Emaly Vatne

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EDUCATION

The Ohio State University
Ph.D. Kinesiology   Projected: 2026
 Specialization: Health and Exercise Science
 Graduate Minor: Statistical Data Analysis
 Co-Advisors: Dr. Josh Hagen, Ph.D and Dr. Catherine Saenz, Ph.D
 Dissertation Topic: Psychophysiological Effects of Recovery Strategies in Soccer

M.S. Kinesiology   2023
 Specialization: Health and Exercise Science
 Thesis Topic: Season-Long Sleep and Cardiac-Autonomic Stress Monitoring in Collegiate
  Women's Ice Hockey

B.S. Exercise Science   2021
 Undergraduate Minor: Human Nutrition
 Cum Laude

Johns Hopkins University, Coursera
Certificate   2023
  Data Science: Foundations using R Specialization

PROFESSIONAL EXPERIENCE

The Ohio State University
Assistant Sport Scientist   July 2024 – Present
Graduate Research Associate   May 2022 – July 2024
Ohio State Department of Athletics and Human Performance Collaborative
- Lead data cleaning, integration, and advanced analytics **(R, Python, JMP)** for 1000+ varsity athletes and 10+ performance technologies, delivering real-time insights through **RShiny, Streamlit, Power BI, and Smartabase**
- Conceptualize, design, and author manuscripts on recovery science, athlete monitoring, and applied data science, informing evidence-based coaching and support strategies
- Support day-to-day athlete monitoring and profiling while co-building a Microsoft-based data ecosystem (ETL pipeline and Power BI), ensuring quality data collection and efficient technology implementation for Ohio State Athletics

Ohio National Guard and National Guard Bureau
X-Force Fellow in Data Engineering and Data Science Research   May – August 2023
National Security Innovation Network
- Researched data ecosystem approaches to handle datasets related to the Holistic Health and Fitness (H2F) system from the National Guard of all 54 states and territories
- Created a prototype PowerBI dashboard for soldiers to view their historical and predict future Army Combat Fitness Test scores

- Conceptualized a modern data architecture with the Microsoft Enterprise that was presented to Senior Leaders of the National Guard Bureau in Washington, D.C.

Orlando City Soccer Club
Data Analytics Intern   January – May 2023
Department of Analytics

- Cleaned and analyzed datasets from a season of games that each include 300000+ rows from optical soccer tracking technologies to objectively assist and inform technical staff
- Created an RShiny App to be deployed on the club's ShinyProxy server as a Docker image to continue to support OCSC staff
- Provided a literature review that describes the burgeoning area of contextualizing external load using technical tracking and event data in elite soccer

The Ohio State University
Undergraduate Research Assistant   January 2021 – December 2022
MOvES Lab

- Handled data collection and analysis from kinematic (Vicon, Theia, HumanTrak) and kinetic (Bertec, VALD, Hawkin Dynamics) measurement tools for sports medicine research under the direction of Dr. James Onate, Ph.D, AT, ATC
- Completed literature reviews and assisted with manuscript authorship

Women in Sports Tech and Perch
Fellow and Data Science Intern   May – August 2022

- Processed velocity-based training data using Python and R to measure bilateral imbalances and other key performance indicators
- Contributed to the development of presentations that demonstrated trends and insights to various professional sports organizations

The Ohio State University
Undergraduate Strength and Conditioning Intern
Ohio State Department of Athletics   May – August 2021

- Observed and assisted day-to-day operations of the strength and conditioning coaches that work with The Ohio State University varsity women's basketball team
- Contributed to the development of presentations that demonstrated trends and insights to various professional sports organizations

PUBLICATIONS AND MANUSCRIPTS UNDER PREPARATION

1. Matthew R. Vatne[#], **Emaly A. Vatne**[#], Joshua A. Hagen, Daniel Cencer, Paul Jones, Tyler Carpenter. *(In-Preparation)* Design, Management, Applications, and Challenges of Cloud-Oriented Data Storage in Applied Sport Science.
2. **Emaly A. Vatne**, William J. Kraemer, Catherine Saenz, Matthew R, Vatne, Daniel Cencer, Bradley Robinson, Kyle R. Pulvermacher, Jason Stone, Justin Merrigan, Paul Jones, Tyler Carpenter, Joshua A. Hagen. *(In-Preparation)* Comprehensive Normative Values of Objective Sleep Quantity and Quality in Collegiate Athletes.
3. William J. Kraemer, **Emaly A. Vatne**, Catherine Saenz, Paul C. Jones, Tyler Carpenter, Daniel A. Cencer Jr., Kevin E. Enchelmeyer, Kyle Pulvermacher, Clare Quebedeaux,

Matthew Vante, Joshua A. Hagen. Neuromuscular Profiles of Female Collegiate Athletes: Variations in Countermovement Jump Metrics Across Eight NCAA Division I Sports. *In-Review JSCR (2024)*

4. **Emaly Vatne**, Matthew Vatne, Daniel Cencer, Catherine Saenz, William J. Kraemer, Bradley Robinson, Paul Jones, Jason Stone, Justin Merrigan, Tyler Carpenter, Joshua Hagen. The Impact of Team Practice Block Start Times on Sleep Characteristics in Collegiate Athletes. *In-Review JSCR (2024)*

5. Catherine Saenz, David J Sanders, Samantha J. Brooks, Lacey Bracken, Aydan Jordan, Justen Stoner, **Emaly Vatne**, Marley Wahler, Ann F. Brown. The Relationship Between Dance Training Volume, Body Composition, and Habitual Diet in Female Collegiate Dancers: The Intercollegiate Artistic Athlete Research Assessment (TIAARA) Study. *Nutrients (2024)*

6. **Vatne, E.,** Oliva-Lozano, J. M., Saenz, C., Cost, R., Hagen, J. Post-Exercise Recovery Modalities In Male And Female Soccer Players Of All Ages And Competitive Levels: A Systematic Review. *In-Review Biology of Sport. (2024)*

7. **Vatne, E.,** Saenz, C., Merrigan, J., Stone, J., Kraemer, W., Hagen, J. Effects of Daytime Floatation-REST on Nocturnal Cardiovascular Physiology, Sleep, and Subjective Recovery in Collegiate Student-Athletes: A Comprehensive Observational Study. *In-Press JSCR. (2024)*

8. Abdullah, M., Yazbeck, M., Alhanouti, S., Talebi, A., **Vatne, E.,** Hagen, J., Krening, S. Perfect Short Reveal: Human-Centered Machine Learning Approach in Analyzing Goal-Scoring Strategies in Soccer. *International Journal for Sports Sciences and Coaching. In Review. (2024).*

9. Merrigan, J., **Vatne, E.,** Stone, J., Hagen, J. Are countermovement jump force plate metrics associated with musculoskeletal injury risk in NCAA Division-I American football? *JSCR. (2024)*

10. Merrigan, J., Stone, J., Kraemer, W., Friend, C., Lennon, K., **Vatne, E.,** Hagen, J. Analysis of Sleep, Nocturnal Physiology, and Physical Demands of NCAA Women's Ice Hockey Across a Championship Season. *JSCR. (2024)*

11. Merrigan, J., Stone, J., Kraemer, W., **Vatne, E.**, Hagen, J. Identifying Force Plate Metrics Associated with Injury Risk in NCAA Division-I Female Athletes. *JSCR. (2024)*

ACADEMIC CONFERENCE PRESENTATIONS

1. **Emaly Vatne**, Hana Ulman, Matthew Vatne, Daniel Cencer, Josh Hagen (2025). Criterion Validity of Open-Source Methods for Processing R-R Intervals in Determining Heart Rate Variability Metrics. NSCA National Conference.

2. **Emaly Vatne**, Matthew Vatne, Daniel Cencer, Catherine Saenz, Josh Hagen. (2025) Acute Increases in Time in Bed Associated with Improved Competition Performance in Female Collegiate Swimmers. Female Athlete Conference

3. Matthew Vatne, **Emaly Vatne**. (2024) Microsoft Fabric for Ohio State Athletics: Purpose, Technical Components, and Practical Applications. Invited presentation for Microsoft Data Science and AI Azure Technical Hour

4. **Emaly Vatne**. (2024) Distinguishing Important from Interesting: Informing Tactical, Physical, and Recovery Periodization with Physical and Technical Performance Data. Women in Sports Data Symposium

5. **Emaly Vatne,** Catherine Saenz, Josh Hagen. (2023) Comparison of Subjective Feedback Towards Wet versus Dry Floatation-Restricted Environmental Stimulation Therapy in College Students. EHE Graduate Research Forum.

6. **Emaly Vatne**, Catherine Saenz, Justin J. Merrigan, Josh A. Hagen (2023) Cardiac-autonomic markers of recovery improve immediately following a flotation-restricted environmental stimulation therapy session in NCAA athletes *Journal of Strength and Conditioning Research.*

7. Justin J. Merrigan, **Emaly Vatne**, William J. Kraemer, Josh A. Hagen (2023) identifying force plate metrics associated with injury risk in NCAA Division-I female team-sports *Journal of Strength and Conditioning Research.*

8. Edwards, N., **Vatne, E.,** Beach, T., Caccese, J., Merrigan, J., Hagen, J., Stone, J., Onate, J. (2022) Special Weapons and Tactical Officers Have Equal Loaded and Unloaded Countermovement Jump Performances. *MSSE.*

HONORS, ACTIVITIES, AND LEADERSHIP

Robert N. and Sharon S. Gandee Endowed Scholarship Fund, $1,407.	2023
Woody and Anne Hayes Award Recipient, $3,000.	2023
Big Ten Conference Outstanding Sportsmanship Honoree	2023
All-Big Ten Sportsmanship Team	2022
All-District Academic Honoree	2022
Big Ten Distinguished Scholar	2021
Academic All-Big Ten Honoree	2019, 2020, 2021, 2022
Ohio State Athletics Scholar Athlete	2019, 2020, 2021, 2022
All-Big Ten Freshman Team Honoree	2018
Big Ten Freshman of the Week	2018
U.S. Under-18 Youth National Team Member	2017 – 2018

Professional Trainings and Certifications

Microsoft Certified: Azure Data Fundamentals	2023
Microsoft Certified: Fabric Analytics Engineer Associate	2024
NSCA Certified Strength and Conditioning Specialist	2021 – Present
ACSM Certified Exercise Physiologist	2021 – Present
U.S. Soccer Federation "D" Coaching License	2023 – Present
American Red Cross Adult CPR and First Aid	2018 – Present
CITI Biomedical Research Investigators	2022 – Present
CITI Biomedical Responsible Conduct of Research	2022 – Present

Activities and Leadership

The Ohio State University Varsity Women's Soccer	2018 – 2022
Team Captain	2021 – 2022

Spent 20+ hours per week training with and leading a diverse group of women to compete at the highest level nationally while maintaining a rigorous academic course load

Ohio Premier Soccer Club and Upper Arlington High School	
Ohio Premier Youth Academy **Staff Coach**	2019 – 2022
Ohio Premier Under-15 and Under-16 girls' teams **Head Coach**	2023 – 2024

Upper Arlington Junior Varsity girls' soccer team **Head Coach**   2023 – 2024

President, ACSM Exercise is Medicine Club at The Ohio State University   2021 – 2022
Invited Member, Lead Like a Buckeye at The Ohio State University   2021 – 2022

Professional Affiliations
National Strength and Conditioning Association (NSCA)   2020 – Present
American College of Sports Medicine (ACSM)   2020 – Present