMinnville OR	Exercise Science	B.Sc. 1995
Massachusetts Institute of Technology	Design Thinking & Innovation	Prof Cert. 2015

Curriculum Vitae

Employment

Wichita State University	Dean (inaugural) Innovation & Design	2016-present
Wichita State University	Executive Director (inaugural) Ventures	2020-present
Wichita State University	Edith & Kathrine Erker Endowed Professor	2016-present
Wichita State University	Director, Human Performance Lab	2004-present
Wichita State University	Founder/Director, WIDGET (Wsu InterDisciplinary Group for Emerging Tech	
Wichita State University	Associate Professor	2010-2016
Wichita State University	Assistant Professor	2004-2010
Wichita Center for Breast Cancer Survivorship	Clinical Physiologist Consultant	2010-2013
University of Puget Sound	Visiting Asst. Professor, Dept of Biology	2003-2004
Austin & Repatriation Medical Centre, Melbourne, Australia	Research Asst., Dept of Cardiology	2000-2003
Austin & Repatriation Medical Centre, Melbourne, Australia	Coordinator, Heart Failure Clinic	2000-2003

Professional Experiences & Training

Wichita State University	NSF ICORPS Great Plains Hub Faculty Lead	2025-present
Wichita State University	Member of Council of Deans	2016-present
Wichita State University	Affiliate Faculty, Biomedical Engineering	2016-present
Wichita State University	Faculty Council, Honors College	2013-present
Wichita State University	Edith & Kathrine Erker Endowed Professor	2016-present
Coleman Family Foundation	Coleman Entrepreneurial Fellow	2008-2012
Wichita State University	Clinical Director, Center for Physical Activity & Aging	2004-2016
Wesley Medical Center, Wichita Medical Research Education Foundation	Institutional Review Board Member; advisor on FDA studies & technology	2014-2020

Honors, Awards, & Appointments

WSU President's Innovation Award, 2019
WSU Ventures Visionary Award, 2018
Awarded the Emery Lindquist Faculty Award, 2017
WSU Ventures Innovation Award, Visionary 2016
WSU Ventures Innovation Award, Catalyst 2015
WSU Foundation; Faculty of Excellence Luncheon Keynote Speaker, 2015
WSU Foundation; Faculty of Excellence 2012, 2013, 2014, 2015, 2016
WSU Leadership Academy, 2013
WSU Honors Faculty Fellow, 2014-present
Graduate Research and Scholarly Projects Symposium Editorial Board
Coleman Entrepreneurship Faculty Fellow, Wichita State University, 2008-2012
Awarded WSU College of Education Outstanding Research Faculty Award
Awarded Fellow standing for American College of Sport Medicine, 2011
Appointed Graduate Faculty status at Liberty University, Lynchburg, VA., 2011
Faculty Appointment with Bioengineering Program, Wichita State University, Wichita, KS., 2010
Certificate of Excellence for a Community Partnership Grant Funded by the Robert Wood Johnson Foundation, 2009
Awarded WSU College of Education Faculty Research Scholarship, 2008
Awarded WSU College of Education Technology Innovation Award, 2008
Nominated to run for President Elect of Central States Chapter of the American College of Sports Medicine, 2007
Awarded WSU College of Education Teacher of the Year Award, 2007
Awarded the Emery Lindquist Faculty Award, 2007
Awarded Mentored Research Study of the Year for the *Ronald E. McNair Scholar Post-Baccalaureate Achievement Program*, Wichita, KS. Student researcher Crishel Kline
Appointed Graduate Faculty status at Oklahoma State University, Stillwater, OK., 2006
Nominated for Teacher of the Year Award, College of Education, Wichita State University, 2006
Appointed Research Mentor for *Ronald E. McNair Scholar Program*, 2005

Curriculum Vitae

Recent Committee/Service

Chair & Director of WSU early to mid-career upskilling initiative & program development
Search Committee for Associate Vice Provost
Co-chair Search Committee for Dean of Graduate School & AVP of Research
Co-chair University Technology Strategic Planning Committee
Co-chair University Strategic Council on Artificial Intelligence
Honors College Council

Research Specialty

Leadership/Economic –

- Economic impact of an innovation framework at urban serving universities.
- Teaching entrepreneurship, innovation, and product management in cross-disciplinary courses and its effects on small business generation post-graduation

Scientific –

- Applied clinical exercise physiology with interests in developing biosensing instruments and assessing human limitations.
- Physiological limitations to post heart transplant and long-term human space exploration.
- User interface design and testing

Industry Partnerships Secured

- Lockheed Martin, Skunkworks – collaborate and fund interdisciplinary challenges, supports students across the university
 - Koch Industries – fund course projects/challenges, internship pipeline, Koch leadership attend/co-teach courses weekly
 - Textron Aviation – collaborate and fund course project/challenges; industry presence in courses
 - SWAY Medical, an FDA approved concussion test and management system – secured undergraduate, graduate, and faculty stipends per semester
 - Instant Bits, tech company provides software solutions – fund student travel course to CES in Las Vegas
 - Clinic in a Can, non-profit organization that makes shipping containers into emergency or birthing clinic for conflict or disaster areas – fund course projects/challenges for design of containers going to Ukraine and Gaza
 - Wonder School, a private K-12 school operating under the Acton System – employment pipeline and support student led activities
 - Equity Bank – fund Service Design course projects/challenges
 - Evergy, a KS & MO energy company – led discussions to secure funding for faculty and student support on projects related to solar energy and hardware for the College of Engineering
 - Emprise Bank – led discussions to secure funding to develop a collaborative math/analytics laboratory for the College of Liberal Arts & Sciences
-

Contracts & Grants

More than 25 grants in external funding.

Funded by EDA, NSF, NASA, Kauffman Foundation, Robert Wood Johnson Foundation, Kansas Health Foundation, City of Wichita KS, Kansas Department of Commerce, SWAY Medical, The Hygenic Corp, MusclePharm, United Methodist Health Ministry, Hendrick Foundation, Reflexion, Full Vision, Wichita Medical Research Education Foundation

Current funding – \$2.4M (Pending +\$3M)

2023 KS NASA EPSCoR Program, Familiarization Training Game for XR Spacesuit UI. \$20,000 (Co-PI)

2022 American Rescue Plan Act (CFDA 21.027) Small Business Development Project. \$1,013,414 (PI)

Curriculum Vitae

- 2022 Kansas Department of Commerce/KTEC Holdings. Novel 3-Layered Multifunctional Bioscaffold System for Localized and Fast Burn Wound Treatments. \$25,000 (Co-PI)
- 2021 Economic Development Agency, Build2Scale Program. Wichita Entrepreneurship Coalition. \$750,000(Co-PI)
- 2021 Ewing Marion Kauffman Foundation, Challenge Grant. Wichita Startup School Initiative, providing access and support to early-stage startups in underrepresented communities in Wichita, KS. \$300,000 (PI)
- 2020 Ewing Marion Kauffman Foundation, Heartland Grant. Wichita State University: Heartland Innovation and Translation Hub. \$100,000 (PI)
- 2025** Kansas NASA EPSCoR Program (KNEP), Expanding Participation in High-Impact Practices Through the Interdisciplinary Open XR Program (extension). Role: Co-I. (\$50,000)
- 2024** Kansas Department of Commerce DOCK Grant, Practical ChatGPT-Intro to AI Program. Role: PI. (\$250,000)
- 2024** Kansas NASA EPSCoR Program (KNEP), Encouraging Participation in High-Impact Practices Through the Interdisciplinary Open XR Program. Role: Co-I. (\$50,000)
- 2023** Kansas NASA EPSCoR Program (KNEP), Familiarization Training Game for Extended Reality Spacesuit User Interface. Role: Co-I. (\$22,029)
- 2023** KTEC Holdings Inc., Novel Three-Layered Multifunctional Bioscaffold Systems for Localized and Fast Burn Wound Treatments. Role: Co-PI. (\$25,000)
- 2023** American Rescue Plan Act (ARPA) (CFDA 21.027) Small Business Development Project. Role: PI. (\$1,013,414)
- 2022** Kauffman Foundation, Heartland Innovation and Translation Hub Yrs 2-4. Role: PI. (\$300,000)
- 2022** Centers for Medicare & Medicaid Services, Medicaid Functional Eligibility Instrument Agreement Offline Tool. Role: Key Personnel (\$749,933)
- 2022** Kansas Department of Commerce KITE Proof of Concept, Novel Tree-Layered Multifunctional Bioscaffold Systems for Localized and Fast Burn Wound Treatments. Role: Co-PI. (\$25,000)
- 2022** U.S. Economic Development Administration Build to Scale, Wichita Entrepreneurship Coalition. (ED21HDQ0240113) Role: Co-PI (\$750,000)
- 2022** Kansas Space Grant Consortium, H.A.R.V.I.E (holographic augmented reality visualization interface for exploration) NASA SUITS Program. Role: Co-I (\$2000)
- 2021** Wichita Medical Research & Education Foundation, Studying the Sensitivity of Multifunctional Nanofiber Membrane Systems Integrated in 3D Printed Reusable Masks against Infectious Diseases. Role: Co-PI. (\$15,000)
- 2020** Ewing Marion Kaufman Foundation, Heartland Innovation and Translation Hub. (202004-8310) Role: PI. (\$100,000)
- 2020** SBA, Kansas SBA FAST Initiative. (SBAOIFT200008-02) Role: Co-I. (\$250,000)
- 2019** National Science Foundation National I-Corps, PARROT, a wireless orofacial myofunctional imaging and pressure mapping appliance. Role: Co-PI. (\$50,000)
- 2018** WSU Regional Institute on Aging, Effects of Racket Sports-Playing on Older Adult Cognition and Balance: Evidence from Cross-sectional and 12-month Longitudinal Studies. Role: Co-PI. (\$25,000)
- 2016** NASA (NNX16AQ99A) Novel smart skin biomedical sensor for monitoring crew health parameters in a wireless, passive, lightweight, robust, and non-invasive fashion. Role: Co-PI.
- 2016** WSU MURPA Grant, Development of a Wireless Non-invasive Conductive Mouthpiece for Lingual Applications. Role: Co-PI.
- 2015** Kansas NASA EPSCoR Seed Research Initiation Grant. Bone health sensor for monitoring early onset of osteoporosis due to spaceflight. Role: Co-PI. (\$183,744)
- 2015** Performance Health Research Fund: Effects of Kinesiology Tape on proprioception and balance. Role: Co-PI.
- 2015** John A. See Research Award. Development of a disposable heart-screening patch. Role: PI. (\$25,000)
- 2014** MusclePharm Research Award. The effects of a nutritional supplement on golf performance and biophysical measures during a 36-hole golf tournament in competitive male golfers aged 20-55 years. Role: Co-PI
- 2014** SWAY Medical Research Award. Measuring balance from above center of gravity. Role: PI
- 2013** MusclePharm Research Award. Effects of the Bizzy Diet and FitMiss supplements on body composition changes and blood serum metabolic markers in women. Role: Co-PI
- 2013** SWAY Medical Research Award. Evaluation of 10 seconds versus 20 seconds balance assessment criteria. Role: PI
- 2013** Hygenic Research Award. Metabolic expenditure of elastic band resistive exercises. Role: Co-PI
- 2012** Thorotread Treadmill (Full Vision) Research Award. Evaluation of upper body concentric exercise while treadmill walking – influence on HR and Metabolic expenditure. Role: PI

Curriculum Vitae

- 2012 iPad Innovation Grant. WSU. Role: PI
- 2012 Hendrick Foundation Award. Bone density and body composition studies using Dual Energy X-Ray Absorptiometer. Role: Co-PI. (\$95,000)
- 2012 Hygenic Research Award. Effect of whole-body vibration exercise on muscle activity when using elastic resistance bands in younger and older adults. Role: Co-PI
- 2012 Proformance Health. Postural balance of young and older adults while standing on foam surfaces. Role: Co-PI
- 2012 Multidisciplinary University Research Project Award. Validation of heart rate assessment by video imaging. Role: Co-PI
- 2012 Regional Institute of Aging, WSU. Effects of upper body resistance while walking on older adults. Role: PI
- 2011 Hygenic Research Award. Calculation of caloric expenditure for elastic resistance exercise with upper and lower body exercise. Role: Co-PI
- 2011 United Methodist Health Ministry Fund. Fear and other barriers to physical activity during pregnancy. (Collaborative study with KU). Role: Co-PI
- 2011 Capacity Sports Research Award. Reproducibility & reliability of Smartphone balance application. Role: PI
- 2011 Capacity Sports Research Award. Validation of Smartphone balance application. Role: PI
- 2011 Hygenic Research Award. Postural balance of young and older adults while standing on foam surfaces. Role: Co-PI
- 2011 Hygenic Research Award. Effect of Biofreeze gel on power output on blood lactate during anaerobic exercise. Role: Co-PI
- 2010 Wichita Council for Graduate Medical Education Research. Employment problem-solving and physical activity in women after cancer diagnosis. (Collaborative study with KU). Role: Co-PI
- 2009 Wichita Council for Graduate Medical Education Research. Fear and other barriers to physical activity during pregnancy. (Collaborative study with KU). Role: Co-PI
- 2009 WSU LINK Award (ULINK) Assessment of bone mineral density in individuals on standard drug therapy for severe mental illness. Role: PI
- 2008 Robert Wood Johnson Foundation Grant. Health Education and Leadership (HEAL) Project to improve fitness and nutrition in individuals with Severe Mental Illness in Wichita. The project will also establish a cardiovascular risk stratification system based on medication regime. (Collaborative study with KU). Role: Co-PI. (\$800,000)
- 2006 University Research / Creative Projects Award (URCA). Assessing electrical activity of the heart during lifting may be a reliable method of identifying improper mechanics. Role: PI

Scholarship

Published

1. Cluff K, Becker R, Jayakumar B, Han K, Condon E, Dudley K, Szatkowski G, Pipinos I, Amick R, **Patterson J.A.** Passive wearable skin patch sensor measures limb hemodynamics based on electromagnetic resonance. *IEEE Transactions on Biomedical Engineering*. 2018; 65 (4): 847-856.
2. Griffith J, Cluff K, Eckerman B, Aldrich J, Becker R, Moore-Jansen P, **Patterson J.A.** Non-invasive electromagnetic skin patch sensor to measure intracranial fluid-volume shifts. *Sensors*. 2018; 18 (1022): 1-17. PMID: s18041022
3. Collins, Tracie. C; Slovut, David P; Newton Jr, Robert; Johnson, William D; Larrivee, Sandra; **Patterson, J.A.**; Johnston, Judy A; Correa, Aldo. Ideal cardiovascular health and peripheral artery disease in African Americans: Results from the Jackson Heart Study. *Preventive Medicine Reports*. Sep; 7: 20-25, 2017. PMID: 28593118
4. VanRavenhorst-Bell, Heidi A; Mefferd, Antje S; Coufal, Kathy L; Scudder, Rosalind; **Patterson, J.A.** Tongue Strength and Endurance: Comparison in Active and Non-active Young and Older Adults. *International Journal of Speech-Language Pathology*, accepted 2016.
5. Colling, L.J., Kautz, R.M., **Patterson, J.A.** A preliminary model using body composition and anthropometry to predict peak power production in trained college-aged individuals. *Journal of Biochemistry International*. 2(1): 37-42, 2015.
6. Amick, R. Z., Jansen, S.D., Chaparro, A., Hakansson, N.A., **Patterson, J. A.**, & Jorgensen, M. J. Comparison of the SWAY Balance Mobile Application to the abbreviated Balance Error Scoring System. *Athletic Training & Sports Health Care*, 7 (3): 89-96, 2015.
7. Amick, R. Z., Chaparro, A., **Patterson, J. A.**, & Jorgensen, M. J. Test-Retest Reliability of the SWAY Balance Mobile Application. *Journal of Mobile Technology in Medicine*, 4 (2): 40-47, 2015.

Curriculum Vitae

8. **Patterson, J.A.**, Amick, R.Z., Pandya, P.D., Hakansson, N., Jorgensen, M.J. Comparison of a mobile technology application with the Balance Error Scoring System. *International J of Athletic Therapy & Training*, 19(3); 4-7, 2014.
9. **Patterson, J.A.**, Amick, R.Z., Thummar, T., Rogers, M.E. Validation of measures from the Smartphone SWAY Balance Application: A pilot study. *International Journal of Sports Physical Therapy*, 9(3); 135-139, 2014. PMID: 24790774.
10. Goldberg, L.R., Heiss, C.J., Parsons, S.D., Foley, A.S., Mefferd, A.S., Hollinger, D., Parham, D.F., **Patterson, J.A.** Hydration in older adults: The contribution of bioelectrical impedance analysis. *International Journal of Speech-Language Pathology*. 16 (3): 273-281, 2014.
11. He, J., **Patterson, J.A.**, Bryant, L., Stover, C. Measuring heart rate with webcam and mobile devices: A performance validation study. *International Journal of Applied Science & Technology*. Accepted Jan 2014.
12. Amick, R.Z., **Patterson, J.A.**, Jorgensen, M.J. Sensitivity of Tri-Axial accelerometers within mobile consumer electronic devices: A pilot study. *International Journal of Applied Science & Technology*, 3(2), 97-100, 2013.
13. **Patterson, J.A.**, Amick, R.Z., Thummar, T. & Rogers, M.E. Consistency of measures obtained from the mobile device SWAY Application compared to a validated balance-testing device. *International Journal of Sport Science & Engineering*, Accepted Jan 2013.
14. Goldberg, LR, Heiss, CJ, Yenter, J, Parham, DF, **Patterson, J.A.**, Walton, N. Energy expenditure during chewing: A comparison of two measurement methods. *Topics in Clinical Nutrition*, 27(1), 1-7, 2012.
15. **Patterson, J.A.** Consistency of measures from the Smartphone SWAY Balance application compared to a validated balance-testing device (study 1,2, & 3 of 6). Accepted as official research report for FDA submission of biomedical device; Capacity Sports, Concussion Manager Smartphone Report Accepted Sept. 2011.
16. **Patterson, J.A.** Postural sway analysis with motion sensors in Smartphone technology: familiarization, reliability, validity and specific protocol analysis (study 4 of 6). Accepted as official research report for FDA submission of biomedical device; funded by Capacity Sports, Concussion Manager Smartphone Report Accepted Sept. 2011.
17. **Patterson, J.A.** Validation of motion sensors in Smartphone technology to measure postural sway compared to clinically tested force platforms in progressively less stable conditions (study 5 of 6). Accepted as official research report for FDA submission of biomedical device; funded by Capacity Sports, Concussion Manager Smartphone Report Accepted Sept. 2011.
18. **Patterson, J.A.**, Jorgensen, M.J. iPod Touch and iPhone sensitivity testing (study 6 of 6). Accepted as official research report for FDA submission of biomedical device; funded by Capacity Sports, Concussion Manager Smartphone Report Accepted Sept. 2011.
19. **Patterson, J.A.**, Amick, R.Z., Farhoud, H.H. Exercise capacity in an individual with LVAD explantation without heart transplantation. *Journal of Cardiopulmonary Rehabilitation and Prevention*, 30 (4); 231-234, 2010. PMID: 20436356.
20. **Patterson, J.A.** and Walton, N.G. Exercise limitations in a competitive cyclist twelve months post heart transplantation. *Journal of Sport Science & Medicine*, 8: 696-701, 2009. PMID: 24149613
21. **Patterson, J.A.**, Pitetti, K., Goodman, W., and Farhoud H. Case report on the physical work capacity of a 37-year-old competitive cyclist prior to and following orthotopic heart transplant. *Medicine & Science in Sport & Exercise*, 39 (9): 1447-1451, 2007. PMID: 17805072
22. **Patterson, J.A.**, Selig S.E, Toia D, Bamroongsuk V, and Hare D. Forearm blood flow in individuals with CHF and age-matched healthy volunteers: A study and historical review. *J of Exercise Physiol*, 10 (5): 1-15, 2007.
23. Williams, A.D., Carey, M.F., Selig, S.E., Hayes, A., Krum, H., **Patterson, J.A.**, Toia, D., and Hare, D.L. Circuit resistance training in chronic heart failure improves skeletal muscle mitochondrial ATP production rate – A randomized controlled trial. *Journal of Cardiac Failure*, 13 (2): 79-85, 2007. PMID: 17395046
24. Kline, C. and **Patterson, J.A.** Changes in heart rate may be a vital indicator to poor lifting mechanics. *McNair Scholar Journal of Research*. 11: 11-16, 2007
25. **Patterson, J.A.** and Selig, S.E. Comparing methods for prescribing exercise for patients with chronic heart failure. *Journal of Exercise Physiology* 8 (4) August 2005.
26. Selig, S.E., Carey, M., Menzies, D., **Patterson, J.A.**, Geerling, R., Williams, A., Bamroongsuk, V., Toia, D., Krum, H., and Hare, D. Moderate intensity resistance exercise training in patients with CHF improves strength, endurance and heart rate variability, and forearm blood flow. *Journal of Cardiac Failure*, 10 (1): 21-30, 2004. PMID: 14966771
27. Williams, A.D., Selig, S.E., Hare, D.L., Hayes, A., Krum, H., **Patterson, J.A.**, Geerling, R., Toia, D., and Carey, M. Reduced exercise tolerance in CHF may be related to factors other than impaired skeletal muscle oxidative capacity. *Journal of Cardiac Failure*, 10 (2): 141-148, 2004. PMID: 15101026
28. Selig, S.E., Carey, M., Menzies, D., **Patterson, J.A.**, Geerling, R., Williams, A., Bamroongsuk, V., Toia, D., Krum, H., and Hare, D. Reliability of isokinetic strength and aerobic power testing for patients with chronic heart failure. *Journal of Cardiopulmonary Rehabilitation*, 22: 282-289, 2002. PMID: 12202850

Curriculum Vitae

- Williams, A.D., Selig, S.E., Hare, D.L., Krum, H., Hayes, A., Menzies, D., **Patterson, J.A.**, Geerling, R., Butler, N., Bamroongsuk, V., Toia, D., and Carey, M. Exercise limitation in chronic heart failure is caused by structural changes in skeletal muscle not reduced oxidative capacity. *Circulation*, 104 (17): 453-453, 2001.

Presentations (114 presentations; 108 students as co-authors)

International Presentations

- Schoonover, M, Waits K, Pate A, McKeown B, Beran R, Painter A, Nawarkar P, **Patterson J**, Amick R. Familiarization Training Game for Extended Reality Spacesuit User Interface. *Human Factors & Ergonomics Society, International Annual ASPIRE Meeting*, Phoenix, AZ, September 9-13, 2024.
- Rogers, M.E., J.M. Jimoh, Q. Zhang, **J.A. Patterson**, and R. Bomgardner. Effects of Kinesiology Tape on proprioception. *International Conference on Therapy and Exercise*, Vancouver, BC, Canada, July 26-29, 2015. (Invited Lecture)
- Rogers, M.E., J.M. Jimoh, Q. Zhang, **J.A. Patterson**, and R. Bomgardner. Effects of Kinesiology Tape on balance. *International Conference on Therapy and Exercise*, Vancouver, BC, Canada, July 26-29, 2015. (Invited Lecture)
- Forman, J., M.E. Rogers, M. Bunyan, N.L. Rogers, and **J.A. Patterson**. Effects of massage combined with eccentric resistance on ankle flexibility and balance in adults aged 50-65 years. *Fourth International Congress on Fascia Research*, Washington, DC, September 18-20, 2015.
- Patterson, J.A.** Ventricular assist devices and exercise. Session: Controversies in exercise training in heart failure. *ECS Congress European Society of Cardiology*. Barcelona, Spain, August 31, 2014. (Invited Lecture)
- Rogers, M.E., **J.A. Patterson**, and N.L. Rogers. Postural balance progression while standing on foam surfaces. *International Conference on Therapy and Exercise*. St. John's, Newfoundland, July 23-25, 2012. (Invited Lecture)
- Rogers, M.E., **J.A. Patterson**, C. Simmons, W. Hawkins, R. Amick, and N.L. Rogers. Effect of whole-body vibration exercise on muscle activity when using elastic resistance bands in younger and older adults. *International Conference on Therapy and Exercise*. San Francisco, CA, July 22-24, 2011. (Invited Lecture)
- Patterson, J.A.** Advanced exercise testing and prescription for chronic heart failure patients. 45th Annual Scientific Congress of the Faculty, Royal Thai Navy Convention Hall, Bangkok, Thailand, July 7, 2005. (Invited Lecture)

National Presentations

- Hafez KA, Hakansson N, **Patterson J** and Jorgensen MJ. Assessing the American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLV): Lifting Beyond 30 Degrees Torso Asymmetry, *9th International Conference on Applied Human Factors and Ergonomics*, Orlando, FL, July 21-25, 2018.
- VanRavenhorst-Bell, H.A., Coufal, K., Pinkston, J., & **Patterson, J.A.** Tongue muscle performance in relation to measures of body composition and bone mineral density. *Annual American Speech Language and Hearing Association Convention*. Philadelphia, Pennsylvania, November 2016.
- Rogers J, Jayakumar B, **Patterson J**, Cluff K. Electromagnetic Properties of Blood-flow for Screening of Peripheral Artery Disease. *American Heart Association - Arteriosclerosis, Thrombosis and Vascular Biology - Peripheral Vascular Disease*, Nashville, TN, May 5-7, 2016.
- Rogers J, Becker R, Jayakumar B, **Patterson J**, Cluff K. Electro-magnetic plethysmography smart-skin for point-of-care screening of claudication. *Biomedical Engineering Society - Frontiers in Medical Devices*, Washington, DC; May 23-25, 2016.
- Rogers, M.E., Jimoh, J.M., Q. Zhang, **J.A. Patterson**, R. Bomgardner, and N.L. Rogers. Effects of kinesiology tape on balance. *Amer College of Sports Med Annual Meeting*, Boston, MA, June 1-4, 2016.
- VanRavenhorst-Bell, H.A., Mefferd, A., Coufal, K., Scudder, R., & **Patterson, J.A.** A comparative study on tongue muscle performance in weightlifters and runners. *Annual American Speech Language and Hearing Association Convention*, Denver, Colorado, November 2015.
- Geddam, D.E., Wehrman, T.A., Bean, M.L., Patterson, J.A. Aerobic capacity before and after radio frequency ablation treatment for atrial fibrillation. *American College of Sports Medicine Annual Meeting*, Denver, CO, May 28, 2015. MSSE 47:319. DOI 10.1249/01.mss.0000477288.75494.2a
- Jimoh, J.M., Q. Zhang, **J.A. Patterson**, R. Bomgardner, N.L. Rogers, and M.E. Rogers. Effects of kinesiology tape on proprioception. *American College of Sports Medicine Annual Meeting*, Boston, MA, June 1-4, 2016.
- Rogers, M.E., **Patterson, J.A.**, and Bunyan, M. Caloric costs of upper- and lower-body resistance exercise using CLX bands. *International Conf Therapy and Exer*, Park City, UT, August 5-9, 2014. (Invited Lecture)

Curriculum Vitae

10. Forman, J., Rogers, M.E., Bunyan, M., Rogers, N.L. and **Patterson, J.A.** Effects of massage combined with resistance on balance in adults aged 50-65 years. *International Conference on Therapy and Exercise*, Park City, UT, August 5-9, 2014. (Invited Lecture)
11. Jansen, S.D., Amick, R.Z., Stern, D.C., Chaparro, A., **Patterson, J.A.** Comparison of the SWAY Balance mobile application to the BESS balance assessment in older adults. *American College of Sports Medicine Annual Meeting*, Orlando, FL, May 28-31, 2014.
12. Donner, L.A., Carson, L.L., Miller, R.A., Amick, R.Z., **Patterson, J.A.** Time to target heart rate in professional firefighters wearing a weighted vest versus firefighter gear. *American College of Sports Medicine Annual Meeting*, Orlando, FL, May 28-31, 2014.
13. Stover, C.D., Geddam, D.E., Amick, R.Z., Young, K.C., **Patterson, J.A.** Association between balance and lower extremity strength in older adults aged 50 to 74 years. *American College of Sports Medicine Annual Meeting*, Orlando, FL, May 28-31, 2014.
14. Geddam, D.E., Amick, R.Z., Stover, C.D., Stern, D.C., **Patterson, J.A.** SWAY Balance score as indication of improved function in an elite athlete. *American College of Sports Medicine Annual Meeting*, Orlando, FL, May 28-31, 2014.
15. Nadji, N., Coursen, S.M., Amick, R.Z., **Patterson, J.A.** Effect of task difficulty on dual-task performance using postural stability and cognition measures. *American College of Sports Medicine Annual Meeting*, Orlando, FL, May 28-31, 2014.
16. Amick, R.Z., Stern, D.C., Jansen, S.D., Jorgensen, M.J., **Patterson, J.A.** Balance assessment using the Balance Error Scoring System: 10 seconds versus 20 seconds evaluation time. *American College of Sports Medicine Annual Meeting*, Orlando, FL, May 28-31, 2014.
17. Takeshima, N., **Patterson, J.A.**, Amick, R.Z., Rogers, N.L., Young, K.C., Rogers, M.E. Comparison of postural sway measures using a balance platform and mobile application. *American College of Sports Medicine Annual Meeting*, Orlando, FL, May 28-31, 2014.
18. Rogers, M.E., **Patterson, J.A.**, Pozo-Cruz, B., Robillard, T., Rogers, N.L., Takeshima, N. Caloric expenditure of elastic resistance training in upper and lower body exercise. *American College of Sports Medicine Annual Meeting*, Orlando, FL, May 28-31, 2014.
19. Stern, D.C., Amick, R.Z., Jansen, S.D., Jorgensen, M.J., **Patterson, J.A.** BESS scores observed in real time versus with slow-motion video recording. *American College of Sports Medicine Annual Meeting*, Orlando, FL, May 28-31, 2014.
20. VanRavenhorst-Bell, H., Mefferd, A.S., **Patterson, J.A.** Effect of Physical Activity on Tongue Strength & Endurance. *American Speech-Language-Hearing Association National Conf*, Chicago, IL. Nov 16, 2013.
21. Staab, C.A., Epps, E.J., **Patterson, J.A.** Familiarization Trial Needed When Measuring Postural Sway with a Mobile Device. *American College of Sports Medicine Annual Meeting*, Indianapolis, IN, May 28-June 1, 2013. *MSSE*, 45(5) S241.
22. Epps, E.J., Staab, C.A., **Patterson, J.A.** Acute Effects of Five-Toed Shoes. *American College of Sports Medicine Annual Meeting*, Indianapolis, IN May 28-June 1, 2013. *MSSE*, 45(5) S565.
23. Berry, B.D., Young, C.Y., Smith, S., Waterson, R.E., Bryant, L., Tucker, M.T. and **Patterson, J.A.** D.F. Effects of intermittent upper-body static presses during treadmill walking. Submitted for presentation at *Amer College of Sports Med Annual Meeting*, Indianapolis, IN. May 29-June 2, 2013. *MSSE*, 45(5) S498.
24. Hawkins, W.C., Rogers, M.E., **Patterson, J.A.** Effect of whole-body vibration exercise on muscle activity when using elastic resistance bands. *American College of Sports Medicine Annual Meeting*, Indianapolis, IN. May 29-June 2, 2013. *MSSE*, 45(5) S116.
25. Roberts, D., Hawkins, W.C., Costa, P.B., Rogers, M.E., **Patterson, J.A.**, Young, K.C. Effect of whole-body vibration exercise on muscle activity when using elastic resistance bands. *American College of Sports Medicine Annual Meeting*, Indianapolis, IN. May 29-June 2, 2013. *MSSE*, 45(5) S457.
26. **Patterson, J.A.**, Drake, R., Shoenecker, A. and Johnston, J.A. Assessment of VO₂max and body composition following a 3-month wellness intervention for severe mental illness. *American College of Sports Medicine Annual Meeting*, San Francisco, CA. May 30 – June 2, 2012.
27. Nadji, N., Baniyadi, M., **Patterson, J.A.** and Parham, D.F. DtP Score Method for assessing dual-task performance using stability and cognition measures. *American College of Sports Medicine Annual Meeting*, San Francisco, CA. May 30 – June 2, 2012.
28. Baniyadi, M., Nadji, N., **Patterson, J.A.** and Parham, D.F. Effect of coffee on dual-task performance. *American College of Sports Medicine Annual Meeting*, San Francisco, CA. May 30 – June 2, 2012.
29. Hawkins, W. **Patterson, J.A.**, Simmons, C. and Rogers, M.E. Effect of topical menthol gel on power output during 30-second high intensity anaerobic exercise. *American College of Sports Medicine Annual Meeting*, San Francisco, CA. May 30 – June 2, 2012.
30. **Patterson, J.A.**, Drake, R., Shoenecker, A. and Johnston, J.A. Effects of a 3-month wellness intervention on aerobic capacity and body composition in individuals with severe mental illness. *Society of Behavioral Medicine Annual Meeting*, New Orleans, LA. Apr 12-14, 2012.

Curriculum Vitae

31. Sullard, C.B., **Patterson, J.A.**, and Johnston, J.A. An assessment of body composition, balance, and muscular strength and endurance in breast cancer survivors. *Society of Behavioral Medicine Annual Meeting*, New Orleans, LA. Apr 12-14, 2012
32. Rohleder, P.A., Amick, R.Z., **Patterson, J.A.** Abdominal EMG activity while performing an unstable crunch with and without vibration. *American College of Sports Medicine Annual Meeting*, Denver, CO. June 1-4, 2011.
33. Clark, B., Sullard, C.B., Thummar, T. and **Patterson, J.A.** Balance and gait analysis following uncoupled cranks cycling: A pilot study. *Amer College of Sports Med Annual Meeting*, Denver, CO. June 1-4, 2011.
34. Walton, N., Lessinger, L. and **Patterson, J.A.** Effects of whole-body vibration on balance and stability. *American College of Sports Medicine Annual Meeting*, Denver, CO. June 1-4, 2011.
35. Thummar, T., Sullard, C.B., Clark, B. and **Patterson, J.A.** Effects of short duration cycling with uncoupled cranks on leg strength. *American College of Sports Medicine Annual Meeting*, Denver, CO. June 1-4, 2011.
36. Sullard, C.B., Thummar, T., Clark, B. and **Patterson, J.A.** Effects of short-term cycling with uncoupled cranks on pedal efficiency. *Amer College of Sports Medicine Annual Meeting*, Denver, CO. June 1-4, 2011.
37. **Patterson, J.A.**, Amick, R.Z., Thummar, T., Rogers, M.E. Validation of motion sensors in Smartphone technology to measure balance: Preliminary results. *American College of Sports Medicine Conference on Physical Activity, Cognitive Function, and Academic Achievement*, Nov 16-19, 2011, Washington DC.
38. Rogers, M.E., **Patterson, J.A.**, Simmons, C., Hawkins, W., Amick, R.Z. and Rogers, N.L. Effect of whole-body vibration exercise on muscle activity when using elastic resistance bands in younger and older adults. *International Conference on Therapy and Exercise*. San Francisco, CA, July 22-24, 2011. (Invited Lecture)
39. Rogers, M.E., **Patterson, J.A.**, Simmons, C., Hawkins, W. Effect of Biofreeze gel on power output and blood lactate during a 30-second bout of high-intensity anaerobic exercise. *International Conference on Therapy and Exercise*. San Francisco, CA, July 22-24, 2011. (Invited Lecture)
40. Amick R.Z, **Patterson J.A**, Winklepleck B.M, Jorgensen M.J. Effects of acute whole-body vibration on upper extremity isometric strength in females. *American College of Sports Medicine Conference on Integrative Physiology of Exercise*, Miami Beach, FL, Sept 22 – 25, 2010.
41. **Patterson J.A**, Hervey A.M, Fryman A.R, Andres B. Bone mineral density and body composition assessment in individuals with severe mental illness. *American College of Sports Medicine Annual Meeting*, Baltimore, MD, June 1-5, 2010. *MSSE* Vol 40
42. Fryman A.R, Winklepleck B.M, **Patterson J.A**. Assessment of bone mineral density in forearms of collegiate ten pin bowlers. *American College of Sports Medicine Annual Meeting*, Baltimore, MD, June 1-5, 2010. *MSSE* Vol 42.
43. Cleveland J.D, **Patterson J.A**. Assessment of vertical leap using a Vertec and Axon Jump Mat System. *American College of Sports Medicine Annual Meeting*, Baltimore, MD, June 1-5, 2010. *MSSE* Vol 42.
44. Winklepleck B.M, Fryman A.R, **Patterson J.A**. Strength assessment in bowling and non-bowling arms of collegiate ten pin bowlers. *American College of Sports Medicine Annual Meeting*, Baltimore, MD, June 1-5, 2010. *MSSE* Vol 42.
45. **Patterson, J.A.**, Walton N.G., Young, K.C., and Farhoud, H.H. Limiting factors of exercise following heart transplant. *American College of Sports Medicine Annual Meeting*, Seattle, WA, May 27-30, 2009.
46. Ziegler, B.M. and **Patterson, J.A.** Bone response to training volume in cyclists. *American Society of Exercise Physiology Annual Meeting*, Wichita Falls, TX, Apr 2-4, 2009.
47. Amick, R.E. and **Patterson, J.A.** Evaluation of exercise tolerance in a patient pre and post LVAD support. *American Society of Exercise Physiology Annual Meeting*, Wichita Falls, TX, Apr 2-4, 2009.
48. Bannon, H. and **Patterson, J.A.** Wheelchair transfer testing as an alternative protocol to determine aerobic capacity in an individual with arthrogyriposis. *American College of Sports Medicine Annual Meeting*, Indianapolis, IN, May 28-31, 2008. *MSSE* Vol 40
49. Bean, M. and **Patterson, J.A.** Analysis of heart rate response to the valsalva maneuver during dumbbell versus elastic band lifts. *Amer College of Sports Med Annual Meeting*, Indianapolis, IN, May 28-31, 2008.
50. **Patterson, J.A.**, Pitetti, K., Goodman, W., and Farhoud H. Case report on the physical work capacity of a 37 year old competitive cyclist prior to and following orthotopic heart transplant. *American College of Sports Medicine Conference on Integrative Physiology of Exercise*, Indianapolis, IN, Sept 28 – 30, 2006.
51. **Patterson, J.A.** and Selig, S.E. Peripheral blood flow in patients with chronic heart failure and age-matched healthy volunteers. *American College of Sports Med Annual Meeting*, Denver, CO. May 31 – June 1, 2006.
52. Fast, S., **Patterson, J.A.**, and Farmer, K. The effects of chest constriction at rest on aerobic capacity. *American College of Sports Medicine Annual Meeting*, Denver, CO. May 31 – June 1, 2006.
53. Farmer, K., and **Patterson, J.A.** The effects of chest constriction on aerobic conditioning. *American College of Sports Medicine Annual Meeting*, Denver, CO. May 31 – June 1, 2006.
54. VanRavenhorst-Bell, H.A., Rogers, M.E., and **Patterson, J.A.** Effects of circuit weight training on fitness in college-aged women. *American College of Sports Medicine Annual Meeting*, Denver, CO. May 31 – June 1, 2006.

Curriculum Vitae

Regional / State Presentations

1. Chastain, H., **Patterson, J.A.**, & VanRavenhorst-Bell, H.A. Development of PARROT, a wireless orofacial myofunctional imaging and pressure mapping device. *2020 Kansas Honors Connections Conference*. Virtual, November 2020.
2. Chastain, H., **Patterson, J.A.**, & VanRavenhorst-Bell, H.A. PARROT: A wireless assessment tool for orofacial myofunctional disorders. *2020 Great Plains Honors Council Conference*. Wichita, Kansas (March 2020 – Cancelled due to COVID-19).
3. Amick, R. Z., Chen, Z., Cluff, K., Asmatulu, R., & **Patterson, J.A.** Development of Dielectric Elastomer Artificial Muscle for Use as a Human Assistive Device. Presented at the *American College of Sports Medicine Central States Chapter Annual Meeting*, Fayetteville, AR, October 20-21, 2016
4. Frazier, L., Redmond, M., Bacon, C., **Patterson, J.A.** Preventing childhood obesity through physical activity and nutrition during pregnancy. *Governor's Council on Fitness Kansas Summit on Obesity*, Topeka, KS. Sept 6, 2012.
5. Hawkins, W., **Patterson, J.A.**, and Rogers, M.E. Effect of whole-body vibration exercise on muscle activity when using elastic resistance bands. *American College of Sports Medicine Central States Chapter Annual Meeting*, Columbia, MO. Oct 18, 2012.
6. Nadji, N., Baniyadi, M., **Patterson, J.A.** and Parham, DF. DtP Score Method for assessing dual-task performance using stability and cognition measures. Submitted for presentation at *Central States Chapter / American College of Sports Medicine Annual Meeting*, Oct 20-21, 2011, Overland Park, KS.
7. Baniyadi, M., Nadji, N., **Patterson, J.A.** and Parham, DF. Effect of coffee on dual-task performance. Submitted for presentation at *Central States Chapter / American College of Sports Medicine Annual Meeting*, Oct 20-21, 2011, Overland Park, KS.
8. Hawkins, W., Simmons, C., Rogers, ME. and **Patterson, J.A.** Effect of Biofreeze gel on power output during a 30-second bout of high-intensity anaerobic exercise. *Central States Chapter / American College of Sports Medicine Annual Meeting*, Oct 20-21, 2011, Overland Park, KS.
9. **Patterson, J.A.** The aging individual with severe mental illness. *HEAL Project, funded by Robert Wood Johnson Foundation, presented at KU Med Wichita*, Wichita, KS, October 17, 2010. (Invited Lecture)
10. **Patterson, J.A.** Causes of exercise limitations following heart transplantation. *Central States Chapter / American College of Sports Medicine Annual Meeting*, Kansas City, MO, October 16-17, 2008. (Invited Lecture)
11. Ziegler, B.M. and **Patterson, J.A.** Bone response to training volume in cyclists. *Central States Chapter / American College of Sports Medicine Annual Meeting*, Kansas City, MO, October 16-17, 2008. (Refereed)
12. **Patterson, J.A.** and Amick, R.E. Assessment of exercise capacity in an individual with LVAD explantation without heart transplantation. *Central States Chapter / American College of Sports Medicine Annual Meeting*, Springfield, MO, October 17-18, 2007. (Invited Lecture)
13. Bannon, H. and **Patterson, J.A.** Wheelchair transfer testing as an alternative protocol to determine aerobic capacity in an individual with arthrogryposis. *Central States Chapter / American College of Sports Medicine Annual Meeting*, Springfield, MO, October 17-18, 2007. (Refereed)
14. Bean, M. and **Patterson, J.A.** Analysis of heart rate response to the valsalva maneuver during dumbbell versus elastic band lifts. *Central States Chapter / American College of Sports Medicine Annual Meeting*, Springfield, MO, October 17-18, 2007. (Refereed)
15. Young, K.C., **Patterson, J.A.** and Rogers, M.E. Effects of hydraulic resistance circuit training on bone mineral density in post-menopausal women. *Central States Chapter / American College of Sports Medicine Annual Meeting*, Springfield, MO, October 17-18, 2007. (Refereed)
16. **Patterson, J.A.** The active diabetic. *American Diabetes Association Regional Conference*, Wichita, KS, Oct 28, 2006. (Invited Lecture)
17. VanRavenhorst-Bell, H.A., Rogers, M.E., and **Patterson, J.A.** Effects of circuit weight training on fitness in college-aged women. *Central States Chapter / American College of Sports Medicine Meeting*, Kansas City, MO, October 20-21, 2005. (Refereed)
18. **Patterson, J.A.** Comparing methods for prescribing exercise for patients with chronic heart failure. *Central States Chapter / American College of Sports Medicine Annual Meeting*, Kansas City, MO, Oct 1-2, 2004. (Invited Lecture)

Local symposia, colloquia, workshops, invited speaker

1. **Patterson, J.A.** University Research Collaborations with Startups. *WSU Inaugural Industrial Sponsors Day & Research Showcase*, Wichita, KS. Apr 19, 2024.
2. **Patterson, J.A.** Transforming Academics Through Innovation. *Approaching Product Development Workshop for Koch Industries, Division of Operational Excellence*, Wichita, KS. September 2022.
3. **Patterson, J.A.** The State of Local Innovation. Rotary Club of Wichita and Derby Kansas, Annual Business Meeting, Derby KS, September 2022.

Curriculum Vitae

4. **Patterson, J.A.** Innovation in Practice. *The Salon Speaker Series 2022, Presented by the Ulrich Museum*, Wichita, KS. June 2022.
5. Donner, L.A., Carson, L.L., Miller, R.A., Amick, R.Z., **Patterson, J.A.** Time to target heart rate in professional firefighters wearing a weighted vest versus firefighter gear. *WSU College of Engineering Research Symposium*, Wichita, KS. May 9, 2014.
6. Geddam, D.E., Amick, R.Z., Stover, C.D., Stern, D.C., **Patterson, J.A.** SWAY Balance mobile application as an assessment tool to manage recovery: A case study. *WSU Graduate Research and Scholarly Projects*, Wichita, KS. Apr 25, 2014.
7. Stern, D.C., Amick, R.Z., Jansen, S., **Patterson, J.A.** BESS scores observed in real-time versus slow-motion video recording. *WSU Graduate Research and Scholarly Projects*, Wichita, KS. Apr 25, 2014.
8. Holland, J.A., Pridgett, J., **Patterson, J.A.** METs and HR at moderate intensity on the Thorotread: Adding to the compendium of physical activity. *WSU Graduate Research and Scholarly Projects*, Wichita, KS. Apr 25, 2014.
9. Jimoh, J.M., Opat, K., **Patterson, J.A.** Comparison of hamstring to quadriceps strength ratio before and after inducing fatigue. *WSU Graduate Research and Scholarly Projects*, Wichita, KS. Apr 25, 2014.
10. **Patterson, J.A.** "To right...the unrightable wrong"...challenges when you disprove a theory. *WSU Human Factors Guest Lecture Series*, Wichita, KS. Mar 29, 2013.
11. Roberts, D. Hawkins, W., Costa, P., **Patterson, J.A.**, Young, K.C. Neuromuscular assessment of collegiate-level female cheerleaders. *WSU Graduate Research and Scholarly Projects*, Wichita, KS. Apr 30, 2013.
12. Bryant, L. and **Patterson, J.A.** Heart rate and rate of perceived exertion on the thorotread. *WSU Graduate Research and Scholarly Projects*, Wichita, KS. Apr 30, 2013.
13. Berry, B., Lucero, W. and **Patterson, J.A.** Full body squat on vibration platform vs. stable platform and to find which results in quicker fatigue. *COE Eighteenth Annual Showcase Conference for Graduate Programs*, Wichita, KS. Apr 30, 2013.
14. Epps, E., Staab, C., Parham, D., and **Patterson, J.A.** Comparison of balance and cognitive function in youth gymnast and college-aged individuals using Smartphone application software. *COE Eighteenth Annual Showcase Conference for Graduate Programs*, Wichita, KS. Apr 30, 2013.
15. Roberts, D. Scott, C., Hawkins, W. and **Patterson, J.A.** Hamstrings to quadriceps ratio and effects on flexibility on female collegiate cheerleaders. *WSU Graduate Research and Scholarly Projects*, Wichita, KS. Apr 30, 2012.
16. Swart, B. and **Patterson, J.A.** Acute effect of whole body vibration on knee extensor strength. *WSU Graduate Research and Scholarly Projects*, Wichita, KS. Apr 30, 2012.
17. Epps, E., Staab, C., Parham, D., and **Patterson, J.A.** Comparison of balance and cognitive function in youth gymnast and college-aged individuals using Smartphone application software. *WSU GRASP*, Wichita, KS. Apr 30, 2012.
18. Lentz, A. and **Patterson, J.A.** Causes of excessive ankle pronation in relation to body mass index. *WSU Graduate Research and Scholarly Projects*, Wichita, KS. Apr 30, 2012.
19. Berry, B., Lucero, W. and **Patterson, J.A.** Full body squat on vibration platform vs. stable platform and to find which results in quicker fatigue. *COE Seventeenth Annual Showcase Conference for Graduate Programs*, Wichita, KS. Apr 30, 2012.
20. Epps, E., Staab, C., Parham, D., and **Patterson, J.A.** Comparison of balance and cognitive function in youth gymnast and college-aged individuals using Smartphone application software. *COE Seventeenth Annual Showcase Conference for Graduate Programs*, Wichita, KS. Apr 30, 2012.
21. Thibault, M. and **Patterson, J.A.** Effects of BioFreeze on a one-repetition maximum muscle strength test. *COE Seventeenth Annual Showcase Conference for Graduate Programs*, Wichita, KS. Apr 30, 2012.
22. Robillard, T., Walton, N. and **Patterson, J.A.** High intensity interval training benefits for endurance athlete's application for increased weight loss. *COE Seventeenth Annual Showcase Conference for Graduate Programs*, Wichita, KS. Apr 30, 2012.
23. Arana, C. and **Patterson, JA.** Effects of jump rope training on balance and proprioception. *COE Sixteenth Annual Showcase Conference for Graduate Programs*, Wichita, KS. Apr 30, 2011.
24. Trammell, S. and **Patterson, JA.** Effect of whole body vibration on hand grip strength. *COE Sixteenth Annual Showcase Conference for Graduate Programs*, Wichita, KS. Apr 30, 2011.
25. Baniyasi, M., Nadji, N., and **Patterson, JA.** Effects of coffee on cognitive and balance performance.
26. Edwards, H. and **Patterson, JA.** A comparison of balance in college students, males vs females.
27. Leisinger, L. and **Patterson, JA.** The acute effects of whole body vibration in college aged individuals.
28. Sullard, C., Thummar, T., Clark, B., and **Patterson, JA.** Effects of short-term cycling with uncoupled cranks on pedal efficiency.
29. Simmons, C. and **Patterson, JA.** 30-sec sprint test with resistance, without resistance, and blood lactate.
30. Bomgardner, R., **Patterson, JA.** The relationship between physical fitness and academic achievement in 5th grade students. *COE Fifteenth Annual Showcase Conf for Grad Programs*, Wichita KS, Apr 24, 2010.

Curriculum Vitae

31. Fryman, A., **Patterson, JA.** A comparison of bone mineral density in the bowling arm and non-bowling arm of collegiate ten pin bowlers. *COE Fifteenth Annual Showcase Conference for Graduate Programs*, Wichita KS, Apr 24, 2010.
32. Thummar, T., **Patterson, JA.** Effects of forearm rotation and elbow posture on grip strength in college-aged students. *COE Fifteenth Annual Showcase Conf for Graduate Programs*, Wichita KS, Apr 24, 2010.
33. Hervey, A., **Patterson, JA.** Bone mineral density assessment in individuals with severe mental illness. *COE Fifteenth Annual Showcase Conference for Graduate Programs*, Wichita KS, Apr 24, 2010.
34. Winklepleck, B., **Patterson, JA.** Strength assessment in bowling and non-bowling arms of collegiate ten pin bowlers. *COE Fifteenth Annual Showcase Conf for Graduate Programs*, Wichita KS, Apr 24, 2010.
35. Bean, M. and **Patterson, JA.** Aerobic capacity testing before and after radiofrequency ablation for treatment of atrial fibrillation. *COE Fourteenth Annual Showcase Conference for Graduate Programs*, Wichita KS, May 2, 2009.
36. Hervey, A. and **Patterson, JA.** Reliability of DEXA when measuring body composition. *COE Fourteenth Annual Showcase Conference for Graduate Programs*, Wichita KS, May 2, 2009.
37. Morford, N. and **Patterson, JA.** The effects of a 100 meter swim test for college football players with elastic band resistance vs. free weight training. *COE Fourteenth Annual Showcase Conference for Graduate Programs*, Wichita KS, May 2, 2009.
38. Raghupathi, P. and **Patterson, JA.** Study of the duration of maintained hamstring flexibility gained after static stretching protocol compared to brief period of cycling. *COE Fourteenth Annual Showcase Conference for Graduate Programs*, Wichita KS, May 2, 2009.
39. Ziegler, B.M. and **Patterson, JA.** Bone response to varied volumes of bicycling. *COE Fourteenth Annual Showcase Conference for Graduate Programs*, Wichita KS, May 2, 2009.
40. Ziegler, B.M., Fetters, L., and **Patterson, JA.** Validity of field measurements for body composition. *Symposium on Graduate Research and Scholarly Projects*, Wichita KS, April 25, 2008.
41. Bannon, H. and **Patterson, JA.** Comparison of age-predicted heart rate maximum vs. measured heart rate maximum. *COE Twelfth Annual Showcase Conference for Graduate Programs*, Wichita KS, May 5, 2007.
42. Amick, R.E. and **Patterson, JA.** Exercise capacity in a patient with LVAD explantation without heart transplantation. *COE Twelfth Annual Showcase Conference for Grad Programs*, Wichita KS, May 5, 2007.
43. Bohanan, N. and **Patterson, JA.** Effects of plyometric training on reaction time. *COE Twelfth Annual Showcase Conference for Graduate Programs*, Wichita KS, May 5, 2007.
44. Curtiss, C. and **Patterson, JA.** Effects of music interference on short-term memory. *COE Twelfth Annual Showcase Conference for Graduate Programs*, Wichita KS, May 5, 2007.
45. Kinman, M. and **Patterson, JA.** Effects of PNF and ballistic stretching on hamstring flexibility. *COE Twelfth Annual Showcase Conference for Graduate Programs*, Wichita KS, May 5, 2007.
46. Larson, C.R. and **Patterson, JA.** The effects of a static stretching program on hip abduction. *COE Twelfth Annual Showcase Conference for Graduate Programs*, Wichita KS, May 5, 2007.
47. Walton, N.G. and **Patterson, JA.** Reliability of the force plate vs. balance platform in measuring stability. *COE Twelfth Annual Showcase Conference for Graduate Programs*, Wichita KS, May 5, 2007.
48. Young, K.C., Bannon, H., Curtiss, C., Wadsworth, N., and **Patterson, JA.** Reliability of wheelchair transfer testing to determine the physical work capacity of a 26 year old world-ranked wheelchair quad tennis player with arthrogryposis. *Symposium on Graduate Research and Scholarly Projects*, Wichita KS, April 27, 2007.
49. Larson C.R., **Patterson, JA.** BMI changes in high school football linemen transitioning from senior year to college. *Symposium on Graduate Research and Scholarly Projects*, Wichita KS, April 27, 2007.
50. Goodman W, Pitetti K, **Patterson, JA.**, and Farhoud H. Exercise capacity following heart transplant: case report on the physical work capacity of a 37 year old competitive cyclist following orthotopic heart transplant. *Symposium on Graduate Research and Scholarly Projects*, Wichita KS, April 27, 2007.
51. **Patterson, JA.** and Selig, S.E. Peripheral blood flow in patients with CHF and age-matched volunteers. *WSU Regional Institute on Aging Public Launch*, Wichita State University, April 4, 2007.
52. Kline, C. and **Patterson, JA.** Changes in heart rate may be a vital indicator to poor lifting mechanics. *Ronald E. McNair Scholar Post-Baccalaureate Achievement Program*, Wichita, KS. July 28, 2006.
53. Van Ravenhorst-Bell, H.A., M.E. Rogers, **Patterson, JA.** Effects of circuit weight training on fitness. *Grad Research and Scholarly Projects Symposium*, Wichita State University, Wichita, KS, April 22, 2005.

Patent Activity

1. U.S. Patent; SLIP-RESISTANCE PATCH FOR ORAL DEVICES. Definition: provides a slip-resistance patch for oral devices that can maintain contact with a surface within an oral cavity. No 12,097,045 B2. Sept 2024.
2. U.S. Provisional Patent Application; INTRAORAL NONINVASIVE APPARATUS FOR LINGUAL APPLICATIONS. Dkt. No
3. U.S. Provisional Patent Application; SOFT ACTUATOR ARTIFICIAL MUSCLE EMBEDDED IN CLOTHES Dkt. No. 49204-PCT; WSU Ref. 17V073.

Curriculum Vitae

4. U.S. Provisional Patent Application; SYSTEM AND METHOD FOR IMPLANTABLE ELECTROACTIVE POLYMER HEART ASSISTIVE MESH; Filed October 5, 2015; Docket No. –PRO.
5. U.S. Provisional Patent Application; ELECTRIC PERMITTIVITY AND MAGNETIC PERMEABILITY BIOSENSING SYSTEM; Serial No. 62/185,198; Filed June 26, 2015; Docket No. 47415-PRO.
6. U.S. Patent; NON-INVASIVE BIOFEEDBACK SYSTEM. Definition: use of camera to measure physiological changes and data is interpreted and used to control exercise equipment. I.e., if it is unbeneficial for an individual to exercise above anaerobic threshold, the software will reduce the workload of the equipment (treadmill) Dkt. No. 45713-PCT. Jan 2014.
7. Electrocardiogram screening patch. Definition: disposable ECG patch developed for student athletes, with green, yellow, & red light to indicate whether an arrhythmia related to sudden cardiac death is present. Provision Patent Jun 2013.
8. Copyrighted; Smartphone Application to Assess Balance, Cognition and Agility in Older Adults. Nov 2011.

Creative Activity Information

1. Faculty Advisor for finalists in the 2011, 2013, 2014, 2015 Shocker Business Plan Competition
2. Developed Bloodborne Pathogens Exposure Control Plan for Human Performance Laboratory
3. HEAL Project Curriculum Presentations, a video and audio lecture series for health professionals working with individuals that have severe mental illness. Funded by the Robert Wood Johnson Foundation. In 2012 and 2013 these presentation were viewed +150 times by various mental illness program through the state of KS.
 - a. **Patterson, J.A.** Screening and Risk Stratification.
 - b. **Patterson, J.A.** General Principles of Exercise Prescription.
 - c. **Patterson, J.A.** Cardiovascular Disease and Hypertension.
 - d. **Patterson, J.A.** Thermoregulation; Controlling Body Temperature During Exercise.
 - e. **Patterson, J.A.** Exercise for Obesity.
 - f. **Patterson, J.A.** General Exercise Recommendations for Severe Mental Illness.
4. HEAL Project Orientation booklet for Breakthrough members.
5. **Patterson, J.A.** Student Laboratory Emergency Procedure & Participant Consent Guidelines Handout for WSU Human Performance Laboratory.

Journal Reviewer

1. *Journal of Biomedical Engineering*
2. *Journal of Sport Science and Medicine*
3. *Journal of Ergonomics*
4. *ACSM's Health and Fitness Journal*
5. *International Journal of Sports Medicine*
6. *International Journal of Applied Science & Technology*
7. *Clinical Exercise Physiology*
8. *Journal of CardioPulmonary Rehabilitation*
9. *American Journal of Physical Medicine and Rehabilitation*

Entrepreneurship Activity

Initiated a graduate requirement for student to create business proposals in their final laboratory course. Since its inception in 2007, 30+ businesses have been established. Businesses include *Deep End, Wichita, KS.*; *Thelium, Tulsa, OK.*; *The Exercise Physiology Center, Tulsa, OK.*; *Capacity Sports, Tulsa, OK.*; *SWAY Medical, Tulsa, OK.*; *iHT, Wichita, KS.*; *CardioKite, Wichita, KS.*; *Elite Training Solutions, Wichita, KS.*; *SyxGenU, Kansas City, MO.*; *Pure Fitness Rx, Wichita, KS.*; *OffSeason, Wichita, KS.*; *CrossFit 316, Wichita, KS.*; *Fox Fitness, Wichita, KS.*; *Fox Raw Bars, Wichita, KS.*; *Anytime Fitness, Wichita, KS.*; *Anytime Fitness, Augusta, KS.*; *The Jesi Project, Wichita, KS.*; *50+ Fitness, Wichita, KS.*; *Extreme Fitness, Wichita, KS.*; *Surface to Air Training, Manhattan, KS.*

Curriculum Vitae

Clinical Competencies	<p>More than 10,000 clinical hours have provided formal education and clinical experience in the following areas:</p> <ul style="list-style-type: none">• Familiar with applications of physiological techniques and protocols used to assess human movement and exercise performance. Equipment set up and calibration• Equipment validation and product development.• Knowledge and skill in assessing VO_{2max}, VO_{2peak}, anaerobic threshold, normal and pathological ECG, DEXA, isokinetic dynamometry, spirometry, blood flows and vascular reactivity (venous occlusion plethysmography) cardiovascular responses to exercise and the interpretation of pulmonary function and dysfunction in exercise• ECG telemetry, patient assessment, and ethical and legal considerations related to subject confidentiality<ul style="list-style-type: none">• Extensive experience conducting case histories, risk stratification and developing periodization programs for diverse and high-risk populations
Supervision	<p>Faculty mentor for first year department chairs Mentoring for Assistant and Associate Dean roles Faculty mentor for Assistant Professors in Engineering, Fine Arts, Education Faculty mentor for Visiting Scholars (China, Denmark, Thailand) Chaired 4 Doctoral Committees; 20+ Master's Thesis Committees Have been a member of 50+ Master's Thesis Committees and 10+ PhD Committees Supervised 50+ graduate internships and 25+ undergraduate internships through the Human Performance Laboratory Supervised numerous Masters students through 800 hours of clinical practice Academic advisor for ~25 graduate students each year</p>
Certifications	<p>American Society of Exercise Physiologist (ASEP) Board Certified Clinical Exercise Physiologist (#212) Certified ImPact Applications Inc. Certified BLS for Healthcare Providers (CPR & AED); American Heart Association</p>
Professional Affiliations	<p>American College of Sports Medicine (Fellow) Clinical Exercise Physiology Association (CEPA) American Society of Exercise Physiologist (ASEP) Central States American College of Sports Medicine (CSACSM) Oklahoma State University Graduate Faculty</p>

Instruction

Undergraduate

Design Thinking & Innovation, Seminar in Applied Innovation, Leadership for Innovation, Introduction to Exercise Science, Prescription of Exercise, Honors Research Seminar, Independent Study in Exercise Science, Anatomy & Physiology, Freshman Common Read

Graduate

Design Thinking Challenges, Innovation in Practice, Pitching to Presentation, Emerging Technologies, Innovation Management, Pathophysiology of Cardiovascular Disease and ECG's, Advanced Prescription of Exercise, Physiology of Athletic Performance, Exercise in Health and Disease, Recent Literature in the Profession, Advanced Anatomy and Physiology of Exercise, Research Methods in the Profession, Thesis Research, Thesis, Special Topics in Human Performance Studies, Applied Research

Workshops (sample of most recent)

Practical AI Workshops (20+ through KS Dept Commerce), Design Thinking Workshops – StandTogether (Koch Industries), City of Wichita, Kansas Health Science Center (D.O. School), T3 (tech company), WSU Tech (career technical training school), Evergy (KS energy company), US School District 259, Credit Union of America, F.A.A. Airport Innovation Competition, WSU 125th Celebration, Future of FinTech, Rural Health Care

Curriculum Vitae

Advisory

REViiSED (AI comp) Advisory Board	Board member	2025-present
U.S. Secretary of Defense Business Board	Board member	2023-2025
Envision	Board member	2017-2022
Midwest Research Universities Network (MRUN)	Board member	2018-present
WSU John A. See Innovation Fund	Director	2016-present
WSU College of Engineering Industry Advisory Board	Board member	2021-present
WSU Human Performance Lab Advisory Board	Director	2004-present
Gridley Family Foundation Advisory Board	Board member	2017-present
WSU Koch Scholarship Panel	Chair	2014-2024
Hormesys LLC (health tech comp) Advisory Board	Board member	2021-2023
SWAY Medical (tech comp) Advisory Board	Board member	2012-present
Walayla (health tech comp) Advisory Board	Board member	2021-present
WSU Intercollegiate Athletic Assoc, Inc	Board member	2012-2016