

# JAMES BAKER

I grew up in a tight knit family, raised by two engineers. Both of my parents inspired my love of systems working together to create a unified end product. It was my love of sport however, and inclination towards competitiveness, which drove my fascination with the human system. My background is one of a NCAA national champion swimmer, where performance was measured in hundredths of a second, which has shaped my desire to improve the human system in measurable ways.

## EDUCATION

---

<b>MS</b>	University of Pittsburgh, Pittsburgh, PA Sport Science Advisor: Drs. Matt Darnell and Shawn Flanagan	June 2021
<b>BS</b>	Denison University, Granville, Ohio Health Exercise and Sport Studies Graduated <i>Cum Laude</i>	May 2020

## PROFESSIONAL EXPERIENCE

---

### **Research Assistant**

*Neuromuscular Research Lab, University of Pittsburgh, Pittsburgh PA*

Worked at the University of Pittsburgh NMRL while pursuing a master's degree in Sports Science. Was under direct and indirect supervision of Dr. Shawn Flanagan, Felix Proessl MS, and Maria Canino MS. Investigated physiologic resilience and the systemic impacts of transcranial magnetic stimulation as part of their research team.

### **Denison Student Researcher**

*Biomechanics Lab, Denison University, Granville OH*

Studied the use of the external obliques during a baseball pitch.

Assisted in development of study design and protocol preparation, subject recruitment, data collection and analyses, literature reviews, and paper authorship.

### **Teaching Assistant**

*HESS: 403: Exercise Physiology, Denison University, Granville OH*

Worked as a paid teaching assistant at Denison University in Exercise Physiology.

Held weekly group practice sessions and biweekly individual meetings with struggling students. Instructed the on the course material and designed practice problems and exams.

## RELEVANT ACADEMIC EXPERIENCE

---

### **University of Pittsburgh Masters Capstone**

*Dr. Shawn Flanagan, University of Pittsburgh*

*The Positive Association between Corticospinal Excitability and Muscle Force Steadiness during Simulated Military Operational Stress*

Worked as part of a research group at the University of Pittsburgh's Neuromuscular Research Lab. Handled data from a US Department of Defense funded research study, investigating cognitive resilience over the course of simulated military operational stress. Processed corticospinal excitability and muscle force steadiness measures, resulting in a capstone paper (to be submitted for publication) involving correlations of measures with increasing stress and fatigue levels.

### **Denison University Independent Study**

*Dr. Eric Winters, Denison University*

*The Neuromechanics of a Baseball Pitch*

Intervened in the area of neuromechanics as part of Denison University's Health Exercise and Sport Studies department Research Group. Worked to alter the use of the external obliques during a baseball pitching motion with members of the Denison University Men's Baseball Team. Developed an intervention to optimize the stretch reflex within the external obliques during a pitch. Was accepted to present at Butler University's Undergraduate Research Conference in the spring of 2020.

## PUBLICATIONS

---

### **Peer-Reviewed Manuscripts (Under Review)**

Winters E, Doty S, Lott M, **Baker J** (2020). Central Segment Neuromechanical Integration Among Youth Baseball Throwers.

## PRESENTATIONS AND INVITED LECTURES

---

**Poster Presentation**, "Repetitive Transcranial Magnetic Stimulation Does not Improve Lower Extremity Anaerobic Physical Fatigue in Healthy Participants" Mid-Atlantic Chapter American College of Sports Medicine Conference, November 2021.

**Poster Presentation**, "The Neuromechanics of a Baseball Pitch: The Integration of the External Obliques" Butler University Undergraduate Research Conference, April 2020.

## HONORS AND AWARDS

---

### **NCAA Postgraduate Scholar**

2020

Awarded to 126 Student-Athletes annually across all sports and divisions. Rewards the Association's most accomplished student-athletes through their participation in NCAA championship and/or emerging sports. Athletics and academic achievements, campus involvement, community service, volunteer activities and demonstrated leadership are evaluated.

**Denison University Presidential Medalist** 2020

Awarded to a half dozen of the university's top seniors at graduation. The preeminent criterion is academic achievement. In addition, candidates must embody some combination of the following: service to the community, contribution to the arts, enlargement of the community's global perspective, athletic fitness and achievement, leadership ability and contribution to community discourse.

**Denison University Distinguished Leadership Award** 2020

Bestowed on a small number of graduating seniors. Selection is based on evidence of exemplary leadership that demonstrates an awareness of and responsiveness to the University's mission, effects significant and substantive impact on students, campus organizations, or the community, and in addition, has been sustained and shows progressive levels of responsibility and commitment, either within a single organization or through collaborative enterprise with others.

---

**COMMUNITY SERVICE**

**Denison University, Granville OH**

*Residential and Community Assistant, August 2017 - May 2020*

Acted as an assistant/advisor/mentor to fellow students in a dorm living environment. Planned weekly activities for residents. Incorporated 1:1 relationship meetings with residents. Upheld university regulations and policies in the dorms. Trained as a mental health advocate and responded to crises accordingly.

*University Conduct Board, August 2020 - May 2020*

Attended meetings and evaluated individual hearings, established retribution for individuals found to have broken student code of conduct.

*Senior Leadership Committee, August 2020 - May 2020*

Attended a series of meetings aimed at establishing relationships between students and faculty as well as guiding the campus into the new academic year. Offered student insight. Voiced organizational changes that the university made.

*Senior Class Gift Committee, August 2020 - May 2020*

Attended monthly meetings. Planned and coordinated ideas for gathering money, hosting events, and presenting the class of 2020's gift to the university.

**Faculty-Athletic Policy Council**

Attended a meeting directed at establishing a universal absence policy for student athletes. Voiced concerns student athletes had and offered solutions to the proposed policy changes.

## **LANGUAGES**

---

**English:** Native Language

**Spanish:** Intermediate Speaking, Listening, Reading, and Writing