Alexander Tolas

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Education

2017-2021   Bachelor of Science in Kinesiology, Graduated 2021
California Polytechnic State University (Cal Poly)*, San Luis Obispo, CA*
GPA: 3.8 major
Honors Senior Thesis: *Validation of a Multi-Sensor System for Objectively Detecting Sedentary Screen Time Among Adults.*
Mentor: Sarah Keadle Ph.D., MPH

Research Experience

2021-current   Clinical Research Coordinator, The Ashley Lab, *Stanford University, Palo Alto, CA*

The ELITE Study (Wu Tsai Human Performance Alliance): The ELITE study aims to characterize the genetic determinants of human performance by studying the upper extreme of the distribution.

- Drove from startup to data collection large genetics study examining 10,000 elite athletes.
- Conducted metabolic tests utilizing a COSMED K5.
- Managed Study IRB and REDCap database creation.

ManageHF (R01AG062582, NIH): The purpose of this project is to aims to determine the effectiveness of two mobile application based JITAI's in preventing heart-failure re-admission.

- Managed JITAIs utilizing a wearable technologies and mobile applications.
- Took ownership of site management, patient enrollment, and IRB updates.

PocketRN (Stanford Catalyst Program): Project aim is to test and validate an algorithm-based, video-visit/tele-health platform aimed at matching SHC patients with specific questions to specialty nurses at SHC.

- Took ownership of site management, patient enrollment, IRB updates, study closeout.
- Developed targeted recruitment strategies leading to a three-fold increase in recruitment.

MyHeartCounts (Google LLC.): The purpose of MHC is to use the mobile health capabilities of smartphones and wearables to assess daily activity measures of the general public and compare these to measures of cardiovascular health - risk factors and fitness.

- Consulted for study design, implementation, physical activity promotion/measurement, and data analysis.
- Utilized Kinesiology background for creation of Physical Activity classification – intensity, duration, and movement difficulty.

SHaRE Registry/HCM Biobank (R01HL155568, NIH): The purpose of this project is to identify genetic and non-genetic factors that influence disease severity and clinical outcomes in Hypertrophic Cardiomyopathy.

- Managed study start up, participant enrollment, and regulatory documents.

GREGoR (GREGoR Consortium, NHGRI): The purpose of this project is to provide a platform for functional genomics research and validation to improve diagnosis in Mendelian disease.
- Created and consulted for the creation of a REDCap database for data collection, management, and analysis of a large-scale genetic database.

Salubris JK07 (NCT04210375): Phase 1, randomized, double-blind, placebo-controlled, single-ascending dose study to assess the safety, tolerability, immunogenicity, PK, and exploratory efficacy of JK07 in subjects 18 to 80 years of age with HFrEF ≤40%.
- Conducted screening through EMR (EPIC) and aided in participant visits
- Ensured GCP and adherence to study protocol

2019-2021   Research Assistant, Keadle Lab, *Cal Poly, San Luis Obispo, CA*
StandUPTV (CA239612): Worked with Drs. Keadle and Buman on a NIH Funded project that is using a MOST design to reduce sedentary screen time among adults with obesity/overweight.
- Developed procedures for guiding participants through technology kit set up to assess sedentary screen time.
- Managed participant enrollment, screening, data collection, and conducted study visits for 9 participants in preliminary validation study.
- Drafted procedures/scripts for technical set up to be used in MOST trial.
- Developed R Code to process, organize, and analyze data.

DCEG Measurement Project (NIH/NCI): The purpose of this project is to implement a device-based measurement protocol to collect activity and sleep data remotely from US adults.
- Drafted IRB, Informed Consent, Study Manual of Procedures, and scripts/instructions for fellow researchers.
- Programed and built out REDCap for study.
- Coordinated with NCI/NIH while following strict guidelines for study details and deadlines.

ACT24 Project (# 75N91019C00001, NIH/NCI): The purpose of this project is to validate a mobile platform for administering previous day recalls of physical activity and sedentary behavior.
- Collected Direct Observation Data during a scheduled 3-hour period.
- Coded videos using Noldus behavior observation software.

Step Study: This project examined the accuracy activity monitors step counts compared to direct observation.
- Developed R code to process and organize collected data.
- Determined step count from direct observation as a criterion measure.

NCI Behavior Coding Project: The purpose of this project is to identify similarities and differences in direct observation coding methods among four different labs across the United States.
- Coded videos using Noldus behavioral observation software.

- Worked as a team member finalizing coding protocol and adjudicating differences.

2020   Student Researcher, Human Motion Biomechanics Lab, *Cal Poly, San Luis Obispo, CA*

Knee Compressive Loads During Walking: Under the guidance of Christie O'Hara and Dr. Scott Hazelwood, I designed a study to examine compressive loads and loading rate at the knee during the heel strike phase of walking under different footwear conditions.
- Quantified movement utilizing Cortex, MATLAB, and OpenSym.
- Managed and analyzed participant data.

Professional Experience

2020-2021   Instructional Student Assistant
Cal Poly, San Luis Obispo, CA
- Grader for KINE 319 – Introduction to Research Methods in Kinesiology.

2019   Facility Supervisor
Cal Poly Associated Students, Inc.
- Managed Building Service Assistants, Membership Services, Pro Shop Staff, and Lifeguards.
- Served as a first responder and documented all injuries and incidents.
- Supervised Rec Center activities to ensure a safe and inclusive environment.

2018-2019   Poly Fit Member
Poly Fit, Cal Poly, San Luis Obispo, CA
- Provided health and fitness assessments to help individuals better understand their current health.

Honors/Awards

- Dean's List: 2018, 2019, 2020, 2021
- Awarded a FROST Summer Undergraduate Research Fellowship: 2019

Publications

Published
1. **Tolas, Alexander;** Lyons, Rachel; Hasanaj, Kristina; Tran, Amanda; Popal, Lemar; Patel, Ajay; Buman, Matthew; Keadle, Sarah. Validation of a Multi-Sensor System to Detect Sedentary Screen Time in Overweight/Obese Adults, The 8th International Conference on Ambulatory Monitoring of Physical Activity and Movement. (2021). Journal for the Measurement of Physical Behavior, 4(S1). https://doi.org/10.1123/jmpb.2021-0036.
2. Yagi, Karen K.; **Tolas, Alex**; Barnett, Rachel; Keadle, Sarah Comparing Sleep Pattern Estimates Of Different Monitor Methods, Medicine & Science in Sports & Exercise: July 2020 – Volume 52 – Issue 7S – p 403 doi: 10.1249/01.mss.0000678220.83161.bc.

In Preparation
1. **Tolas, Alex**; Huang, Jeff; Barnett, Rachel; Yagi, Karen; Keadle, Sarah. Step Accuracy and Consistency of Activity Monitors, Planned Journal: Journal for the Measurement of Physical Behaviors. Status: draft in progress.
2. Validation of a Multi-Sensor System for Objectively Detecting Sedentary Screen Time Among Adults. Status: draft in progress.
3. Sarah K. Keadle, Cami Christopher, **Alex Tolas**, Shreya Patel, Pedro E. Saint-Maurice, Charles E. Matthews. Comparison of activity type and intensity estimates from the activPAL and Video-recorded direct observation. ICAMPAM, 2022. Status: pending acceptance
4. Evaluation of Within and Between Site Agreement for Direct Observation of Physical Behavior. Status: draft in progress.

Conference Presentations

1. **Tolas, Alexander;** Lyons, Rachel; Hasanaj, Kristina; Tran, Amanda; Popal, Lemar; Patel, Ajay; Buman, Matthew; Keadle, Sarah. Validation of a Multi-Sensor System to Detect Sedentary Screen Time in Overweight/Obese Adults. ICAMPAM, Virtual 2021.
2. **Tolas, Alexander**; Jones, Makenzie, Juett; Blake, O'Hara; Christie; Hazelwood, Scott. Different Footwear Knee Biomechanics and Loading Rate. American College of Sports Medicine, Newport Beach, CA. Virtual 2020.
3. Yagi, Karen; **Tolas, Alex**; Barnett, Rachel; and Keadle, Sarah. Comparing Sleep Pattern Estimates from Different Monitor Methods. American College of Sports Medicine, San Francisco, CA. Virtual Poster Session.
4. **Tolas, Alex**; Jones, Makenzie; Juett, Blake; O'Hara, Christie; Hazelwood, Scott. Knee Compressive Force Loading Rates During Heel Strike. KINE 409 Research Symposium, Cal Poly, CA. June 2020.
5. Yagi, Karen; **Tolas, Alex**; Barnett, Rachel; and Keadle, Sarah. Comparing Sleep Pattern Estimates from Different Monitor Methods. Southwest American College of Sports Medicine, Newport Beach, CA. October 26-28, 2019.
6. Yagi, Karen; **Tolas, Alex**; Barnett, Rachel; and Keadle, Sarah. Comparing Sleep Pattern Estimates from Different Monitor Methods. Cal Poly KPH FROST Research Symposium, San Luis Obispo, CA. August 2019.

Conferences Attended

1. ICAMPAM – 2021 (Virtual), 2022 (Virtual)
2. National American College of Sports Medicine - 2020 (Virtual)
3. Southwest- American College of Sports Medicine - 2019, 2020 (Virtual)

Skills

- R Software
- JMP Statistical Analysis
- Noldus Observer XT
- RedCAP
- Cortex, Motion Analysis
- OpenSim

- Adobe Creative Suite
- CITI; Good Clinical Practice
- Rhinoceros, CAD Software

- Wearable Technologies
- Qualtrics