

SIMON D. HOLZAPFEL, PhD, ACSM EP-C, CIFT

College of Health Solutions
Arizona State University
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Phoenix, AZ 85004

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Phoenix, AZ 85040
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simon.holzapfel@asu.edu

EDUCATION

- 2013-2017 **PhD: Physical Activity, Nutrition and Wellness**
Arizona State University (ASU), Phoenix, AZ
- 2011-2013 **MS: Exercise and Sports Science**
Eastern Kentucky University, Richmond, KY
- 2007-2011 **BA: Sports Science, Minor: Coaching**
Tusculum College, Greeneville, TN

PROFESSIONAL EXPERIENCE

- 2016-present **Clinical Assistant Professor**
Exercise Science and Health Promotion
Arizona State University, Phoenix, AZ
Courses:
- EXW 302 – Fundamentals of Wellness
Course description: Overview of fundamental health, exercise and wellness concepts. Emphasizes personal wellness assessment and application.
 - EXW 315 – Physiological Foundations of Movement
Course description: Study of human movement with emphasis on physiological function of the body in response to physical activity and fitness training.
 - EXW 325 – Fitness for Life
Course description: Analysis of physical fitness and benefits of exercise with emphasis on application of strategies for fitness and wellness evaluation, behavior change, and lifelong program planning.
 - EXW 344 – Physical Activity in Health and Disease
Course description: Examination of the role of physical activity and fitness in the development of morbidity and mortality throughout the human life span.
 - EXW 425 – Exercise Prescription
Course description: Theoretical basis for and application of general principles of exercise prescription to various ages, fitness levels, and health states.
 - EXW 494 – Neuromuscular Exercise Prescription
Course description: Etiology, pathology, exercise testing, and exercise prescription for various neuromuscular conditions
 - CHS 494 – Adaptive Exercise Program
Course description: The practical application of exercise prescription and fitness training with the aim of improving the health-related fitness of individuals with disabilities
- 2018 **Consultant**
Endurance Rehab; Scottsdale, AZ

PUBLICATIONS

Manuscripts

- In Preparation **Holzapfel SD, Bosch PR, Ko J, Lockmiller MC, Jones JE, & Mitchell M** (in preparation). The effects of aerobic exercise on cognitive function during the post-acute period: A meta-analysis.

Holzapfel SD, Ringenbach SDR, & Cook MR (in preparation). Changes in six minute walk distance predict changes in executive function after Assisted Cycling Therapy (ACT) in adolescents with Down syndrome: A moderation analysis.

Ojameruaye O, Diaz-Pacheco V, **Holzapfel SD**, Zubriski M, Bosch PR (in preparation). Validity of maximal heart rate prediction equations in individuals with chronic stroke: A pilot study. *Cardiopulmonary Physical Therapy Journal*.

Holzapfel SD, Arnold N, Cook MR, & Ringenbach SDR (in review). Predictors and Mediators of the Efficacy of Assisted Cycling Therapy (ACT) on Adaptive Gross Motor Behaviors in Adolescents with Down Syndrome. *Adapted Physical Activity Quarterly*

2019 **Holzapfel SD**, Bosch PR, Lee CD, Pohl PS, Szeto M, Heyer B, & Ringenbach SDR (2019). Acute Effects of Assisted Cycling Therapy on Post-Stroke Motor Function: A Pilot Study. *Rehabilitation Research and Practice*. Open access: <https://doi.org/10.1155/2019/9028714>

Ringenbach SDR, **Holzapfel SD**, Arnold NE, Nam K, Lopez C, Chen C-C, Buman MP, Youngstedt SD, Teslevich J, & Wallace KC. Assisted Cycling Therapy (ACT) Improves Adaptive Behaviors in Adolescents with Down Syndrome. *Journal of Developmental and Physical Disabilities*. <https://doi.org/10.1007/s10882-019-09706-z>

2017 Schaffer SD, **Holzapfel SD**, Fulk G, & Bosch PR (2017). Step Count Accuracy of Two Activity Tracking Devices in People After Stroke. *Physiotherapy Theory and Practice*, 10, 1-9. Doi 10.1080/09593985.2017.1354412

Ringenbach SDR, **Holzapfel SD**, Bosch PR, Snow M, & Hunt LM (2017). Leisure physical activity and body composition relate to cardiorespiratory fitness independently in Down syndrome. *Journal of Sports Science*, 5, 65-77. Doi 10.17265/2332-7839/2017.02.001

2016 **Holzapfel SD**, Ringenbach SDR, Mulvey GM, Sandoval-Menendez AM, Birchfield N, & Tahiliani SR (2016). Differential effects of Assisted Cycling Therapy (ACT) on short-term and working memory of adolescents with Down syndrome. *Journal of Cognitive Psychology*, 28(8), 990-1003. Doi 10.1080/20445911.2016.1205592

Ringenbach SDR, **Holzapfel SD**, Mulvey GM, Richter M, Jimenez A, & Benson A (2016). The effects of Assisted Cycling Therapy (ACT) and voluntary cycling on reaction time and measures of executive function in adolescents with Down syndrome. *Journal of Intellectual Disability Research*, 60(11), 1073-1085. Doi 10.1111/jir.12275

Holzapfel SD, Chomentowski PJ, Summers LAM, & Sabin MJ (2016). The relationship between digit ratio (2D:4D), VO₂max, ventilatory threshold, and running performance. *International Journal of Sports Sciences and Fitness*, 6(1). Epub.

- 2015 Bosch PR, **Holzapfel SD**, & Taustadóttir T (2015). Feasibility of measuring ventilator threshold in adults with stroke-induced hemiparesis: Implications for exercise prescription. *Archives of Physical Medicine and Rehabilitation*, 96(1), 1779-1784. [doi:10.1016/j.apmr.2015.04.023](https://doi.org/10.1016/j.apmr.2015.04.023)
- Holzapfel SD**, Ringenbach, SDR, Mulvey GM, Sandoval-Menendez AM, Cook MR, Ganger RO, & Bennett C (2015). Improvements in manual dexterity relate to improvements in cognitive planning after Assisted Cycling Therapy (ACT) in adolescents with Down syndrome. *Research in Developmental Disabilities*, 45, 261-270. [doi:10.1016/j.ridd.2015.08.003](https://doi.org/10.1016/j.ridd.2015.08.003)
- Ringenbach SDR, Lichtsinn KC, & **Holzapfel SD** (2015). Assisted Cycling Therapy (ACT) improves inhibition in adolescents with autism spectrum disorder. *Journal of Intellectual and Developmental Disability*, 40(4), 376-387. [doi:10.3109/13668250.2015.1080352](https://doi.org/10.3109/13668250.2015.1080352)
- 2014 Ringenbach, SRD, Zimmerman, K, Chen CC, Mulvey, GM, **Holzapfel SD**, Weeks, DJ, & Thaut, MH (2014). Adults with Down syndrome performed repetitive movements fast with continuous music cues. *Journal of Motor Learning and Development*, 2(3), 47-54.
- 2013 **Holzapfel SD** & Summers LAM (2013). An introduction to wheelchair tennis for future athletes and coaches. *Palaestra*, 27(4).
- Book Chapters**
- In Press Ringenbach SDR, Arnold NE, Nam K, **Holzapfel SD**, Chen CC, Lopez C, & Szeto M (in press). Motor control in persons with Down syndrome: Review, Recent, Rethink. In J. Burack and J. Edgin (Eds.), *The Oxford Handbook of Down Syndrome and Development*. Oxford, England, UK: Oxford University Press.
- 2016 Ringenbach SDR, **Holzapfel SD**, Richter M, & Alberts JL. Management of executive function following assisted cycling therapy in adolescents with Down syndrome. In *Down Syndrome (DS): Perspectives, Challenges and Management* (pp. 17-38). Hauppauge, NY: Nova Science Publishers.
- Holzapfel SD**, Ringenbach SDR, Ganger RO, Gomez ED, & Parker L (2016). Older Adults with Down Syndrome Benefit from Assisted Cycling Therapy: Implications for Physical Activity, Fitness, and Daily Function. In N. Hayes (Ed), *Compilation of Recent Research/Review works in the field of Down Syndrome*. Dover, DE: SM Open Access eBooks.
- 2015 Ringenbach SDR, **Holzapfel SD**, Mulvey GM, & Pandya S (2015). Assisted Cycle Therapy (ACT) for persons with Down syndrome: Implications for improvements in cognitive functioning. In S. Dey (Ed), *Health Problems in Down Syndrome*. Rijeka, Croatia: InTech Europe. ISBN: 978-953-51-4238-6.
<http://www.intechopen.com/articles/show/title/assisted-cycling-therapy-for-persons-with-down-syndrome-implications-for-improvements-in-cognitive-f>

- 2018 **Holzapfel SD** (2018). Exercise Program for Adults with Down Syndrome. *Arizona Sports and Tourism Authority – Quick Grant*, \$5,000
- 2016 **Holzapfel SD** (2016). Travel Grant to the North American Society for the Psychology of Sport and Physical Activity. *ASU Graduate and Professional Student Association – Individual Travel Grant (ASU)*, \$819.02
- Holzapfel SD**, Tran T, & Ringenbach SDR (2016). The Effects of Assisted Cycling Therapy on Cognitive Function, Motor Function, and Signs of Dementia in Older Adults with Down Syndrome. *ASU Graduate and Professional Student Association & Sun Devil Athletics Operations - Athletics Research Grant (ASU)*, \$1,500
- Holzapfel SD** (2016). Travel Grant to the North American Society for the Psychology of Sport and Physical Activity. *Graduate Education Travel Award (ASU)*, \$500
- 2015 **Holzapfel SD**, Ringenbach SDR, & Bosch PR (2015). The Efficacy of Assisted Cycling Therapy (ACT) for Improving Motor and Cognitive Function in Stroke Survivors. *ASU Graduate and Professional Student Association & Sun Devil Athletics Operations - Athletics Research Grant (ASU)*, \$3,500
- Holzapfel SD** (2015). Travel Grant to the North American Society for the Psychology of Sport and Physical Activity. *ASU Graduate and Professional Student Association – Individual Travel Grant (ASU)*, \$350
- 2014 **Holzapfel SD** (2015). Travel Grant to the North American Society for the Psychology of Sport and Physical Activity. *John and Elizabeth Ainsworth PANW Student Travel Award – ASU School of Nutrition and Health Promotion (ASU)*, \$500
- Holzapfel SD**, Ringenbach SDR, & Bosch PR (2014-2015). Treadmill Training for Stroke Survivors. *ASU Graduate and Professional Student Association - Graduate Research Support Program (ASU)*, \$750
- Holzapfel SD** (2014). Travel Grant to the Symposium of the North American Federation of Adapted Physical Activity. *ASU Graduate and Professional Student Association – Individual Travel Grant (ASU)*, \$871
- 2013 **Holzapfel SD** & Ringenbach SDR (2013-2014). Assisted Exercise in Adults with Down Syndrome. *ASU Graduate and Professional Student Association - Graduate Research Support Program (ASU)*, \$750
- Unfunded**
- 2019 **Holzapfel SD**. Centennial Professorship Award. Arizona State University Graduate and Professional Student Association, \$10,000
- Holzapfel SD** (PI) & Ramella K (Co-I). Division of Developmental Disabilities Planning Council Grant for inclusive recreation projects, \$19,077
- 2018 Ringenbach SDR (PI) & **Holzapfel SD** (Co-I) (2018-2023). ACT Early: Development of a pediatric cycle to deliver Assisted Cycle Therapy as

an early intervention for young children with Down syndrome and Autism Spectrum Disorder. National Institute of Disability, Independent Living, and Rehabilitation Research, \$2,375,000, total direct costs \$2,053,538

Holzapfel SD (2018). Exercise Program for Adults with Down Syndrome. Diamondbacks Foundation Program Grant, \$5,000

2016 Reynolds K, **Holzapfel SD**, & Ringenbach SDR (2016). Assisted Cycling Therapy for Adults with Attention Deficit Hyperactivity Disorder. *Sun Devil Fitness Research Grant (ASU)*, \$2,000

2015 **Holzapfel SD** & Ringenbach SDR (2015-2016). The Efficacy of Assisted Cycling Therapy (ACT) for Improving Motor and Cognitive Function in Stroke Survivors. *North American Society for the Psychology of Sport and Physical Activity*, \$2,000

PRESENTATIONS / ABSTRACTS

Data-based

2020 Ringenbach SDR, Nam K, Arnold NE, Mendoza E, **Holzapfel SD**, Danzey S, & Rodriguez L (2020). Stationary Cycling Exercise Improved Fine Motor Control in Older Adults With Down Syndrome. *North American Society for the Psychology of Sport and Physical Activity*.

2018 **Holzapfel SD**, Ringenbach SD, Bosch PR, Lee CD, & Heyer B (2018). Acute Effects of Assisted Cycling Therapy on Upper Extremity Motor Function after Stroke. *North American Society for the Psychology of Sport and Physical Activity*, (oral presentation).

Ringenbach SD, Arnold N, Lopez C, **Holzapfel SD**, Rodriguez L. (2018). Cognitive planning improved after cycling exercise in older adults with Down syndrome. *North American Society for the Psychology of Sport and Physical Activity*, (oral presentation).

Holzapfel SD, Shikles A, Ringenbach SD, & Arnold N (2018). Outcomes and Challenges after 1 Year of the Exercise Program for Adults with Down Syndrome. *North American Federation of Adapted Physical Activity*, (oral presentation).

Ringenbach SD, Arnold N, Tucker K, & **Holzapfel SD** (2018). Assisted Cycle Therapy (ACT) improved self-efficacy and exercise perception in older adults with Down syndrome. *North American Federation of Adapted Physical Activity*, (oral presentation).

2017 **Holzapfel SD**, Szeto M, Ringenbach SD, & Lopez C (2017). Lower Extremity Motor Function Improved After Cycling in Stroke Survivors. *North American Society for the Psychology of Sport and Physical Activity*, (oral presentation).

Arnold NE, Ringenbach SD, Parker L, **Holzapfel SD**, Lopez C, & Szeto M (2017). Assisted Cycle Therapy (ACT) Improved Leisure Physical Activity but Not Sleep in Older Adults with Down Syndrome. *North American Society for the Psychology of Sport and Physical Activity*, (poster presentation).

Holzapfel SD, Ringenbach SD, Cook MR, & Pandya S (2017). Changes in functional exercise capacity mediate the relationship between assisted cycling cadence and gross motor adaptive behaviors in adolescents with Down syndrome. *North American Society for the Psychology of Sport and Physical Activity*, (oral presentation).

Holzapfel SD & Bosch PR (2017). Effect of High Intensity Interval Treadmill Training on Executive Function in Chronic Stroke Survivors. *American Physical Therapy Association – Combined Sections Meeting*, (poster presentation).

Ojameruaye O, **Holzapfel SD**, Zubriski M, & Bosch PR (2017). Validity of Maximal Heart Rate Prediction Equations After Stroke. *American Physical Therapy Association – Combined Sections Meeting*, (poster presentation). *Cardiopulmonary Physical Therapy Journal*, 28(1), 47.

Nordin K, **Holzapfel SD**, & Bosch PR (2017). Heart Rate and Perceived Exertion During High Intensity Interval Training After Stroke. *American Physical Therapy Association – Combined Sections Meeting*, (poster presentation).

2016

Ringenbach SDR, **Holzapfel SD**, & Wallace KC (2016). Assisted Cycling Therapy Improves Self-Efficacy in Adolescents with Down Syndrome. *North American Federation of Adapted Physical Activity*, (oral presentation).

Holzapfel SD, Ringenbach SDR, & Bosch PR (2016). Acute Improvements in Lower Extremity Motor Control of Chronic Stroke Survivors Following Assisted Cycling Therapy. *American Society for Neurorehabilitation*, (poster presentation).

Holzapfel SD & Ringenbach SDR (2016). Differential effects of assisted and voluntary cycling on the relationship between improvements in cardiorespiratory fitness and executive function in adolescents with Down syndrome. *North American Federation of Adapted Physical Activity*, (oral presentation).

Ringenbach SD, **Holzapfel SD**, & Richter M (2016). Retention of Executive Function After Assisted Cycling Therapy in Adolescents with Down Syndrome. *North American Society for the Psychology of Sport and Physical Activity*, (oral presentation). *Journal of Sport and Exercise Psychology*, 38(S1).

Holzapfel SD, Ringenbach SD, Mulvey GM, Sandoval-Menendez AM, Birchfield N, & Tahiliani SR. Differential Effects of Assisted Cycling Therapy (ACT) on Short-Term and Working Memory of Adolescents with Down Syndrome. *North American Society for the Psychology of Sport and Physical Activity*, (oral presentation). *Journal of Sport and Exercise Psychology*, 38(S1).

Schaffer S, Weinand M, Bosch PR, & **Holzapfel SD** (2016). Step Count Accuracy of Two Activity Tracking Devices in People with Stroke. *American Physical Therapy Association – Combined Sections Meeting*, (poster presentation).

- 2015 **Holzapfel SD**, Ringenbach SDR, Mulvey GM, Sandoval-Menendez AM, Cook MR, & Ganger RO (2015). Eight Weeks of Assisted Cycling Therapy (ACT) Improves Upper Extremity Motor Function in Down Syndrome. *North American Society for the Psychology of Sport and Physical Activity*, (oral presentation). *Journal of Sport and Exercise Psychology*, 37, S44.
- Holzapfel J & **Holzapfel SD** (2015). Predicting high vs. low self-handicapping and group cohesion in athletes. *Arizona Psychological Association*, (oral and poster presentation). 2015 Graduate Research Award of the Arizona Psychological Association
- 2014 **Holzapfel SD** & Ringenbach SDR (2014). Assisted Cycling Therapy improves Verbal Fluency in Adolescents with Down Syndrome. *North American Federation of Adapted Physical Activity*, (oral presentation).
- Ringenbach SDR, Moss-Hunt L, & **Holzapfel SD** (2014). The 6 Minute Walk Test and the Fitness of Young Adults with Down Syndrome. *North American Federation of Adapted Physical Activity*, (oral presentation).
- Ringenbach SDR, Teslevich J, & **Holzapfel SD** (2014). Assisted Cycling Therapy (ACT) Improves Depression in Adolescents with Down Syndrome. *North American Society for the Psychology of Sport and Physical Activity*, (poster presentation). *Journal of Sport and Exercise Psychology*, 36, S73.
- 2013 **Holzapfel SD**, Sawyer BJ, Angadi SS, Bhammar DM, Ryder JR, & Gaesser GA (2013). Improvements in VO₂peak are unrelated to changes in submaximal heart rate after 12 weeks of aerobic walking in women. *Southwest ACSM Annual Chapter Meeting*, (poster presentation).
- Holzapfel SD**, Sabin MJ, Chomentowski PJ, III, & Summers LAM (2013). Digit Ratio (2D:4D) and Maximal Oxygen Uptake. *ACSM's 60th Annual Meeting and 4th World Congress on Exercise is Medicine*, (poster presentation, 45(5 Suppl.)).
- Holzapfel SD**, Sabin MJ, Chomentowski PJ, III, & Summers LAM (2013). Digit Ratio (2D:4D) and Maximal Oxygen Uptake. *Eastern Kentucky University Society of Foundation Professors' Graduate Research Expo*, (poster presentation).
- 2012 **Holzapfel SD** (2012). Yes, Fingers Can Predict VO₂max. *Annual KAHPERD Convention*, (oral presentation).
- Invited**
- 2018 Subiatis J & **Holzapfel SD** (2018). "Let No One Sit on the Sidelines" - The Benefits of Adaptive Sports and Recreation. Amputee Coalition National Conference, (verbal presentation).
- 2017 **Holzapfel SD** (2017). Exercise for Adults with Down Syndrome. *Down Syndrome Network of Arizona – Aging Matters Conference*, (oral presentation).

- 2015 **Holzapfel SD** (2015). The effects of Assisted Cycling Therapy (ACT) on cognitive and motor function in special populations. *ASU School of Nutrition and Health Promotion Seminar Series*, (oral presentation).
- 2011 Mahal KS & **Holzapfel SD** (2011). Yoga Wake-Up. *Annual AAHPERD Convention*, (oral presentation).
- Mahal KS & **Holzapfel SD** (2011). Breathing Relaxation. *Annual AAHPERD Convention*, (oral presentation).

RESEARCH EXPERIENCE

Principal Investigator

- 2018-present "Effects of Exercise Program for Adults with Down Syndrome (ExDS) on Implicit and Explicit Bias in Students"
- 2017-2019 "Exercise Program for Adults with Down Syndrome (ExDS)"
Co-Investigators: Shannon D. Ringenbach PhD
- 2015-2017 "The Acute Effects of Assisted Cycling Therapy (ACT) on Executive and Motor Function in Chronic Stroke Survivors"
Committee Members: Shannon D. Ringenbach PhD, Steven P. Hooker PhD, Chong D. Lee PhD, Cheryl Der Ananian PhD, Pamela R. Bosch PhD
- 2012-2013 "VERDICT: VO₂max, Endurance Running, and Digit Ratio Connection to Testosterone"
Committee Members: Matthew J. Sabin PhD, Peter J. Chomentowski III PhD, Louisa A. M. Summers PhD

Co-Investigator

- 2018-2019 "Acute Effects of High Intensity Interval Cycling on Postural Control in People After Stroke"
PI: Pamela R. Bosch PhD.
- 2014-2019 "Assisted Cycling Therapy for Older Adults with Down Syndrome"
PI: Shannon D. Ringenbach PhD.
- 2013-2018 "Appropriate Training Stimulus for Stroke Survivors with Gait Related Impairments"
PI: Pamela R. Bosch PhD.
- 2014-2016 "Effects of Assisted Cycle Therapy on Executive and Motor Functioning in Young Adults with Attention-Deficit Hyperactivity Disorder"
PI: Natasha Birchfield MS. **Co-Is:** Shannon D. Ringenbach PhD, Chong D. Lee PhD, Jack Chisum PhD, Kathryn Campbell PhD
- 2012-2016 "Assisted Cycling Therapy for Adolescents with Down Syndrome"
PI: Shannon D. Ringenbach PhD. **Co-I:** Genna M. Mulvey PhD
- 2014-2015 "The Acute Effects of Assisted Cycle Therapy on Executive and Motor Functioning in Older Adults"
PI: Keith Semken MS. **Co-Is:** Shannon D. Ringenbach PhD, Cheryl Der Ananian PhD, Matthew Buman PhD

2014-2015 "Validation of Activity Tracking Devices in Stroke Survivors with Chronic Hemiparesis"
PI: Pamela R. Bosch PhD.

Research Assistant (unpaid)

2015-2016 "Effect of Rewind Yoga on Measures of Balance, Function and Quality of Life: A Randomized Control Trial"
PI: Andrew Miller; Committee Members: Cheryl Der Ananian PhD, Barbara Ainsworth PhD, Steven Hooker PhD, Jared Dickinson PhD, Michael Belyea PhD

- Completed balance (postural sway) assessment using the AccuSway-O (AMTI, Watertown, MA), administered the Berg Balance Scale, Senior Fitness Test, and Mini Mental State Examination

Paid Positions

2014 (Summer) Research Assistant
Sensorimotor Development Research Lab, Arizona State University

- Assisted Cycling Therapy (ACT) for Adolescents with Down Syndrome (5R03HD073652-02)

OTHER TEACHING EXPERIENCE

2015-present Teaching Associate
School of Nutrition and Health Promotion, Arizona State University
Courses:

- Introduction to Kinesiology
Course description: Introduces the disciplines and professions associated with kinesiology, including an overview of historical and philosophical foundations

2013-Present Teaching Associate
School of Nutrition and Health Promotion, Arizona State University
Courses:

- EXW 316 – Physiological Foundations of Movement (Lab)
Course description: Investigates theories and methods of exercise physiology in a laboratory and/or applied setting
 - Developed and modified course structure, content, and assignments
- EXW 425 – Exercise Prescription (Lab)
Course description: Theoretical basis for and application of general principles of exercise prescription to various ages, fitness levels, and health states
- EXW 420 – Exercise Testing (Lab)
Course description: Theoretical basis and practical application of pre-exercise screening, exercise testing, estimates of energy expenditure, and interpretation of results

Lectures:

- EXW 315 – Physiological Foundations of Movement
 - *Work Tests to Evaluate Cardiorespiratory Fitness*
 - *Temperature Regulation*
 - *Factors Affecting Performance*
 - *Training for Performance*

2014-2016 Faculty Associate (summer appointment)
School of Nutrition and Health Promotion, Arizona State University
Courses:

- EXW 316 – Physiological Foundations of Movement (Lab)

Course description: Investigates theories and methods of exercise physiology in a laboratory and/or applied setting

2011-2013 Graduate Teaching Assistant
Department of Exercise and Sports Science, Eastern Kentucky University

Courses:

- PHE 190 – Swimming and Water Safety
- PHE 190 – Fitness Swimming
- PHE 190 – Advanced Fitness Swimming
- PHE 190 – Beginning Tennis
- PHE 190 – Badminton

Courses:

- PHE 180 – Lifetime Wellness

Lectures and laboratory assignments

- PHE 305 – Teaching Badminton & Tennis
- PHE 325 – Physiology of Physical Activity

2012 – 2013

Instructor

Kentucky Adapted Physical Education Program, Richmond, KY

- Tested and evaluated locomotor, object control, swimming skills, and behavior of children with mental and physical disabilities
- Developed Individualized Education Programs (IEPs)
- Taught locomotor, object control, and swimming skills to children with mental and physical disabilities

SERVICES

Professional Level

Peer Reviewer – books/book chapters:

- 2018 *Pearson Education* – Chapters in a new exercise physiology ebook
 2017 *American College of Sports Medicine* - Case studies in *ACSM's Exercise Testing and Prescription*

Peer Reviewer - manuscripts

	Journal Name	Number of Manuscripts
2018-present	<i>Research in Developmental Disabilities</i>	1
	<i>Journal of NeuroEngineering and Rehabilitation</i>	1
	<i>Journal of Applied Research in Intellectual Disabilities</i>	2
2014-2017	<i>Adapted Physical Activity Quarterly</i>	5
	<i>American Journal on Intellectual and Developmental Disabilities</i>	1
	<i>Developmental Neurorehabilitation</i>	1
	<i>Games for Health Journal</i>	2
	<i>Journal of Behavior Therapy and Mental Health</i>	1
	<i>Journal of Intellectual Disability Research</i>	1
	<i>Journal of Motor Learning and Development</i>	1
	<i>Journal of Neuroinfectious Diseases</i>	1
	<i>Plos One</i>	1
	<i>Preventive Medicine</i>	1
	<i>Research in Developmental Disabilities</i>	2
<i>Space and Culture</i>	1	

- 2016-present Capstone Projects – Committee Member
Northern Arizona University, Department of Physical Therapy
- Joseph Webster (current)
 - Allison Connolly (F2019)
 - Jessica Jones (F2019)
 - Peyton Lane (S2019)
 - Ochucko Ojameruaye (S2018)
 - Sam Schaffer (F2017)
- University Level**
- 2017-present Adaptive Exercise Program (AEP) – Founder, Director
Arizona State University, College of Health Solutions
- 2017-present CHS Service Committee – Member
Arizona State University, College of Health Solutions
- 2016-present Exercise & Wellness Undergraduate Curriculum Committee – Member
Arizona State University, College of Health Solutions
- 2016-2017 Undergraduate Awards Committee – Member
Arizona State University, College of Health Solutions
- 2016 (Summer) NIH BUILDing Scholars Faculty-Student Mentoring Program – Secondary Mentor
Arizona State University & University of Texas El Paso
- Mentee: Valeria Diaz-Pacheco
 - Final Poster Presentation: Validity of Maximal Heart Rate Prediction Equations After Stroke
- 2015-2016 Sun Devil Fitness Research – Grants Peer Reviewer
Arizona State University
- Reviewed graduate and undergraduate student research grant applications
- 2019 PhD Advisory Committee – Member
Arizona State University – College of Health Solutions
- Ka Hyun Nam
 - Nathaniel Arnold
- 2019 Master Theses/Applied Projects – Chair
Arizona State University – College of Health Solutions
- James Bockas (S2020), *Devils Adapt Continuation and Sustainability*
- 2018 Master Theses/Applied Projects – Committee Member
Arizona State University – College of Health Solutions
- Thomas Demirjian (F2018), *Validity and Reliability of Hand-Held Dynamometer in Assessing Leg Muscle Strength in Older Adults*
- 2017-present Undergraduate Honors Theses – Chair
Arizona State University – Barrett the Honor's College
- Cheng Chang (S2020), *Development of the MyPT App*

- Rebecca Bauer (S2020), *Applicability of VO₂max Criteria in People with Chronic Stroke-Related Deficits*
- Tristany Hightower (S2020), *The Effects of Direct Interaction with People with Intellectual Disabilities on Implicit and Explicit Bias*
- Michaela Mitchell (S2019; Outstanding Barrett Graduate in Research applicant), *Effects of Aerobic Exercise on Cognitive Function After Stroke: A Meta-Analysis*
- Alexandra Ross (F2018), *Effects of Exercise on Adaptive Behaviors in Adults with Down Syndrome*
- Ann Shikles (F2018), *Effectiveness of an Exercise Program for Adults with Down Syndrome*

2015-present

Undergraduate Honors Theses – Committee Member/Second Reader
Arizona State University – Barrett the Honor's College

- Rachelle Speckler (S2020), *Community Survey for Demand of a Pediatric Exercise Cycle Ergometer*
- Ellen Hitt (S2019), *Cancer Survivorship Care and Rehabilitation in Arizona*
- Arianna Lew (S2019), *What works best? A Global Comparative-Analysis of Alzheimer's Disease Prevention and Care*
- Matthew Dietz (F2018), *Targeting the Prefrontal Cortex with Assisted Cycle Therapy (ACT) to Improve Sleep in Adult Down Syndrome (DS) Populations*
- Kori Tucker (S2018), *Assisted Cycle Therapy (ACT) improved Self-Efficacy in Older Adults with Down Syndrome*
- Corinna Lopez (F2017), *Cognitive Planning Improved After Cycling Exercise in Older Adults with Down syndrome*
- Brittany Heyer (F2016), *The Acute Effects of Assisted Cycling Therapy on Upper Extremity Motor Function in Chronic Stroke Survivors*
- Monica Szeto (F2016), *The Acute Effects of Assisted Cycling Therapy on Lower Extremity Motor Function in Chronic Stroke Survivors*
- Laura Hatty (S2016), *Does High Intensity Interval Treadmill Walking Improve Upper Extremity Function in Chronic Stroke Survivors?*
- Lucas Parker (S2016), *The Effects of Assisted Cycling on Sleep in Adults with Down Syndrome*

2014-2015

ASU Graduate and Professional Student Association – Grants and Awards Peer Reviewer
Arizona State University

- Reviewed graduate student research and creative project grant applications
- Reviewed graduate student travel grant applications

2013-present

Barrett Honors College – Mentor
Arizona State University

- Mentored undergraduate honors students throughout the process of completing an honors thesis research project
 - Star Dujnic (S2019), *Longitudinal Effects of an Exercise Program for Adults with Down Syndrome (ExDS) on Cardiorespiratory Fitness, Balance, and Other Health-*

- Related Physical Fitness Parameters*, presented at the College of Health Solutions Capstone Poster Session
- Kazi Syed (S2019), *Longitudinal Effects of an Exercise Program for Adults with Down Syndrome (ExDS) on Cardiorespiratory Fitness, Balance, and Other Health-Related Physical Fitness Parameters*, presented at the College of Health Solutions Capstone Poster Session
- John Son (S2019), *Recipient of Barrett Bidstrup Research Stipend*
- Daangoiina Haven (S2019), *Conley Scholarship Applicant*
- Aspen Cooper (F2017)
- Corinna Lopez (F2017), *Cognitive Planning Improved After Cycling Exercise in Older Adults with Down syndrome*
- Emily Rupp (S2016), *The Effect of Assisted Cycle Therapy on Fine Motor Skills in Adults with Attention-Deficit Hyperactivity Disorder*
- Sachin Pandya (S2016), *Assisted Cycling Therapy (ACT) in Older Adults with Down Syndrome and the Effect on Mental Health*
- Kellie Wallace (F2015), *Assisted Cycling Therapy Improves Self-Efficacy in Adolescents with Down Syndrome*
- Danielle Gomez (S2015), *Effects of Assisted Cycling Therapy on Physical Activity and Upper Extremity Motor Function in Older Adults with Down Syndrome*
- Kristen Bennett (S2015), *The Effects of Cycling Therapy on Body Composition in Adolescents with Down Syndrome*
- Cayla Jenkins (S2015), *Assisted Cycling Therapy Improves Maladaptive Behaviors in Adolescents with Down Syndrome*
- Amber Sandoval-Menendez (S2015), *Effects of Assisted Cycling Therapy on Short Term and Working Memory in Adolescents with Down Syndrome*
- Megan Cook (S2015), *Assisted Cycling Therapy Improves Mobility in Adolescents with Down Syndrome*
- Shana McGownd (S2015), *Assisted Cycling Therapy Affects Depression in Adolescents with Down Syndrome*
- Kelsey Millar (S2015), *Assisted Cycling Therapy Improves Cognitive Planning Ability in Adolescents with Down Syndrome*
- Rachel Ganger (S2015), *Assisted Cycling Therapy Improves Mobility and Fitness in Older Adults with Down Syndrome*
- Alicia Benson (S2015), *Effects of Cycling Therapy on Set-Switching Ability on Adolescents with Down Syndrome*
- Andrew Jimenez (S2015), *Assisted Cycling Therapy Improves Fine Manual Dexterity and Reaction Time in Adolescents with Down Syndrome (second reader)*
- Kristin Frankhauser (S2014), *Effects of Assisted Cycling Therapy on Body Composition in Adolescents with Down Syndrome (second reader)*
- Madeline Richter (S2014), *Examination of One Month Retention of Executive Function after Assisted Cycling Therapy in Adolescents with Down Syndrome*

2013-2016 Building Healthy Lifestyles Conference - Planning Committee Member
Arizona State University

- Secured conference funding (2015, 2016)
- Managed Conference Registration (2014)

Exercise and Wellness Graduate Club – Member
Arizona State University

- Volunteered at: Y-Race, Phoenix; Stadium clean-up, ASU; Arizona Ironman
- Promoted Physical Activity at Community Events

2012-2013 Exercise for Adults with Chronic Conditions – Graduate Trainer
Eastern Kentucky University

- Instructed clients in the safe and correct execution of exercises
- Measured and evaluated the progress of clients
- Ensured client and equipment safety

2012 Special Olympics – Coach
Madison County, Kentucky

- Trained and instructed participants in bowling and basketball

2011-2013 Exercise and Sports Science Association – Member
Eastern Kentucky University

- Planned convention trips

**Community
(volunteer, fundraise, outreach)**

Regular volunteer activities:

Arizona Disabled Sports (every Saturday, ~2 hours)

Special Day for Special Kids, Scottsdale Sunrise Rotary Club (every March, ~5 hours)

Sharing Down Syndrome Walk, Sharing Down Syndrome (every September, ~5 hours)

2019 Mentoring of a high school senior student (Amber La Crosse) in the completion of her project titled “The Effects of Exercise on Balance, Plantar Flexor Strength, and Ankle Range of Motion in Adults with Down Syndrome”

2018 Podcast with OEM Sessions by Eric D. Marcotte (Former USPRO Road and Criterium Champion) -
<https://itunes.apple.com/us/podcast/oem-sessions/id1325175652?mt=2>

2017-present Director, Exercise Program for Adults with Down Syndrome at ASU (12 hours per week)

2016 Banner Del Webb Hospital, Stroke Support Group Presentation (Feb. 24)
Tri for the Cure Triathlon, Tri Scottsdale Fundraiser for Breast Cancer Research (Mar. 26)

Mercy Gilbert Medical Center, Stroke Support Group Presentation (May. 12)

- 2015 Sharing Down Syndrome East Valley Workshop (Jan. 22)
CJ Udall Fund, Down Syndrome Network fundraiser (Feb. 21)
World Down Syndrome Day event, Down Syndrome Network (Mar. 21)
Special Day for Special Kids, Scottsdale Sunrise Rotary Club (Mar. 21)
Feed My Starving Children (Mar. 27)
Stride for Sight road race fundraiser (Mar. 28)
Step Up for Down Syndrome Walk, Down Syndrome Network (Nov. 1)
- 2014 World Down Syndrome Day event, Down Syndrome Network (Mar. 21)
Tempe Parks & Recreation, Friday Night Social Dance (Sep. 12)
Breakfast for Champions, Special Olympics (Oct. 23)
Step Up for Down Syndrome Walk, Down Syndrome Network (Nov. 1)
Holiday Food Drive, Sensorimotor Development Research Lab (Dec.)
- 2013 Y-Race at South Mountain, Phoenix YMCA (Oct. 20)
Breakfast for Champions, Special Olympics (Oct. 24)
Sun Devil Stadium Clean-Up, Graduate Women's Association (Dec. 7)

HONORS AND AWARDS

Academic

- 2019 Recipient of Teaching Award of the 4th Annual CHS Staff and Faculty Awards
Arizona State University
- Nomination to receive the Distinguished Faculty Award of the 4th Annual CHS Staff and Faculty Awards
Arizona State University
- Nomination to receive the Service Award of the 4th Annual CHS Staff and Faculty Awards
Arizona State University
- 2017 Cardiovascular & Pulmonary Section CSM Research Poster Award
Heart Rate and Perceived exertion during high intensity interval training after stroke - Nordin KC, **Holzapfel SD**, & Bosch PR
American Physical Therapy Association – Combined Sections Meeting
- National Doctoral Scholar Award
American Kinesiology Association
- 2016-2017 Dissertation Fellowship
Arizona State University, \$34,508.00
- 2014 Excellence in Research Award
Journal of Motor Learning and Development (Most outstanding article in the current annual volume of JMLD: "Adults with Down Syndrome Performed Repetitive Movements Fast with Continuous Movement Cues")
- CJ Udall Award
Arizona State University, Sensorimotor Development Research Laboratory
- EKV Graduate School Outstanding Thesis Award
Eastern Kentucky University
- 2013 Outstanding Research Poster from the College of Health Sciences
Eastern Kentucky University, Society of Foundation Professors
- 2012 Graduate Student of the Year
Eastern Kentucky University, Department of Exercise and Sports Science
- 2011 President's Award
Tusculum College

- Major of the Year
National Association for Sport and Physical Education (NASPE)
- 2010 Alpha Chi Academic Excellence Award
Tusculum College
- State Winner: James E. Ward Outstanding Major Honor Award
Tennessee Association for Health, Physical Education and Dance (TAHPERD)
- 2009 James E. Ward Outstanding Major Honor Award
Tennessee Association for Health, Physical Education and Dance (TAHPERD)
- 2007 Free membership in the German Physics Association for outstanding achievements in physics (2007)
Germany

Community

- 2018 Outstanding Service Award
Down Syndrome Network of Arizona

SKILLS

Proficient in the operation and maintenance of:

- Parvo Medics TrueOne 2400 metabolic cart
- CareFusion Oxycon Mobile metabolic cart
- Cosmed Fitmate Pro portable metabolic cart
- PhysioDyne MAX-I metabolic cart

PROFESSIONAL MEMBERSHIPS

- Disability Resource Connection (2019-present)
- American Physiological Society (2015-2017)
- North American Association for the Psychology of Sport and Physical Activity (2014-present)
- American College of Sports Medicine (2011-present)
- North American Federation of Adapted Physical Activity (2012-present)
- Kentucky Association for Health, Physical Education, Recreation and Dance (2012-2013)
- American Alliance for Health, Physical Education, Recreation and Dance (2008-2011)
- Tennessee Association for Health, Physical Education, Recreation and Dance (2010-2011)
- National Association for Sport and Physical Education (2010-2011)
- American Association for Physical Activity and Recreation (2009-2010)

CURRENT CERTIFICATIONS

- Association of College and University Educators (ACUE)
- American College of Sports Medicine – Certified Exercise Physiologist
- American College of Sports Medicine – Certified Inclusive Fitness Trainer
- American Heart Association – Advanced Cardiac Life Support
- American Red Cross - CPR, AED, First Aid
- State of Arizona – Article 9 Training