

John Sterrett

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Academic Preparation

Doctor of Philosophy in Integrative Physiology, Aug 2020 – Present, 4.0 GPA

College of Arts and Sciences, University of Colorado Boulder (CUB), Boulder, CO

Selected Coursework: Applications of Shotgun Metagenomics in Microbial Ecology, Data Literacy in Biomedical Research

Bachelor of Science in Nutrition, May 2020, 4.0 GPA

College of Clinical and Rehabilitative Health Sciences, East Tennessee State University (ETSU), Johnson City, TN

Honors/Awards: University Honors Scholar, Stanton Honors Scholar, Nutrition Honors-In-Discipline, Undergraduate Summer Research Fellowship 2019, College of Clinical and Rehabilitative Health Sciences Outstanding Undergraduate Student, 1911 Society

Selected Coursework: Human Nutrition and Metabolism, Nutritional Biochemistry, Honors Clinical Nutrition, Honors Foundations of Research, Research Methods in Nutrition

Research Projects

- Review of “The influence of microbiota on brain structure and functioning affecting neuropsychiatric outcomes” for *Evolution, Biodiversity, and a Reassessment of the Hygiene Hypothesis*
- Metabolomics analysis of *Mycobacterium vaccae* strains NCTC 11659 vs ACTC 15483
- Metagenomics analysis of the CU Boulder sewer system during fall 2020
- Microbiome changes associated with cognitive dysfunction in breast cancer patients undergoing chemotherapy
- Undergraduate thesis: Microbiome Diversity and Differential Abundances Associated with BMI, Immune Markers, and Fecal Short Chain Fatty Acids Before and After Synbiotic Supplementation
- Microbiome and gas chromatography analysis of short chain fatty acids produced by the gut microbiota in HIV vs. healthy humans, obese vs. normal weight human toddlers, and anxiety/autism murine models
- Associations between microbiota, diet, and the production of specific short chain fatty acids
- Gas chromatography analysis of liver fats in CTRP3-deficient vs wild type mice with alcoholic fatty liver disease
- Development of curcumin, CoenzymeQ10, and vitamin D supplements with increased bioavailability via the use of vitamin E tocopheryl polyethylene glycol succinate with analysis via Caco2 monolayer
- Proximate analysis of feces and experimental foods

Research Experience

Research Assistant, Behavioral Neuroendocrinology Lab, July 2020 – Present

Dr. Christopher Lowry, Department of Integrative Physiology, CUB

- Led microbiome analysis for collaborative project with the Psychosocial Oncology Lab at University of Colorado Denver
- Participated in RNA-seq metatranscriptomics project using CU summit supercomputer cluster
- Recorded, updated, and distributed detailed lab meeting minutes
- Led and participated in lab journal clubs

Research Assistant, Valleybrook Nutritional Biochemistry Lab, Sep 2017 – May 2020

Dr. W. Andrew Clark, Department of Rehabilitative Science, ETSU

- Collaborated with research faculty at ETSU, Quillen College of Medicine, and Bill Gatton College of Pharmacy for research regarding the gut-brain axis, metabolic syndrome, vitamin levels, and supplement bioavailability
- Assisted in the generation and testing of novel research questions and writing of papers and an investigative new drug proposal
- Instructed undergraduate experimental foods classes in performing proximate analysis on experimental foods
- Participated in lab outreach events through a local Adult Continued Learning program
- Maintained and repaired lab equipment

Research Assistant, Zahner Electrophysiology Lab, City, TN, Apr 2018 – May 2018

Dr. Matthew Zahner, Department of Health Sciences, ETSU

- Assisted in rat autopsy and surgery in preparation for locating blood pressure regulatory centers of the brain and sympathetic denervation of the spleen in sepsis
- Participated actively in lab journal club

Teaching Experience

Teaching Assistant, CUB Department of Integrative Physiology, Boulder, CO, Aug 2020 – Present

- Assisted in the instruction of Introduction to Nutrition (IPHY 2420) and Nutrition for Human Performance (IPHY 4420)
- Spoke in IPHY 4420 guest lecture series about undergraduate research involvement and immune/microbiome considerations for athletes
- Responded to questions from students regarding subject material and assignments
- Provided detailed feedback on course projects

Private Tutor, Johnson City, TN, Mar 2019 – Present

- Supplemented grade 6-12 math, science, and English coursework with additional materials geared toward developing applicable critical thinking skills
- Developed and reinforced structured methodologies for dissecting and solving complex problems

Supplemental Instructor, ETSU Center for Academic Achievement, Johnson City, TN, Jan 2020 – May 2020

- Created interactive lessons to increase student engagement
- Led group sessions to improve Anatomy & Physiology students' understanding of difficult subjects and to develop proper study skills
- Adapted instruction and created additional study materials to ease student transition to online coursework amid COVID-19

Lead Tutor, ETSU TRIO-Student Support Services, Johnson City, TN, Sep 2018 – May 2020

- Developed and implemented personalized tutoring programs for chemistry, biology, anatomy & physiology, microbiology, and paper writing
- Built rapport with academically at-risk undergraduate students from diverse backgrounds to instill a sense of self-agency and improve overall well-being to support academic success
- Directed the implementation of free nutrition and cooking classes for TRIO and Upward Bound participants to support community development and healthy living in the transition to college

Instructor, Unaka High School Band, Unaka, TN, Jul 2019 – Aug 2019

- Taught music and marching fundamentals to students in an underfunded, rural area in both group and individual settings
- Assisted in the development of skills for breaking down, learning, and memorizing new material in a limited timespan

Assistant Program Leader, ETSU Outdoor Adventure, Johnson City, TN, Jun 2018 – Aug 2018

- Guided incoming ETSU students during the transition to college life
- Conducted team-building and personal development activities through outdoor experiences
- Created social networks between students and campus staff/faculty to increase student retention rates

Certifications and Training

Health Insurance Portability and Accountability Act (HIPAA), Apr 2019

Collaborative Institutional Training Initiative (CITI)-Human Research, May 2019

CITI-Working with Mice in Research, Apr 2018

CITI-Working with the IACUC, Apr 2018

Certificates in Bloodborne Pathogens (General), Lab Safety

Posters, Oral Presentations, and Publications

Sterrett J. Stress and the Gut Microbiota in Athletes. Oral Presentation in CU Boulder Nutrition for Human Performance Guest Lecture Series. 2020 Oct 7; Boulder, CO.

Sterrett J, Parkinson S, Chandley M, Webb K, Clark WA. Microbiome Diversity and Differential Abundances Associated with Gastrointestinal Symptoms, BMI, Immune Markers, and Fecal Short Chain Volatile Fatty Acid Profiles. Poster presented virtually at: American Society for Nutrition Conference. 2020 May 29 – Jun 2; Seattle, WA.

Sterrett J, Vogt R, Clark WA. Properties of the ETEE Compostable Plastic Wrap Substitute. Poster presented virtually at: American Society for Nutrition Conference. 2020 May 29 – Jun 2; Seattle, WA.

Sterrett J, Clark WA, Chandley MJ, "Microbiome Diversity and Differential Abundances Associated with BMI, Immune Markers, and Fecal Short Chain Fatty Acids Before and After

Synbiotic Supplementation" (2020). *Undergraduate Honors Theses*. Paper 536.
<https://dc.etsu.edu/honors/536>

Sterrett J, Parkinson S, Chandley M, Webb K, Clark WA. Microbiome Analysis and Associations with Metabolites, BMI, Gastrointestinal Symptoms, and Immune Markers Before and After Pre/Probiotic Supplementation. Poster presented at: Appalachian Student Research Forum. 2020 Apr 21; Johnson City, TN. *Cancelled due to COVID-19

Smith K, Andreae M, **Sterrett J**, Moorman JP, Adkins JL, Clark WA. The Fecal Fermentation Profile of Patients with HIV. Poster presented at: Appalachian Student Research Forum. 2020 Apr 21; Johnson City, TN. *Cancelled due to COVID-19

Sterrett J, Parkinson S, Chandley M, Webb K, Clark WA. Microbiome Diversity and Differential Abundances Associated with Metabolites, Symptoms, BMI, and Immune Markers. Oral presentation presented at: Boland Undergraduate Research Symposium. 2020 Mar 27; Johnson City, TN. *Cancelled due to COVID-19

Sterrett J, Andreae M, Peterson J, Smith K, McGinnis J, Clark WA. Short and Long Chain Fatty Acid Levels as Indicators of Health in HIV-infected vs Non-infected Individuals. Poster presented at: Posters at the Capitol. 2020 Feb 26; Nashville, TN.

Sterrett J, Vogt R, Clark WA. Properties of the ETEE Wrap Biodegradable Plastic Wrap Substitute. Poster presented at: SoCon Undergraduate Research Forum. 2019 Nov 1-3; Spartanburg, SC.

Scott K, Beasley B, **Sterrett J**, Gill D, Clark WA, Chandley M. Short-Chain Fatty Acid Profiles for Mouse Models of Autism Spectrum Disorder. Poster presented at: Appalachian Student Research Forum. 2019 Apr 12; Johnson City, TN.

Skills/Abilities

- Abilities: Microbiome Analysis, Gas Chromatography, Proximate Analysis (Bomb Calorimetry, FRAP, Soxhlet, Kjeldahl, Fiber Analysis, Ashing)
- Software: Python (github.com/sterrettJD), QIIME 2, LaTeX, Git, Google Colaboratory, Shimadzu GC 2010 LabSolutions, Microsoft Office (Word, Excel, PowerPoint, Outlook)
- Leadership: Project Development, Strategic Planning, Curriculum Development, Public Speaking
- Marketing: Clinical Recruitment, Flyer Production and Distribution, Social Media Marketing

Community Outreach

- Organizer, Neurodiverse Food Safety & Cooking Class, ETSU, Apr 2020 *Cancelled due to COVID-19
- Organizer, Multicultural Nutrition & Cooking Class, ETSU, February 2020
- Organizer/Instructor, Summer Bridge Program Nutrition & Cooking Seminars, ETSU, Jun 2019
- Volunteer, Adult Continued Learning, Johnson City Food City, Sep 2018 – Nov 2018
- Volunteer, Appalachian Resource Conservation and Development Council, Johnson City Farmers' Market, Sept – Oct 2018

Associations and Activities

- Alpha Eta Society, May 2020 – Present
- American Society for Nutrition, Jan 2020 – Present
- Student Dietetic Association, Jan 2019 – May 2020 (Vice President, March 2019 – May 2020)
- Music Ensembles, Aug 2016 – Present (Jazz Combo, Jazz Ensemble, Wind Ensemble)
- National Residence Hall Honorary, May 2017 – Jan 2019
- Allied Health Student Association, Jan 2017 – May 2018 (Secretary, Jan 2017 – Aug 2017; President, Aug 2017 – May 2018)
- University Honors Scholars Selection Committee, Dec 2017 – Jan 2018