

ATHLETIC & HUMAN PERFORMANCE RESEARCH CENTER (AHPRC)

2021 SUMMER STUDENT RESEARCH INITIATIVE (SSRI)

ABOUT the 2021 SUMMER SRI

The Marquette AHPRC Summer Student Research Initiative (SSRI) 2021 is designed to facilitate student research from different colleges across campus and support the mission and global goal of the [AHPRC](#).

***AHPRC Mission:** A leading center facilitating collaborative and innovative research in athletic, healthy, and clinical populations to advance knowledge and reach beyond boundaries to optimize human performance while training the next generation of basic and applied scientists.*

A **global goal** of the AHPRC is to facilitate interdisciplinary, collaborative, and innovative research to understand and enhance performance in athletic, healthy, and clinical populations across the lifespan while providing educational and training opportunities for the Marquette community.

GOALS of the 2021 Summer SRI

The 2021 AHPRC summer student research initiative will focus on engaging students and faculty mentors to grow **research in pediatric health and human performance** and support a network of researchers from various disciplines on campus who perform research in this area. **The goal is to create a toolkit of best-practice pediatric assessments (techniques, protocols, and procedures) and interventions that can be utilized within the AHPRC and by other collaborating researchers.**

Desired outcomes include identifying (1) best-practices and validated assessments that quantify pediatric health and performance and (2) best-practice intervention strategies to improve performance. These will contribute to a state-of-the-art pediatric health and performance assessment and intervention toolkit that represent the gold standard in the field. *Faculty mentors will direct their student(s) to identify gold-standard pediatric assessments or interventions in their discipline. The faculty-student team will establish a rationale for the importance and significance with background literature, create standard operating procedures for use in the AHPRC, test the assessments/interventions on children (if possible), and will train other students and faculty in the group on their implementation.* While the outcome of the project should target implementation within the AHPRC, the SSRI project may be completed outside of AHPRC space if appropriate. Collectively, the group will work to submit an Institutional Review Board (IRB) protocol to assess healthy children and obtain normative data in a range of the assessments. Examples of performance domains and intervention/support strategies that are suggested for the toolkit are below. Refer to the [National Institutes of Health toolkit](#) pediatric assessments as a reference for some examples that can be utilized. Other suggestions are encouraged.

Health and Performance Domains for Assessment

- Aerobic function and endurance (field and lab-based tests)
- Strength, speed, and agility (field and lab-based tests)
- Fine and gross motor skills
- Physical activity tracking with children
- Psychological and mental health, resilience
- Cognitive function
- Educational outcomes and indicators
- Language development and speech
- Pain

Interventions and Supportive Research Strategies

- Exercise and activity (indoor laboratory with and without equipment) and home-based exercises
- Nutritional interventions
- Rehabilitation strategies and disease prevention
- Data science strategies in pediatric human performance

Projects will be conducted over 10 weeks in the summer 2021 (Monday May 24th to July 30th, 2021). Funds will be provided for up to 5 faculty-student teams (typically 1 faculty and 1 student under their mentorship; additional team members are welcome) with a limit of \$5000 per team. Funding will be used for a student stipend of \$3500, and at the faculty's discretion, a faculty stipend if need (limit of \$1000 per faculty team) and supplies.

Eligibility and Selection

- Student applicants must be full-time undergraduate students or full-time graduate students for the academic year of 2020-2021 and through to the end of summer 2021 at Marquette University.
- Faculty applicants must be full-time at Marquette University.
- Applicants must be eligible to work in the United States and have the appropriate documentation.
- Faculty and student applicants must be willing to work together for the entire 10-week period.

Expectations of the Student

- Dedicate 40 hours per week during the summer for 10 weeks.
- Meet on a regular basis with their faculty mentor.
- Participate in research training, workshops, seminars, and group activities related to the program.
- Discuss their research and protocols with other students and faculty at regular meetings.
- Attend and present their research toolkit contribution and any research findings to a wider audience at the end of the summer.

How to Apply

1. **Two-to-three-page application/letter of interest**. The application should include:
 - a. Title page (page 1) with student and faculty name, department, college, student GPA, project title and a two-three sentence summary of the performance domain and contribution to the pediatric toolkit (i.e., pediatric assessment, intervention, or support strategy).
 - b. Project/protocol Description (pages 2-3): describe the goal(s) of the research project and what will be accomplished. In the description please (1) identify one or several desired assessments or interventions that will assess or improve (via an intervention) pediatric health and performance, (2) provide a rationale for the importance and significance of the work and why it is best practice, and (3) describe the projected outcomes of your research aims and how your team will achieve your research aims over the 10 weeks (no more than 2 pages).
 - c. A brief student statement describing how participation in the AHPRC Summer SRI will help the student achieve their career or academic goals (no more than ½ page on page 3).
2. **Supporting letter from faculty mentor** showing availability, commitment, and appropriate expertise to work with the student on the proposed research program/study.
3. **Student resume**: 1–2-page student resume including GPA, relevant practical experience, etc.

Program Timeline

- **Final proposal due:** Monday April 12th, 2021
- **Notice of award:** Monday April 19th, 2021
- **Program Start Date:** Monday May 24th, 2021
- **Program End Date:** Friday July 30th, 2021

Selection

- Proposals will be reviewed, and awardees notified by Monday April 19th, 2021.
- Selection will be based on the faculty-student team's complete submission of the requirements, application, and alignment with the goals of the pediatric initiative at the AHPRC.
- Questions are to be directed to [Dr Sandra Hunter](#) (Director of the AHPRC) via email.

Please send all applications to Mike Haischer at Michael.Haischer@marquette.edu by Monday April 12th, 2021 (4 pm).