

LAURA M. MCDONALD, PHD

EDUCATION

Doctor of Philosophy , Biomechanics & Movement Science UNIVERSITY OF DELAWARE	December 2012
Master of Science , Exercise Science (Biomechanics) UNIVERSITY OF DELAWARE	August 2008
Bachelor of Science , Athletic Training All-College Honors Program CANISIUS COLLEGE	May 2004

PROFESSIONAL CERTIFICATIONS

Certified Athletic Trainer, Board of Certification (#070402459)

PROFESSIONAL EXPERIENCE

Director of Athlete Health & Wellness Lead Biomechanist OGX Softball Romeoville, IL	June 2019-present
Chair , Department of Sport & Exercise Science Lewis University Romeoville, IL	Sept 2016-May 2019
Associate Chair , Department of Sport & Exercise Science Lewis University Romeoville, IL	Aug 2015-May 2016
Clinical Education Coordinator , Athletic Training Program Lewis University Romeoville, IL	Aug 2014-May 2019
Assistant Professor , Department of Sport & Exercise Science Lewis University Romeoville, IL	Aug 2014-May 2019
Athletic Trainer ProRehab PC Evansville, IN	April 2012-May 2014
Clinical Education Coordinator , Athletic Training Program University of Evansville Evansville, IN	Aug 2011-May 2014

Assistant Professor , Department of Exercise & Sport Science University of Evansville Evansville, IN	Aug 2011-May 2014
Clinical Education Coordinator , Athletic Training Program University of Evansville Evansville, IN	Aug 2011-May 2014
Athletic Trainer Christiana Care Health System Wilmington, DE	Jan 2010-May 2011
Athletic Trainer , Women's Club Rugby University of Delaware Newark, DE	March 2009-Nov 2010
Instructor , Department of Kinesiology & Applied Physiology University of Delaware Newark, DE	Aug 2009-Dec 2010
Instructor , Athletic Training Interest Program In-Services University of Delaware Newark, DE	Dec 2007-Dec 2009
Graduate Assistant , Office of Graduate & Professional Education University of Delaware Newark, DE	June 2010-Aug 2010 June 2008-Aug 2009
Graduate Assistant Athletic Trainer , Intercollegiate Athletics University of Delaware Newark, DE	Aug 2004-May 2008
Teaching Assistant , Athletic Training Program University of Delaware Newark, DE	Aug 2004-Dec 2008

PEER-REVIEWED SCHOLARLY WORK

Ogasawara T, McDonald LM, Knarr BA. The force product and its relationship to performance in softball pitching. (Accepted) Presented at the American Society of Biomechanics Annual Meeting; August 5-8, 2024; Milwaukee, WI.

Ogasawara T, McDonald LM, Knarr BA. Drive leg ground reaction force impulse ratio correlates with ball velocity in softball pitching. Presented at the University of Nebraska at Omaha Student Research and Creativity Activity Fair; March 22, 2024; Omaha, NE.

Martin CL, Swofford A, Rhomberg R, Wolfe A, Shanley E, Arnold A, Kline D, McDonald LM, Friesen K, Bullock GS, Moore, S, Marshall SW. Persistent shoulder pain and upper extremity function in former female softball players. Presented at the OARSI World Congress; April 18, 2024; Vienna, Austria.

Gochenour DL, Hamer T, McDonald LM, Vogel C, Rosen AB, Knarr BA, Wilkins SJ. The relationship between hamstring tightness and pelvis movement in college softball pitchers. Presented at the University of Nebraska at Omaha Student Research and Creativity Activity Fair; March 24, 2023; Omaha, NE.

Schmillen L, McDonald LM. Efficacy of flexibility training for increasing strength output. Lewis University Celebration of Scholarship; April 11, 2019; Romeoville, IL.

Fossey P, [McDonald LM](#). Comparison of disabilities of the arm, shoulder, and hand (DASH) scores between softball position players and pitchers. Lewis University Celebration of Scholarship; April 11, 2019; Romeoville, IL.

Shatat M, [McDonald LM](#). Validation of vertical displacement and jump load using vert sensors in volleyball athletes. Lewis University Celebration of Scholarship; April 11, 2019; Romeoville, IL.

Alzona A, [McDonald LM](#). The effectiveness of lower body stretching to prevent lower body muscle strains. Lewis University Celebration of Scholarship; April 19, 2018; Romeoville, IL.

Maki E, [McDonald LM](#). Decreasing incidence of labral tears in collegiate baseball players. Lewis University Celebration of Scholarship; April 19, 2018; Romeoville, IL.

Porter M, [McDonald LM](#). Stretching vs. dry needling: the road to recovery for sprinters with hamstring strains. Lewis University Celebration of Scholarship; April 19, 2018; Romeoville, IL.

Espinosa E, [McDonald LM](#). Muscle energy techniques & low back pain. Lewis University Celebration of Scholarship; April 19, 2018; Romeoville, IL.

Freeman M, [McDonald LM](#). Evaluation of neural stem cell implementation within Alzheimer's patients. Lewis University Celebration of Scholarship; April 19, 2018; Romeoville, IL.

Swientek S, [McDonald LM](#). Influence of vibration therapy on rehabilitation post-anterior cruciate ligament reconstruction. Lewis University Celebration of Scholarship; April 20, 2017; Romeoville, IL.

Frederickson J, [McDonald LM](#). Yoga stretching in athletic injury prevention. Lewis University Celebration of Scholarship; April 20, 2017; Romeoville, IL.

Meyer, J, [McDonald LM](#). The effect of vestibular rehabilitation on athletes diagnosed with a concussion. Lewis University Celebration of Scholarship; April 20, 2017; Romeoville, IL.

[McDonald LM](#). [Athlete before Athletic: Consequences of Sport Specialization on Youth Athlete Health](#). Sports Medicine Research: In the Lab & In the Field. April 17, 2017.

[McDonald LM](#). [A Call for High Quality Evidence Linking Movement Screenings to Injury Risk](#). Sports Medicine Research: In the Lab & In the Field. January 11, 2017.

[McDonald LM](#). [Athletic Directors' Barriers to Hiring Athletic Trainers in High Schools](#). Sports Medicine Research: In the Lab & In the Field. November 24, 2015.

[McDonald LM](#). [Minding the Gap: Connecting Pre-season Screenings with Prospective Injury Data](#). Sports Medicine Research: In the Lab & In the Field. January 26, 2015.

[McDonald LM](#). [Can Establishing a Baseline Presence of Pain in Baseball Players Aid Injury Prevention?](#) Sports Medicine Research: In the Lab & In the Field. December 30, 2014.

[McDonald LM](#). [Can Exergaming Bridge the Gap between Traditional Rehabilitation and At-Home Programs?](#) Sports Medicine Research: In the Lab & In the Field. December 18, 2013.

[McDonald LM](#). [The Pursuit of Happiness: Clinical Setting, Gender, and Parenting as an Athletic Trainer](#). Sports Medicine Research: In the Lab & In the Field. July 8, 2013.

[McDonald LM](#), Kaminski TW, Werner S. Dominant vs. non-dominant shoulder and elbow range-of-motion differences in softball pitchers. 2013. *J Athl Train*. 48 (3), S124

McDonald LM, Kaminski TW, Richards JG, Royer T, Manal K, McDonald J, Werner S. A comparison of pitch type variability between high school and collegiate softball pitchers. 2013. *Med Sci Sports Exerc.* 45:5 Supplement

McDonald LM. [Challenges Incorporating Evidence-Based Practice with Athletic Training Students](#). Sports Medicine Research: In the Lab & In the Field. March 27, 2013.

McDonald LM. [Nothing to Fear but Fear Itself: Psychological Factors Related to Return to Sport Post-injury](#). Sports Medicine Research: In the Lab & In the Field. November 28, 2012.

McDonald LM. [Ultrasound and Tuning Forks: Another Diagnostic Tool in the Tool Belt for Clinicians?](#) Sports Medicine Research: In the Lab & In the Field. October 26, 2012.

McDonald LM. [Incidence of injuries in high school softball and baseball players](#). Sports Medicine Research: In the Lab & In the Field. August 27, 2012.

McDonald LM. [Special Tests of the Shoulder: An Update of Evidence-Based Support](#). Sports Medicine Research: In the Lab & In the Field. August 10, 2012.

Miller LM, Kaminski TW, Richards JG, Royer T. Biomechanical comparison of different types of pitches in high school softball pitchers. 2008. *J Athl Train.* 43:3, S-23.

Miller LM, Richards JG, Kaminski TW, Royer T. Kinematic description of three types of softball pitches using a unique glenohumeral model. Presented at the American Society of Biomechanics Annual Meeting; August 27, 2009; State College, PA.

Miller LM, Richards JG, Kaminski TW, Royer T. A unique kinematic model for describing glenohumeral joint motion during the windmill softball pitch. Presented at the 6th Annual Center for Biomedical Engineering Research Biomechanics Research Symposium; May 15, 2009; Newark, DE.

Miller LM, Kaminski TW. Internal discord. *Advance for Directors in Rehabilitation.* 2008. 17:2, 36-42.

Miller LM, Kaminski TW. Support structures. *Advance for Directors in Rehabilitation.* 2007. 12:2, 18-21.

INVITED PRESENTATIONS

McDonald LM. Setting the standard for advanced analysis of softball pitching biomechanics. Pitchstock; August 8, 2024; Rosemont, IL.

Rosen AB, Hamer T, McDonald LM, Wilkins SJ, Ide T. The science of safeguarding arms: mitigating injury risk through comprehensive clinical and biomechanical assessments of overhead athletes. Advanced Track Seminar at the National Athletic Trainers' Clinical Symposia & AT Expo. June 25, 2024; New Orleans, LA.

McDonald LM. Planting the seeds for patient self-advocacy in youth female athletes. Fall 2023 Denise Fandel Distinguished Lecture; October 24, 2023; Omaha, NE.

McDonald LM. Overload/underload principles in softball training. April 19, 2023; virtual.

McDonald LM. Applying movement patterns to sport. Presented as a guest lecture for HUPR-31800: Development and Analysis of Human Movement Lab at Lewis University; April 12, 2023; Romeoville, IL.

McDonald LM, Sunshine AT. Why hormones matter - female athlete considerations in pitcher development. Presented as part of the Redefine the Circle educational series; May 3, 2021; virtual.

McDonald LM, Sunshine AT. Implementing a holistic approach to pitcher health and wellness. Presented as part of the Redefine the Circle educational series; April 26, 2021; virtual.

McDonald LM, Sunshine AT. How to individualize pitcher training using a constraint-led approach. Presented as part of the Redefine the Circle educational series; April 5, 2021; virtual.

McDonald LM, Sunshine AT. Using technology to support pitcher development. Presented as part of the Redefine the Circle educational series; March 29, 2021; virtual.

McDonald LM, Sunshine AT. Movement assessment and its relationship to pitcher capacity. Presented as part of the Redefine the Circle educational series; March 22, 2021; virtual.

McDonald LM, Sunshine AT. Effective training program design: a motor learning approach. Presented as part of the Redefine the Circle educational series; March 8, 2021; virtual.

McDonald LM, Sunshine AT. Importance of addressing latissimus dorsi mobility in softball pitchers. Presented as part of the Redefine the Circle educational series; March 1, 2021; virtual.

McDonald LM, Sunshine AT. Biomechanics of pitching - why timing is everything. Presented as part of the Redefine the Circle educational series; February 22, 2021; virtual.

McDonald LM. Reverse engineering the pitching motion: Linking assessment to pitcher development. Presented at Pitchstock; July 15, 2020; virtual.

McDonald LM, Stoker KM. Building a better model of youth development in softball. Presented at Child to Champion: Pathway to Elite Performance conference. April 26, 2020; virtual.

McDonald LM. Softball pitcher development from the ground up: A holistic approach to performance and health. Presented at Pitchstock; July 10, 2019; Tinley Park, IL.

McDonald LM. Exercise is medicine. Presented as part of the Lewis University Arts & Ideas Program, October 25, 2017; Romeoville, IL.

Miller LM. Sudden death in athletes: a contemporary perspective. Presented as part of the International Coaching Enrichment Certificate Program (ICECP). September 17, 2009; Newark, DE.

Miller LM. The shoulder: common athletic injuries. Presented as a guest lecture to St. George's Technical High School; April 9, 2008; Newark, DE.

Miller LM. Evidence-based approach to the shoulder evaluation. Presented at the Medical Aspects of Sport Conference; February 3, 2007; Newark, DE.

Miller LM. Inertial exercise. Presented at the Medical Aspects of Sport Conference; February 4, 2006; Newark, DE.

HARDWARE AND SOFTWARE EXPERIENCE

LabVIEW	Driveline TRAQ
EvaRT/Cortex interface with Eagle Cameras	Plantiga
AMTI Force plates	Rapsodo Pitching
SPSS	Rapsodo Hitting
SportsWare	4D Motion Sports
ATrack	HitTrax
SONY RX100M4 High Frame Rate Camera	Blast Softball
	Visual 3D

PROFESSIONAL SERVICE

Member, Exercise Science Advisory Board, Lewis University, June 2020-present

Reviewer, Posters on the Hill, Council on Undergraduate Research, December 2017-May 2019

Interviewer, Student Program Mock Interviews, Illinois Athletic Trainers' Association, Annual Meeting & State Symposium, November 5, 2017

Site Visitor, Commission on the Accreditation of Athletic Training Education, February 2017-May 2019

Reviewer, Sports Medicine Research: In the Lab & In the Field (<http://www.sportsmedres.org/>), October 2012-May 2019

Moderator, National Athletic Trainers' Association Annual Clinical Symposium, June 2012

Abstract Reviewer, National Athletic Trainers' Association Research and Education Foundation's Free Communication Program, January 2009-May 2019

Manuscript Reviewer, Athletic Training & Sports Health Care, 2010-May 2019

Abstract Reviewer, Eastern Athletic Trainers' Association, 2010-2014

Moderator, National Athletic Trainers' Association Annual Clinical Symposium, June 2009

Moderator, National Athletic Trainers' Association Annual Clinical Symposium, June 2008

HONORS AND AWARDS

Lewis University Merit Pay Recipient, May 2018

Lewis University Rewards & Recognition Nominee - Faculty Category, November 12, 2015

Alpha Omicron Pi Teacher Appreciation Reception Invitee, February 22, 2014

Chi Omega Professor's Breakfast Invitee, April 10, 2014

Alpha Omicron Pi Teacher Appreciation Reception Invitee, February 21, 2013

Chi Omega Professor's Breakfast Invitee, April 12, 2013

Women's Soccer Faculty and Staff Recognition Day Invitee, September 23, 2012

Alpha Omicron Pi Teacher Appreciation Reception Invitee, April 19, 2012

Chi Omega Professor's Breakfast Invitee, April 13, 2012

University of Delaware Woman of Promise, October 5, 2010

University of Delaware Graduate Fellow, 2009- 2010

C.H.A.M.P.S. Life Skills Athletic Academic Award, 2000- 2003

Chi Alpha Sigma Athletic Honor Society, Spring 2002

NFCA All-America Scholar Athlete, Fall 2000-Spring 2003

Metro Atlantic Athletic Conference All-Academic Team, Fall 2000-Spring 2003

MAAC Champion, Canisius College Softball, Spring 2002