

CURRICULUM VITAE

Colleen J. Chase

Formerly Colleen J. Sands

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EDUCATION

- 2020– Ph.D. in Kinesiology, University of Massachusetts Amherst
 Concentration: Physical Activity
 Anticipated completion: May, 2024
- 2020 Master of Science in Kinesiology, University of Massachusetts Amherst
- 2020 Higher Education Leadership & Management Certificate, University of
Massachusetts Amherst
- 2018 Bachelor of Science in Kinesiology, University of Massachusetts Amherst
Commonwealth Honors College

HONORS AND AWARDS

- 2021 Finalist. PhD Student Investigator Competition. New England American College
of Sports Medicine Fall Meeting.
- 2020 Finalist. Master's Student Investigator Competition. New England American
College of Sports Medicine Fall Meeting.
- 2020 National Masters Scholar Award Recipient. American Kinesiology Association.
- 2019 Mark Connolly Memorial Masters Scholarship. New England American College of
Sports Medicine Fall Meeting, Providence, RI.
- 2018 Dr. Priscilla Clarkson Undergraduate Travel Award. American College of Sports
Medicine Annual Meeting, Minneapolis, MN.
- 2018 Senior Leadership Award. University of Massachusetts Amherst Alumni
Association, University of Massachusetts Amherst.
- 2018 Rising Researcher Award. University of Massachusetts Amherst.
- 2018 Nominee for 21st Century Leaders Award. University of Massachusetts Amherst.
- 2017–2018 Committee Member, Chancellor's Undergraduate Advisory Committee. University
of Massachusetts Amherst.

CURRICULUM VITAE

- 2017 Nominee for UMass Athletics Excellence in Leadership Award. Athletic Department, University of Massachusetts Amherst.
- 2016–2018 Athletic Scholarship. Cross Country & Track and Field Program, University of Massachusetts Amherst.
- 2015—2018 Commissioner’s Honor Roll. Atlantic 10 Athletic Conference.
- 2015–2018 Dean’s List Award. University of Massachusetts Amherst.
- 2014–2018 Kenneth L. O’Brien Scholarship. Commonwealth Honors College, University of Massachusetts Amherst.
- 2014–2018 John and Abigail Adam’s Scholarship. University of Massachusetts Amherst.

PROFESSIONAL APPOINTMENTS

University of Massachusetts Amherst (Amherst, MA)

Department of Kinesiology

Primary Instructor on Record

- 2021 – Physical Activity Health & Disease (KIN247) – Summer Session.
- 2021 – Anatomy and Physiology I (KIN270).
- 2020 – Public Health: Fact versus Fiction. First Year Seminar.
- 2019 Anatomy and Physiology I (KIN270) – Summer Session.

Laboratory Instructor

- 2019 – 2020 Anatomy and Physiology I (KIN270).
- 2018 – 2020 Anatomy and Physiology II (KIN272).
- 2017 – 2018 Wearable Technologies in Physical Activity and Health Honors Thesis Seminar (KIN499E & KIN499F).

Instructor

- 2021 – Winter Pre-College Program
- 2019 – Summer Pre-College Program
- 2018 – Education USA Summer Program

Graduate Teaching Assistant

- 2019 – 2021 Physical Activity in Health & Disease (KIN247).

CURRICULUM VITAE

Laboratory Manager

2017 – 2019 Physical Activity and Health Laboratory.

Research Assistant

2016 – 2019 Physical Activity and Health Laboratory.

Shriners Hospitals for Children (Springfield, MA)

2017 – 2018 Rehab Tech Assistant

Central Mass Physical Therapy (West Boylston, MA)

2016 – 2018 Medical Receptionist

2015 – 2018 Intern

PUBLICATIONS

Peer-reviewed Journal Articles

1. Tudor-Locke C., Mora-Gonzalez J., Ducharme S., Aguiar E., Schuna Jr. J., Barreira T., Moore C., **Chase C.**, Gould Z., Amalbert-Birriel M., Chipkin S., Staudenmayer J. 2021. Walking cadence (steps/min) and intensity in 61-85 year olds: The CADENCE-Adults study. *International Journal of Behavioral Nutrition and Physical Activity*, 18;129.
2. McAvoy C., Moore C., Aguiar E., Ducharme S., Schuna Jr. J., Barreira T., **Chase C.**, Gould Z., Amalbert-Birriel M., Chipkin S., Staudenmayer J., Tudor-Locke C., Mora-Gonzalez J. 2021. Cadence (steps/min) and relative intensity in 21 to 60-year-olds: The CADENCE-Adults study. *International Journal of Behavioral Nutrition and Physical Activity*, 18(1);27.
3. McAvoy C., Moore C., Aguiar E., Ducharme S., Schuna Jr. J., Barreira T., **Chase C.**, Gould Z., Amalbert-Birriel M., Chipkin S., Staudenmayer J., Tudor-Locke C., Mora-Gonzalez J. 2020. Walking cadence (steps/min) and intensity in 41-60 year olds: The CADENCE-Adults study. *International Journal of Behavioral Nutrition and Physical Activity*, 17;137.
4. Perry D.C., Moore C., **Sands C.**, Aguiar E., Tudor-Locke C., Ducharme S. 2019. Using music-based cadence entrainment to manipulate walking intensity. *Journal of Physical Activity & Health*, 16;1039-1046.
5. Ducharme S., **Sands C.**, Moore C., Aguiar E., Hamill J., Tudor-Locke C. 2018. Changes to gait speed and the walk ratio with rhythmic auditory cueing. *Gait and Posture*, 66;255-259.

Submitted for Publication

1. **Chase C.**, Mueller M., Garvey C., Potter K. Family dog ownership and youth physical activity levels: a scoping review.
2. Aguiar E., Mora-Gonzalez J., Ducharme S., Moore C., Gould Z., **Chase C.**, Amalbert-Birriel M., Chipkin S., Staudenmayer J., Tudor-Locke C. Cadence-based classification of minimally moderate intensity during overground walking in 41- to 85-year-old adults.

Manuscripts in Preparation

3. **Chase C.**, Potter K. Dog ownership and physical activity across the lifespan. (*Upcoming submission: October 2021*).
4. **Chase C.**, Tudor-Locke C., Ducharme S. Cadence as an indicator of the walk-to-run transition.

CURRICULUM VITAE

5. Potter K., Rajala C., **Chase C.**, LeBlanc R. Can leash manners training increase physical activity among older adult dog owners?

Journal Review Board Member

2021 – American Journal of Health Behavior

CONFERENCE PRESENTATIONS

Published Abstracts

1. McAvoy, C., Moore, C., Aguiar, E., Ducharme, S., Schuna, J., Barreira, T., **Chase, C.**, Gould, Z., Amalbert-Birriel, A., Chipkin, S., Staudenmayer, J., Tudor-Locke, C. & Mora-Gonzales, J. "The Relationship Between Cadence (Steps/Min) and Rate of Perceived Exertion in Older Adults: The CADENCE-Adults study." *Medicine & Science in Sports & Exercise*, 2021. *American College of Sports Medicine Annual Meeting*.
2. Moore, C., Aguiar, E., Ducharme, S., Gould, Z., Amalbert-Birriel, M., **Chase C.**, Chipkin, S., Staudenmayer, J., Barreira, T., Schuna, J., Tudor-Locke, C. "Device-Specific Cadence Thresholds for Moderate and Vigorous Intensity Walking: The CADENCE-Adults Study." *American College of Sports Medicine Annual Meeting*, Virtual (COVID-19). e-Poster Presentation.
3. **Sands, C.J.**, Ducharme, S.W., Aguiar, E.J., Moore, C.C., Gould, Z.R., Tudor-Locke, C. Is Cadence a Better Predictor of the Walk-to-Run Transition than Speed and/or the Froude Number? *Medicine & Science in Sports & Exercise*, 2019. *American College of Sports Medicine Annual Meeting*, Orlando, FL, USA. Poster Presentation.
4. Ducharme, S.W., Aguiar, E.J., McCullough, A.K., Moore, C.C., **Sands, C.J.**, Amalbert-Birriel, M.A., Gould, Z.R., Schuna, J.M., Tiago, V.B., Chipkin, S.R., Tudor-Locke, C. Do Older Adults Achieve Moderate Intensity When Walking At Their Self-selected Pace? *Medicine & Science in Sports & Exercise*, 2019, 51(5S):241. *American College of Sports Medicine Annual Meeting*, Orlando, FL, USA, May 28-June 1, 2019. Poster Presentation.
5. Gould, Z.R., Ducharme, S.W., McCullough, A.K., Moore, C.C., **Sands, C.J.**, Amalbert-Birriel, M.A., Aguiar, E.J., Schuna, J.M., Barreira, T.V., Chipkin, S.R., Tudor-Locke, C. Cadence (steps/min) Thresholds for Relative Intensity Indicators In Older Adults. *Medicine & Science in Sports & Exercise*, 2019, 51(5S):164. *American College of Sports Medicine Annual Meeting*, Orlando, FL, USA, May 28-June 1, 2019. Poster Presentation.
6. Amalbert-Birriel, M.A., Moore, C.C., McCullough, A.K., Ducharme, S.W., Gould, Z.R., **Sands, C.J.**, Aguiar, E.J., Schuna, J.M., Barreira, T.V., Chipkin, S.R., Tudor-Locke, C. Device-specific Cadence (steps/min) Thresholds For Metabolic Intensities of Walking. *Medicine & Science in Sports & Exercise*, 2019, 51(5S):296. *American College of Sports Medicine Annual Meeting*, Orlando, FL, USA, May 28-June 1, 2019. Poster Presentation.
7. Ducharme, S.W., Aguiar, E.J., Moore, C.C., Amalbert-Birriel, M.A., **Sands, C.J.**, Gould, Z.R., McCullough, A.K., Tudor-Locke, C. Relationship between gait capacity and posture profiles in older adults. *Innovation in Aging*, 2018, 2(S1):886. *Gerontological Society of America Annual Scientific Meeting*, Boston, MA, Nov 14 – 18. Poster Presentation.
8. **Sands, C.J.**, Ducharme, S.W., Perry, D.C., Aguiar, E.J., Moore, C.C., & Tudor-Locke, C. Does Music-Based Cadence Entrainment Alter Metabolic Intensity? *Medicine & Science in*

CURRICULUM VITAE

Sports & Exercise, 2018, 50(5S):68. *American College of Sports Medicine Annual Meeting*, Minneapolis, MN, USA. Poster Presentation.

- Ducharme, S.W., Perry, D.C., **Sands, C.J.**, Aguiar, E.J., Moore, C.C., & Tudor-Locke, C. Does music-based rhythmic auditory cueing alter the correlation structure of stride times? *Medicine & Science in Sports & Exercise*, 2018, 50(5S):816. *American College of Sports Medicine Annual Meeting*, Minneapolis, MN, USA. Poster Presentation.

Conference Proceedings

- Chase, C.** & Potter, K. "A Review of Literature Examining Family Dog Ownership and Youth Physical Activity Levels." New England Chapter of the American College of Sports Medicine Fall Conference. Providence, Rhode Island. *Upcoming: October 2021*.
***Finalist: PhD Student Investigator Award**
- Chase, C.** & Potter, K. "Family Dog Ownership & Youth Physical Activity Levels: a Scoping Review." *International Society for Anthrozoology*. Virtual. June 22-24, 2021. Oral e-Presentation.
- Chase, C.** & Potter, K. "Family Dog Ownership & Youth Physical Activity Levels: a Scoping Review." *University of Massachusetts Amherst School of Public Health and Health Sciences Research Day*. Virtual. April 16, 2021. e-Poster.
- McAvoy, C., Moore, C., Aguiar, E., Ducharme, S., Schuna, J., Barreira, T., **Chase, C.**, Gould, Z., Amalbert-Birriel, A., Chipkin, S., Staudenmayer, J., Tudor-Locke, C., Mora-Gonzalez, J. "Relatively-Defined Moderate Intensity Associated Cadence (Steps/Min) Thresholds Across the Adult Lifespan: The CADENCE-Adults study." *Southeast American College of Sports Medicine Annual Meeting*. Virtual. Feb 17-19, 2021.
- Chase, C.** "Simpler is Better: Cadence is a Better Predictor of the Walk-to-Run Transition." *New England American College of Sports Medicine Fall Conference*. Virtual. Oct 15-16, 2020. Oral e-Poster.
***Finalist: Master's Student Investigator Award**
- Garvey, C., **Chase, C.**, Potter, K., Rajala, C. "Dog Walking Obedience Course Increases Physical Activity of Inactive Older Adults." *New England American College of Sports Medicine Fall Conference*. Virtual. Oct 15-16, 2020. e-Poster.
- Sands, C.**, Ducharme, S., Aguiar, E., Moore, C., McCullough, A., Gould, Z., Amalbert-Birriel, M., Tudor-Locke, C. "Cadence as a Predictor of the Walk-to-Run Transition". *University of Massachusetts Amherst School of Public Health and Health Sciences Research Day*. April 2nd, 2019. Poster Presentation.
- Gould, Z., Moore, C., Ducharme, S., Aguiar, E., McCullough, A., Amalbert-Birriel, M., **Sands, C.**, Tudor-Locke, C. "Accuracy and Bias of Consumer and Research Grade Wrist-Worn Accelerometers". *University of Massachusetts Amherst School of Public Health and Health Sciences Research Day*. April 2nd, 2019. Poster Presentation.
- Sands, C.**, Ducharme, S., Aguiar, E., Moore, C., McCullough, A., Gould, Z., Amalbert-Birriel, M., Tudor-Locke, C. "Walk to Run Transition Cadence Thresholds for Wearable Devices". *UManage Center 2019 Conference: Managing, Measuring, and Monitoring – Critical Issues in Activity, Sleep, and Fatigue*. Amherst, MA. March 28th, 2019. Poster Presentation.
- Gould, Z., McCullough, A., Ducharme, S., Moore, C., Aguiar, E., Amalbert-Birriel, M., **Sands, C.**, Tudor-Locke, C. "Accuracy of Step Detection in Older Adults Using a Low Frequency Extension Filter". *UManage Center 2019 Conference: Managing, Measuring, and Monitoring – Critical Issues in Activity, Sleep, and Fatigue*. Amherst, MA. March 28th, 2019. Poster Presentation.
- Amalbert-Birriel, M., McCullough, A., Moore, C., Aguiar, E., Ducharme, S., Gould, Z., **Sands, C.**, Tudor-Locke, C. "Estimating Energy Expenditure from Device-Determined

CURRICULUM VITAE

- Cadences". *New England American College of Sports Medicine Fall Conference*, Providence, RI. November 8-9, 2018. Oral Presentation
21. Gould, Z., Aguiar, E., Moore, C., Ducharme, S., **Sands, C.**, Tudor-Locke, C. "Effect of Music-Based Rhythmic Auditory Cueing on Gait Variability". *New England American College of Sports Medicine Fall Conference*, Providence, RI, Nov 8-9, 2018. Oral Poster Presentation
 22. Moore, C., Ducharme, S., Aguiar, E., **Sands, C.**, Gould, Z., Tudor-Locke, C. "Cadence (Steps/Min) and Metabolic Intensity During Unconstrained and Cadence-Entrained Overground Walking". *New England American College of Sports Medicine Fall Conference*, Providence, RI, Nov 8-9, 2018. Oral Poster Presentation
 23. **Sands, C.**, Ducharme, S., Aguiar, E., Moore, C., Gould, Z., Tudor-Locke, C. "Cadence as a Predictor of the Walk-to-Run Transition". *New England American College of Sports Medicine Fall Conference*, Providence, RI, Nov 8-9, 2018. Oral Presentation
 24. **Sands, C.**, Ducharme, S., Aguiar, E., Moore, C., Gould, Z., & Tudor-Locke, C. "Does Running in a Group Change Individual Cadence?" *International Society for Physical Activity and Health Annual Conference*. London, England. October 15–17, 2018. Poster Presentation.
 25. **Sands, C.**, Ducharme, S., Moore, C., Gould, Z., Tudor-Locke, C., & Aguiar, E. "Expected Values For Steps/Day In Special Populations Living with Chronic Disease or Disability: An Updated Systematic Review." *University of Massachusetts Amherst School of Public Health and Health Sciences Research Day*. April 3, 2018. Poster Presentation.
 26. Perry, D., Ducharme, S., **Sands, C.**, Aguiar, E., & Tudor-Locke, C. "Music-Based Cadence Entrainment and Walking Intensity". *New England Chapter of the American College of Sports Medicine Conference*. Providence, Rhode Island. October 19, 2017. Poster Presentation.
 27. **Sands, C.**, Aguiar, E., Ducharme, S., Han, H., Moore, C., Hamill, J., & Tudor-Locke, C. "Impact of Cadence-Based Metronome Entrainment on Walking Speed". *New England Chapter of the American College of Sports Medicine Conference*. Providence, Rhode Island. October 19, 2017. Poster Presentation.
 28. **Sands, C.**, & Tudor-Locke, C. "Validity of Wearable Devices at Varying Running Intensities". *Massachusetts Undergraduate Research Conference*. Amherst, Massachusetts. April 28, 2017. Poster Presentation.

TEACHING EXPERIENCE

Courses Taught

University of Massachusetts Amherst, USA

Primary Instructor on Record

- 2021 – Physical Activity Health & Disease (KIN247) – Summer Session.
- 2021 – Anatomy and Physiology I (KIN270).
- 2020 – Public Health: Fact versus Fiction. First Year Seminar.
- 2019 Primary Instructor (PI) – Instructor of Record. Anatomy and Physiology I

CURRICULUM VITAE

Laboratory Instructor

2019 – 2020 Anatomy and Physiology I (KIN270).

2018 – 2020 Anatomy and Physiology II (KIN272).

2017 – 2018 Wearable Technologies in Physical Activity and Health Honors Thesis Seminar (KIN 499E & KIN 499F)

Instructor

2021 Winter Pre-College Program (Kinesiology Department)

2019 – Summer Pre-College Program (Kinesiology Department)

2018 – Education USA Summer Program

INVITED LECTURES

1. **Chase, C.** Family Dog Ownership and Youth Physical Activity. Seminar Presentation. *Kinesiology Department, University of Massachusetts Amherst, Amherst MA. Sep 13, 2021.*
2. **Chase, C.** Part II: Sedentary Behavior, Physical Activity & Management. *Clinical and Public Health Implications of Obesity Course, University of Massachusetts Amherst, Amherst, MA, Apr 9, 2020.*
3. **Chase, C.** Part I: Sedentary Behavior, Physical Activity & Management. *Clinical and Public Health Implications of Obesity Course, University of Massachusetts Amherst, Amherst, MA, Apr 7, 2020.*
4. **Chase, C.** Mental Health & Physical Activity. *Physical Activity & Public Health Course, University of Massachusetts Amherst, Amherst, MA, Mar 5, 2020.*
5. **Chase, C.** Cadence & Physical Activity. *Physical Activity, Health & Disease Course, University of Massachusetts Amherst, Amherst, MA, Feb 10, 2020.*
6. **Chase, C.** Physical Activity & Cancer. *Physical Activity, Health & Disease Course, University of Massachusetts Amherst, Amherst, MA, Dec 9, 2019.*

INDUSTRY-SPONSORED RESEARCH PROJECT

PI: Tudor-Locke C.

Co-I: Aguiar E.J.

Research Assistant: **Sands, C. J.**

Agency: EHE International

Funding mechanism: Industry sponsored project grant

Title: Best practices for using wearable technologies to promote workplace physical activity

Amount: USD \$7,500

MENTORSHIP

Committee Member – Undergraduate Honors Thesis

2020 - 2021: Grace McCarthy

CURRICULUM VITAE

Independent Study Mentor

2021: Kelsey Jarvis

PROFESSIONAL ASSOCIATIONS

- 2017 Committee Member, Chancellor's Undergraduate Advisory Committee, University of Massachusetts Amherst
- 2017–2018 Captain, Cross Country & Track Program, University of Massachusetts Amherst
- 2014–2018 Member, Cross Country & Track Program, University of Massachusetts Amherst
- 2015–2018 Committee Member, Student Athlete Advisory Committee, Athletic Department, University of Massachusetts Amherst
- 2014–2016 Member, Kinesiology Club, Department of Kinesiology, University of Massachusetts Amherst

SERVICE

University Service

- 2021 – Departmental Search Committee for Department Chair. Department of Kinesiology, University of Massachusetts Amherst.

Community Service

- 2014 – Assistant Coach, Wildwood Running Club (Amherst, MA)
- 2018 Invited Panel Member: Student-Athlete Graduate Student Panel (Amherst, MA)
- 2018 Leader and Presenter, Leadership Workshop, University of Massachusetts Athletic Department (Amherst, MA)
- 2015 – 2017 Founder and Coach, Kids' Summer Running Club (Princeton, MA)
- 2017 – 2018 Volunteer, Arbors Assisted Living Home (Amherst, MA)
- 2014 – 2018 Volunteer, Wildwood Walk to School Day (Amherst, MA)
- 2014 Volunteer, Red Cross Blood Drive (Amherst, MA)

Professional Memberships

- 2017 – American College of Sports Medicine
- 2017 – American College of Sports Medicine New England Chapter
- 2017 – 2018 International Society for Physical Activity and Health

Professional Development

- 2021 Teaching Distracted Minds, Office for Professional Development, University of Massachusetts, USA
- 2021 Getting the Most From Your Reading, Office for Professional Development, University of Massachusetts, USA

CURRICULUM VITAE

- 2018 Contributing to Productive Meetings and Discussions. Office for Professional Development, University of Massachusetts, USA
- 2018 Practicing Your Elevator Pitch. Office for Professional Development, University of Massachusetts, USA
- 2018 How to Demonstrate “Fit” on the Academic Job Market. Office for Professional Development, University of Massachusetts, USA

Institutional Trainings

University of Massachusetts Amherst, USA

- 2018 CPR and AED training
- 2017 Conflict of interest training
- 2016 Biomedical responsible conduct of research. Collaborative Institutional Training (CITI)
- 2016 Group 1 Biomedical research investigators and key personnel. CITI
- 2016 Hazardous waste management and right to know training
- 2016 Laboratory safety training
- 2016 Fire safety training

Community Outreach and Media Appearances

- 2019 Sit Less, Walk More: A Simple Solution for Reducing Your Cancer Risk. The Walk Blog. <https://medium.com/the-walk-blog/cancer-9979c155c121>
- 2019 Are You Walking Fast Enough? Walkolution article. <https://walkolution.com/articles/are-you-walking-fast-enough/>

PROFESSIONAL REFEREES

Ph.D Mentor

Katie Potter, PhD
Director, Behavioral Medicine Laboratory
Department of Kinesiology
University of Massachusetts, Amherst
Amherst, MA 01002
United States
E: katie.potter@umass.edu

M.S. Mentor

Catrine Tudor-Locke, PhD, FACSM, FNAK
Dean of College of Health and Human Services
University of North Carolina at Charlotte, NC
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Laboratory Supervisor

Elroy Aguiar, PhD
Assistant Professor
College of Education
Department of Kinesiology
University of Alabama
Tuscaloosa, AL 35487
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Primary Instructor

Jay Gump, PhD
Senior Lecturer
Anatomy & Physiology
159C Totman Building
University of Massachusetts
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United States
P: +1 (413) 387 - 7176
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