Sidney T. Baudendistel, M.S.
Curriculum Vitae

Washington University in St. Louis
4444 Forest Park Avenue
St. Louis, Mo 63108

Email: bsidney@wustl.edu

Dedicated Postdoctoral Research Scholar with experience in research, teaching, and mentoring at the undergraduate level. Extensive background in clinical application of biomechanics and movement science, specifically movement disorders and mobility interventions.

Education

University of Florida: Gainesville, FL 2021
Ph.D. in Applied Physiology and Kinesiology, Emphasis in Biobehavioral Sciences
Dissertation: *Targeting Propulsive Force to Improve Gait in Individuals with Parkinson's disease*
Advisor: **Dr. Chris J. Hass**

- Graduate Student Mentorship Award (2021)
- Three Minute Thesis Finalist: American Society of Biomechanics Conference (2021)
- T32 Movement Disorders Fellowship: NINDS, University of Florida (2020-2021)
- Dr. Norma M. Leavitt Scholarship (2020)
- David & Linda McCaughey Scholarship (2019)
- Student Research Award: ACSM Biomechanics Interest Group (2019)
- Levitt Award Finalist: University of Florida: Institute for Learning in Retirement (2019)
- Graduate Student Council Travel Grant (2018)
- C.A. Boyd Scholarship (2018)
- Dr. Charles W. LaPradd Endowed PhD Fellowship (2017)
- Graduate Teaching Fellowship: Applied Physiology and Kinesiology (2017-2019)

University of Nebraska - Omaha: Omaha, NE 2017
M.S. in Exercise Science, Emphasis in Biomechanics
Thesis: *An Investigation in Muscle Activation during Load Carrying*
Advisor: **Dr. Jenna M. Yentes**

- Student Research Award: University of Nebraska – Omaha: Graduate Studies (2016)
- Graduate Teaching Fellowship: Health, Physical Education, and Recreation (2015-2017)

Truman State University: Kirksville, MO 2014
B.S. in Exercise Science, Minor in Biology
Thesis: *Isokinetic Differences between Division Two Athletes*
Advisor: **Dr. Jerry L. Mayhew**

- Best Undergraduate Presentation: Interdisciplinary Biomedical Research Symposium (2014)
- Undergraduate Teaching Assistant: Health and Exercise Science (2014)

Manuscripts

9. Schmitt A.C., Baudendistel S.T., Lipat A.L., White T.A., Raffegeau T.E., & Hass C.J. (2021) Walking Indoors, Outdoors, and on a Treadmill: Differences in Strategies in Healthy Young and Older Adults. *Gait & Posture*. 90: 468-474 doi: 10.1016/j.gaitpost.2021.09.197

8. Kellaher G.K., **Baudendistel S.T.,** Roemmich R.T., Terza M.J., & Hass C.J. (2022) Persons with Parkinson's disease show impaired interlimb coordination during backward walking. *Parkinsonism & Related Disorders*. 94: 25-29 doi: 10.1016/j.parkreldis.2021.11.029

7. **Baudendistel S.T.,** Schmitt A.C., Stone A.E., Raffegeau T.E., Roper J.A., & Hass C.J. (2021) Faster or longer steps: Maintaining fast walking in older adults at risk for mobility disability. *Gait & Posture.* 89: 86-91 doi: 10.1016/j.gaitpost.2021.07.002

6. Pieper N.L., **Baudendistel S.T.,** Hass C.J., Diaz G.B., Krupenevich R.L., & Franz J.R. (2021) The metabolic and mechanical consequences of altered propulsive force generation in walking. *Journal of Biomechanics.* 122: 110447 doi: 10.1016/j.jbiomech.2021.110447

5. Baudendistel S.T., Schmitt A.C., Roemmich R.T., & Hass C.J. (2021) Levodopa Facilitates Improvements in Gait Kinetics at the Hip, not the Ankle, in Parkinson's Disease. *Journal of Biomechanics*. 121:110366 doi: 10.1016/j.jbiomech.2021.110366

4. Schmitt A.C., **Baudendistel S.T.**, Fallon M.S., Roper J.A., & Hass C.J. (2020). Assessing the Relationship between the Enhanced Gait Variability Index and Falls in Individuals with Parkinson's Disease. *Parkinson's Disease*. 2020:1-5 doi:10.1155/2020/5813049

3. **Baudendistel S.T.**, Grindstaff T.L., Rosen A.B., & Yentes J.M. (2020). Bimanual load carriage alters sway patterns and step width. *Applied Ergonomics*. 84:103030 doi: 10.1016/j.apergo.2019.103030

2. **Baudendistel S.T.**, Schmitt A.C., Rodriguez A.V., McFarland N.R., & Hass C.J. (2019). A Turn for the Worse: Turning Performance in Parkinson's disease and Essential tremor. *Clinical Biomechanics*. 70:245-248. doi:10.1016/j.clinbiomech.2019.09.008

1. Schmitt A.C., Daniels J.N., **Baudendistel S.T.**, Okun M.S., & Hass C.J. (2019). The Electronic Primary Gait Screen in Parkinson's disease: Comparison to Standardized Measures. *Gait & Posture*. 73:71-73. doi: 10.1016/j.gaitpost.2019.07.132.

Articles in Review

Wade F.E., Kellaher G.K., Pesquera S., **Baudendistel S.T.,** Roy A., Clark D.J., Seidler R.D., Ferris D.P., Manini T.M., Hass C.J. (Submitted: July 2021) Kinematic analysis of walking speed transitions in younger and older adults. *Journal of Biomechanics.*

Raffegeau T. E., Brinkerhoff S. A., Kellaher G., **Baudendistel S. T.**, Terza M., Roper J. A., Altmann L.J., & Hass C.J. (Submitted: September 2021) Changes to margins of stability from walking to obstacle crossing in older adults while walking fast and during a dual-task *Archives of Gerontology and Geriatrics*.

Projects in Progress

Pappas M., **Baudendistel S.T.,** Schmitt A.C., & Hass C.J. (Expected Submission: February 2022) Changes in Gait during Five Minutes of Treadmill Walking in Individuals with Parkinson's disease. Target: *Movement Disorders*.

Baudendistel S.T., Schmitt A.C., Balthesar K., Wade F.E. & Hass C.J. (Expected Submission: January 2022) Gait Asymmetry in Parkinson's disease: Considerations for Averaging Limbs during Walking. Target: *Parkinson's Disease*.

Baudendistel S.T., Lopez F., Ray A.A., O'Connell R.L., Woods A., Hess C., & Bowers, D. (Expected Submission: Early 2022) Revitalizing Locomotion in Parkinson Disease: A pilot study with NIR stimulation. Target: TBD

Presentations

Moderator

1. Prosthetics - Thematic Poster Session. American Society of Biomechanics, August 2018, Rochester, MN.

Podium Presentations

9. Pappas M., **Baudendistel, S.T.**, & Hass, C.J., Analyzing the Acclimatization of Force Production in Individuals with Parkinson's Disease. *American Society of Biomechanics,* August 2021, Virtual.

8. **Baudendistel, S.T.**, Pappas M., Schmitt, A.C., Franz, J.R., & Hass, C.J., Preliminary Effects of Propulsive Force Biofeedback Training on Overground Walking in Individuals with Parkinson's Disease. *American Society of Biomechanics,* August 2021, Virtual.

7. **Baudendistel, S.T.**, Franz, J.R., & Hass, C.J., Real-time Visual Biofeedback to Increase Propulsive Force in Individuals with Parkinson's Disease. *American Society of Biomechanics,* August 2021, Virtual.

6. **Baudendistel, S.T.**, Schmitt, A.C., Roemmich, R. & Hass, C.J., Effects of dopaminergic therapy on peak propulsion during treadmill walking in persons with Parkinson's Disease, *International Society of Biomechanics/American Society of Biomechanics,* August 2019, Calgary, AL, Canada.

5. Schmitt, A.C., Daniels, J.N., **Baudendistel, S.T.**, Terza, M.J., Okun, M.S., & Hass, C.J., Gait Initiation Data from 100 Individuals with Parkinson's Disease, *International Society of Biomechanics/American Society of Biomechanics,* August 2019, Calgary, AL, Canada.

4. Kellaher G.K., **Baudendistel S.T.**, Roemmich, R.T., Terza, M.J., & Hass C.J., Impact of Impaired Coordination on Backward Walking in Parkinson's disease, *International Society of Biomechanics/American Society of Biomechanics,* August 2019, Calgary, AL, Canada.

3. **Baudendistel, S.T.**, Schmitt, A.C., Rodriguez, A, & Hass, C.J., Comparing Turn Performance in Parkinsonism. *Institute for Learning in Retirement: Levitt Awards*, February 2019, Gainesville, FL.

2. **Baudendistel, S.T.**, Rosen, A., Grindstaff, T.L., & Yentes, J.M., An Investigation in Muscle Activation During Load Carrying. *Annual Meeting of Nebraska Academy of Sciences,* April 2017, Lincoln, NE.

1. **Baudendistel, S.T.** & Mayhew, J., Isokinetic Differences between Division Two Athletes. *Interdisciplinary Biomedical Research Symposium,* November 2014, A.T. Still, Kirksville, MO.

Poster Presentations

15. **Baudendistel, S.T.**, Schmitt, A.C., Terza, M., Stone, A.E., & Hass, C.J., Length vs time: Dominant strategies to increase speed in older adults. *American Society of Biomechanics*, August 2020, Virtual.

14. **Baudendistel, S.T.**, Schmitt, A.C., Rodriguez, A, & Hass, C.J., Comparing Turn Performance in Parkinsonism. *American College of Sports Medicine*, May 2019, Orlando, FL.

Poster Presentations (con.)

13. Schmitt, A.C., **Baudendistel, S.T.**, Lipat, A.L., White, T., & Hass, C.J., Differences in Indoor, Outdoor, and Treadmill Walking in Healthy Young Adults. *American College of Sports Medicine*, May 2019, Orlando, FL.

12. **Baudendistel, S.T.**, Schmitt, A.C., Rodriguez, A, & Hass, C.J., A Turn for the Worse: Turning Performance in Movement. *DK Stanley Lecture Poster Symposium*, March 2019, Gainesville, FL.

11. **Baudendistel, S.T.**, Schmitt, A.C., Roemmich R.T., & Hass, C.J., Effects of dopaminergic therapy on treadmill gait performance in Parkinson's Disease: relationship of speed and peak propulsion. *Neuromuscular Plasticity Symposium*, March 2019, Gainesville, FL.

10. **Baudendistel, S.T.**, Rosen A., Grindstaff, T.L., & Yentes, J.M., Step Width Changes with Increased Bimanual Load Regardless of Sex. *American Society of Biomechanics*, August 2018, Rochester, MN

9. Wooden, T., Gonzalez, A., **Baudendistel, S.T.**, Lanier A., Friend, M., Karabon, A., Grandgenett, N.F., & Takahashi, K.Z., Software-based Training to Enhance Student Learning in Biomechanics. *Annual Human Variability Conference*, June 2018, Omaha, NE.

8. Gonzalez, A., **Baudendistel, S.T.**, Grandgenett, N.F., Lanier, A., & Takahashi, K.Z., Software-Based Teaching of Biomechanics to Engage Undergraduate Students*. American Society of Biomechanics,* August 2017, Boulder, CO.

7. Gonzalez, A., **Baudendistel, S.T.**, Lanier, A., Friend, M., Karabon, A., Grandgenett, N.F., & Takahashi, K.Z., Software-Based Teaching of Biomechanics to Engage Undergraduate Students*. Annual Human Variability Conference,* May 2017, Omaha, NE.

6. Gonzalez, A., **Baudendistel, S.T.**, Grandgenett, N.F., Lanier, A., & Takahashi, K.Z., Software-Based Teaching of Biomechanics to Engage Undergraduate Students*. Annual Meeting of Nebrasksa Academy of Sciences,* April 2017, Lincoln, NE.

5. **Baudendistel, S.T.**, Rennard, S.I. & Yentes, J.M., Patients with COPD That Report Muscle Fatigue Have Reduced Ankle Moment and Power*. Nebraska Research and Innovation Conference,* October 2016, Omaha, NE.

4. Gonzalez, A., **Baudendistel, S.T.**, Takahashi, K.Z., & Grandgenett, N.F., Software-Based Teaching of Biomechanics to Engage Undergraduate Students*. Nebraska Research and Innovation Conference,* October 2016, Omaha, NE.

3. **Baudendistel, S.T.**, Rennard, S.I. & Yentes, J.M., Patients with COPD That Report Muscle Fatigue Have Reduced Ankle Moment and Power*. American Society of Biomechanics,* August 2016, Raleigh, NC.

2. **Baudendistel, S.T.**, Rennard, S.I. & Yentes, J.M., Patients with COPD That Report Muscle Fatigue Have Reduced Ankle Moment and Power*. Annual Human Movement Variability Conference,* June 2016, Omaha, NE.

1. **Baudendistel, S.T.**, Wiens, C. & Yentes, J.M., COPD Patients Exhibit Similar Joint Angle Variability Compared to Older, Healthy Control Subjects. *University of Nebraska at*

Omaha – University Committee on Research and Creative Activity Fair, March 2015, Omaha, NE.

Funded Projects

Primary Investigator

American Society of Biomechanics Graduate Student Grant in Aid ..... 2020 – 2021
Primary Investigator
Real-time visual kinetic biofeedback to improve gait in Parkinson's disease; $2,000
Primary Investigator: Sidney T. Baudendistel, MS

Parkinson's Foundation Visiting Scholar Training Grant..... 2019 – 2020
Primary Investigator
Targeting Propulsive Force to Improve Gait in Individuals with Parkinson's disease; $4,000
Primary Investigator: Sidney T. Baudendistel, MS

Graduate Research and Creative Activity Grant..... 2016 – 2017
Primary Investigator
An Investigation in Muscle Activation during Load Carrying; $5,000
Primary Investigator: Sidney T. Baudendistel, MS

NASA Nebraska Space Grant..... 2016– 2017
Primary Investigator
An Investigation in Muscle Activation during Load Carrying; $6,000
Primary Investigator: Sidney T. Baudendistel, MS

Associated Projects

NIH (U01)..... 2018 – 2023
Research Technician
Multimodal imaging of brain activity to investigate walking and mobility decline in older adults; $5,638,900
Primary Investigators: Drs. Todd Manini, PhD, Rachael Seidler, PhD, David Clark, PhD

Parkinson's Foundation (Impact Award)..... 2019 – 2021
Research Technician
Revitalizing Cognition and Motor Symptoms in Parkinson Disease: A pilot study with NIR stimulation;
Primary Investigators: Drs. Dawn Bowers, PhD, Adam Woods, PhD, & Chris Hess, M.D

Michael J. Fox Foundation..... 2018 – 2021
Research Technician
Gait as a biomarker for clinicians and researchers in Parkinson's disease; $2,960,000
Primary Investigator: Dr. Anat Mirelman, PhD
Co-Investigator and Site PI: Dr. Chris Hass, PhD

NIH (R21)..... 2015 – 2019
Research Technician
Locomotor adaptation training to prevent mobility disability; $412,500
Primary Investigator: Dr. Chris Hass, PhD

Michael J. Fox Foundation..... 2015 – 2017
Research Technician
A Responsive Closed-Loop Approach to treat Freezing of Gait in Parkinson's Disease; $750,000
Primary Investigator: Dr. Michael S. Okun, MD

NASA Nebraska Space Higher Education Mini-Grant ..... 2016 – 2017
Laboratory Section Instructor
Enhancing Undergraduate Education with Biomechanics; $8,000
Primary Investigator: Dr. Kota Takahashi, PhD

NIH/NIGMS (COBRE - 1P20GM109090, Sub #5348) ..... 2014 – 2019
Research Technician
Breathing and walking coupling variability in COPD; $949,070
Primary Investigator: Dr. Jenna Yentes, PhD

NASA EPSCoR Mini Grant ..... 2014 – 2019
Research Technician
A novel and simple tool to measure health; $16,780
Primary Investigator: Dr. Jenna Yentes, PhD

Teaching and Mentorship

Instructor of Record

University of Florida, Gainesville, FL ..... Fall 2019
Course Instructor: Department of Applied Physiology and Kinesiology
APK 3220C: Biomechanical Basis of Human Movement; Fall 2019
Student Evaluations - Overall rating: 4.51 out of 5.00 (University average: 4.29)

Teaching Assistantship

Supervisor and Course Evaluations available upon request

University of Florida, Gainesville, FL 2017-2020
Lab Instructor: Department of Applied Physiology and Kinesiology
APK 2100C - *Honors*: Applied Human Anatomy with Laboratory; Spring 2020
- First Laboratory Instructor of Honors Course, Collaborated with Dr. Josie Ahlgren, PhD, to modify syllabus and course structure

APK 2105C: Applied Human Physiology with Laboratory; Fall 2018, Summer 2018, Spring 2018
APK 2100C: Applied Human Anatomy with Laboratory; Fall 2017

University of Nebraska - Omaha, Omaha, NE 2015-2017
Lab Instructor: School of Health, Physical Education, & Recreation (a.k.a "School of Health and Kinesiology")
BMCH/PE 4630: Biomechanics; Spring 2017, Fall 2016, Summer 2016, Spring 2016, Fall 2015
- Fall 2016 & Spring 2017: Assisted in course redesign including restructuring and teaching 10+ software-based laboratory procedures as funded by NASA Nebraska Space Grant

PE9451/PE8450: Graduate Level - Advanced Biomechanics; Fall 2015, Fall 2016

Truman State University, Kirksville, MO 2014
Teaching Assistant: Department of Health and Exercise Science
ES 445: Assessment and Prescription I; Spring 2014

Student Mentees

2019 - current Marc Pappas Thomas, Biological Engineering (class of 2023)
University Scholars Program (2020) – "Adaptation and Changes to Gait during Treadmill Walking in Parkinson's Disease"
2019 - current Kate Balthaser, Applied Physiology and Kinesiology (class of 2021)
2019 - current Bryce Daniels, Applied Physiology and Kinesiology (class of 2021)
2017- current Grace Kellaher, Masters Student, Applied Physiology and Kinesiology (class of 2021)
University Scholars Program (2019) – "Impact of Impaired Coordination on Backward Walking in Parkinson's disease"
2019 - 2020 Erin Esposito, Applied Physiology and Kinesiology (class of 2020)
2019 - 2020 Isobel Harrison, Applied Physiology and Kinesiology (class of 2020)
2019 - 2020 Christopher Fawaz, Biology (class of 2020)
2017 - 2020 Claire Wilhelm, Applied Physiology and Kinesiology (class of 2020)
2017 - 2020 Justin Daniels, Applied Physiology and Kinesiology (class of 2020)
2019 - 2019 William Thomas, Mechanical Engineering (class of 2020)
2018 - 2019 Ashley Rodriguez, Biochemistry (class of 2019)
2018 - 2018 Gianni St Clair, Applied Physiology and Kinesiology (class of 2019)
2018 - 2018 Rachana Patel, Masters Student, Applied Physiology and Kinesiology (class of 2019)
2018 - 2018 Robert Contento, Biology (class of 2019)
2017 - 2018 Brandon Coons, Applied Physiology and Kinesiology (class of 2019)
2017 - 2018 John Navarro, Masters Student, Applied Physiology and Kinesiology (class of 2018)
2017 - 2018 Chase Antilla, Applied Physiology and Kinesiology (class of 2019)
2017 - 2018 Troy Hamner, Applied Physiology and Kinesiology (class of 2018)
2017 - 2017 Hillary Holmes, Masters Student, Applied Physiology and Kinesiology (class of 2017)

Service, Technical Proficiencies, & Professional Memberships

Service:

Founding Member.....2018 - 2020
Executive Board Member and APK Representative (2018-2020)
Vice President (2019-2020)
Health & Human Performance Graduate Organization (HHP-GO)
University of Florida, Gainesville, FL
HHP-GO is established for the purpose of supporting the academic needs and professional development of graduate students in the College of Health and Human Performance.

Social Chair for Faculty and Students.....2015 - 2017
Department of Biomechanics
University of Nebraska – Omaha, Omaha, NE

Professional Memberships:

American College of Sports Medicine (ACSM).....2014 - current
Member Southeast ACSM

American Society of Biomechanics (ASB).....2015 - current