

# Emaly Vatne, PhD ABD, CPSS, CSCS

Louisville, KY | Columbus, OH | Sterling Heights, MI

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## EDUCATION

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### DOCTOR OF PHILOSOPHY:

The Ohio State University, Columbus, OH

Kinesiology, Health and Exercise Science

*Research Interest:* Effects of Post-Exercise Recovery

Strategies in Soccer Players and Effects of Contextual

Factors on Sleep and Recovery in Collegiate Athletes

Projected: May 2026

### MASTER OF SCIENCE:

The Ohio State University, Columbus, OH

Kinesiology, Health and Exercise Science

*Thesis:* ["Season-Long Sleep and Cardiac-Autonomic Stress Monitoring in Collegiate Women's Ice Hockey"](#)

Awarded: 2023

### BACHELOR OF SCIENCE:

The Ohio State University, Columbus, OH

Kinesiology, Health and Exercise Science

Undergraduate Minor in Human Nutrition

Awarded: 2021

### CERTIFICATE:

Johns Hopkins University, Coursera

Data Science: Foundations using R Specialization

Awarded: 2023

## PROFESSIONAL EXPERIENCE

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### Racing Louisville FC through UofL Health

#### Applied Sport Scientist

September 2025 – Present

- Develop and maintain athlete monitoring **Power BI** dashboards presenting automated ingestion and advanced, research-informed analytics using **Python** that integrates neuromuscular, training load, wearable, and wellness data to evaluate individual athlete readiness assessments
- Set periodization plans and load projections to support coaching and medical decision-making
- Lead research initiatives to increase representation of female athletes in high-quality sport science and sports medicine literature by conceptualizing designs, manuscript writing, and managing IRB protocols and submissions
- Design and implement recovery strategy and loading protocols informed by sleep, neuromuscular, and training load metrics to maximize athlete readiness and preparedness

### The Ohio State University

#### Assistant Sport Scientist

July 2024 – September 2025

#### Graduate Research Associate

May 2022 – July 2024

#### [Ohio State Department of Athletics](#) and [Human Performance Collaborative](#)

- Led 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 **Teamworks AMS** (formerly Smartabase)

- Conceptualized, designed, and authored manuscripts on recovery science, athlete monitoring, and applied data science, informing evidence-based coaching and support strategies
- Supported 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 technical staff under the direction of Caleb Shreve and Grant Rhines
- Created an RShiny App that was deployed on the club's ShinyProxy server as a Docker image
- Provided a literature review that described the growing 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

- Supported 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 to assist with on-going sports medicine research projects

***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 strength and conditioning operations with The Ohio State University varsity women's basketball team

## PUBLISHED PEER-REVIEWED ARTICLES

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1. **Vatne, E.**, Oliva-Lozano, J. M., Saenz, C., Cost, R., & Hagen, J. (2025). Post-Exercise Recovery Modalities in Male and Female Soccer Players of All Ages and Competitive Levels: A Systematic Review. *Sports*, 13(10), 343. <https://doi.org/10.3390/sports13100343>
2. Dial, M. B., Hollander, M. E., **Vatne, E. A.**, Emerson, A. M., Edwards, N. A., & Hagen, J. A. (2025). Validation of nocturnal resting heart rate and heart rate variability in consumer wearables. *Physiological Reports*, 13, e70527. <https://doi.org/10.14814/phy2.70527>
3. **Vatne, E.**, Vatne, M., Cencer, D., Kraemer, W. J., Saenz, C., Stone, J., Merrigan, J., Pulvermacher, K., Robinson, B., Dial, M., Jones, P., Montalbano, A., Carpenter, T., & Hagen, J. (2025). Establishing Comprehensive Normative Values of Objective Sleep Quantity and Quality in Collegiate Athletes. *Journal of strength and conditioning research*, 10.1519/JSC.0000000000005220.
4. **Vatne, E.**, Vatne, M., Cencer, D., Saenz, C., Kraemer, W. J., Robinson, B., Jones, P., Stone, J., Merrigan, J., Carpenter, T., & Hagen, J. (2025). The Impact of Team Practice Block Start Times on Sleep Characteristics in Collegiate Athletes. *Journal of strength and conditioning research*, 10.1519/JSC.0000000000005206.
5. Kraemer, W. J., **Vatne, E. A.**, Saenz, C., Jones, P. C., Carpenter, T. J., Cencer, D. A., Jr, Enchelmeyer, K. E., Pulvermacher, K. R., Quebedeaux, C. K., Vatne, M. R., & Hagen, J. A. (2025). Neuromuscular Profiles of Female Collegiate Athletes: Variations in Countermovement Jump Metrics Across 8 NCAA Division I Sports. *Journal of strength and conditioning research*, 39(9), 952–958. <https://doi.org/10.1519/JSC.0000000000005170>
6. **Vatne, E.**, Merrigan, J.J., Stone, J.D., Saenz, C., Kraemer, W.J., Hagen, J.A. (2025). Effects of Daytime Floatation-REST on Nocturnal Cardiovascular Physiology, Sleep, and Subjective Recovery in Collegiate Student-Athletes: A Comprehensive Observational Study. *Journal of Strength and Conditioning Research*. XX(X): 000-000. <https://doi.org/10.1519/jsc.0000000000005131>
7. Yazbeck, M., Abdullah, M., Alhanouti, S., **Vatne, E.**, Hagen, J., Allen, T. T., & Krening, S. (2025). Perfect shot reveal: Machine learning analysis of goal-scoring strategies in soccer. *International Journal of Sports Science & Coaching*, 0(0). <https://doi.org/10.1177/17479541251333941>
8. Saenz, C., Sanders, D. J., Brooks, S. J., Bracken, L., Jordan, A., Stoner, J., **Vatne, E.**, Wahler, M., & Brown, A. F. (2024). The Relationship Between Dance Training Volume, Body Composition, and Habitual Diet in Female Collegiate Dancers: The Intercollegiate Artistic Athlete Research Assessment (TIAARA) Study. *Nutrients*, 16(21), 3733. <https://doi.org/10.3390/nu16213733>
9. Merrigan, J. J., Stone, J. D., Kraemer, W. J., **Vatne, E. A.**, Onate, J., & Hagen, J. A. (2024). Female National Collegiate Athletic Association Division-I Athlete Injury Prediction by Vertical Countermovement Jump Force-Time Metrics. *Journal of strength and conditioning research*, 38(4), 783–786. <https://doi.org/10.1519/JSC.0000000000004758>
10. Merrigan, J. J., Stone, J. D., Kraemer, W. J., Friend, C., Lennon, K., **Vatne, E. A.**, & Hagen, J. A. (2024). Analysis of Sleep, Nocturnal Physiology, and Physical Demands of NCAA Women's Ice

Hockey Across a Championship Season. *Journal of strength and conditioning research*, 38(4), 694–703. <https://doi.org/10.1519/JSC.00000000000004678>

## PEER-REVIEWED ARTICLES UNDER REVIEW & IN PREPARATION

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1. **Vatne, E.**, Vatne, M., Cencer, D., Pulvermacher, K., Kraemer, W.J., Robinson, B., Jones, P., Quebedeaux, N., Sprague, R., Carpenter, T., & Hagen, J. (2026). Relationship Between Objective Measures of Sleep and Nocturnal Cardiovascular Physiology and Swimming Performance in Collegiate Female Athletes. *International Journal of Sports Science and Coaching*.
2. **Vatne, E.**, Cencer, D., Saenz, C., Robinson, B., Kraemer, W.J., Pulvermacher, K., Vatne, M., Morton, E., Hagen, J. (2026) A Framework and Decision Support System for Periodized Recovery for Athletes. *Sports Medicine*.
3. **Vatne, E.**, Cencer, D., Saenz, C., Robinson, B., Kraemer, W.J., Pulvermacher, K., Vatne, M., Dial, M., Emerson, A., Jones, P., Louder, S., Wilson, S., Hagen, J. (2026). Agreement Between Self-Reported and Wearable-Measured Sleep Quantity and Quality in Athletes: A Scoping Review. *Sports Medicine*.
4. **Vatne, E.**, Vatne, M., Cencer, D., Pulvermacher, K., Robinson, B., Kraemer, W.J., Saenz, C., & Hagen, J. (in preparation). Changes in Body Composition and Countermovement Jump Performance in National Collegiate Athletic Association Division I Female Soccer Players Across a Competitive Season. *Journal of Strength and Conditioning Research*.
5. Robinson, B., **Vatne, E.**, Vatne, M., Cencer, D., Pulvermacher, K., Kraemer, W.J., Saenz, C., & Hagen, J. (in preparation). Changes in Body Composition and Countermovement Jump Performance in National Collegiate Athletic Association Division I Football Players Across an Off-Season Training Period. *Journal of Strength and Conditioning Research*.
6. **Vatne, E.**, Vatne, M., Cencer, D., Pulvermacher, K., Robinson, B., Kraemer, W.J., Saenz, C., & Hagen, J. (in preparation). A Cross-Sectional Observation of Maximal Eccentric and Isometric Hamstring Strength and Maximal Isometric Hip Strength in Collegiate Athletes. *Journal of Strength and Conditioning Research*.
7. **Vatne, E.**, Ulman, H., Vatne, M., Cencer, D., Merrigan, J., Stone, J., Pulvermacher, K., Robinson, B., Saenz, C., & Hagen, J. (in preparation). Criterion validity of open-source methods for processing R-R intervals to determine time-domain heart rate variability metrics. *International Journal of Exercise Science*.

## UNPUBLISHED AND INTERNAL R&D ARTICLES

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1. **Vatne, E.**, Vatne, M., Cencer, D., Pulvermacher, K., Robinson, B., Kraemer, W.J., Saenz, C., & Hagen, J. (2025). Player Position Affects Relationship Between Internal and External Training Loads Among Professional Female Soccer Players.
2. **Vatne, E.**, Morton, E. (2025) Season-Long Heart-Rate Variability Monitoring Reveals Autonomic Imbalance in Professional Female Soccer Player Despite Adequate Sleep Quantity.

3. **Vatne, E.**, Cencer, D., Vatne, M., Hagen, J. (2025) "Is That High?" An Internal Whitepaper Describing a Bayesian Statistical Framework for Individualized Athlete Monitoring in Applied Sport Science.
4. Cencer, D., **Vatne, E.** (2025) Nocturnal Cardiovascular Physiology and Sleep Across a Championship Season: A Comprehensive Case Study of a Collegiate Football Athlete.
5. **Vatne, E.** (2025) Actual Versus Random-Forest Predicted Percent of Maximum Heart Rate as an Indicator of Acute Fatigue and Changes in Fitness Status.

## **PEER-REVIEWED ABSTRACTS AND PRESENTATIONS**

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1. Edwards, N., **Vatne, E.**, Saenz, C., Quatman, C., Anders, J. P. (2026). Women in High-Stress Occupations: The Impact of Circadian Disruption on Health and Performance. *Medicine & Science in Sports & Exercise*.
2. **Vatne, E.**, Vatne, M., Cencer, D., Saenz, C., & Hagen, J. (2025). Acute increases in time in bed associated with improved competition performance in female collegiate swimmers. *Female Athlete Conference*.
3. **Vatne, E.**, Saenz, C., Merrigan, J. J., & Hagen, J. A. (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*.
4. Merrigan, J. J., **Vatne, E.**, Kraemer, W. J., & Hagen, J. A. (2023). Identifying force plate metrics associated with injury risk in NCAA Division-I female team-sports. *Journal of Strength and Conditioning Research*.
5. 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. *Medicine & Science in Sports & Exercise*.

## **UNPUBLISHED AND INVITED PRESENTATIONS**

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The following symbols represent: \*Student author and ^work completed by a student mentee.

1. Brooks, S., Brown, A., Davis, R., Meyer, J., Stroh, E., **Vatne, E.**, Saenz, C. (2026) Protein Quality and Dietary Profiles in Normal Weight Obese versus Lean Premenopausal Women. *The Ohio State University Exercise and Human Ecology Research Forum*
2. Stroh, E., **Vatne, E.**, Brooks, S., Kennel, J., Jones, P., MacDonald, H., Hagen, J., Saenz, C. (2026). Evaluating the Validity and Reliability of Wearable Tracking Devices for Estimating Energy Expenditure in Athletic Populations: A Scoping Review. *The Ohio State University Exercise and Human Ecology Research Forum*
3. **Vatne, E.** (2025). Translating Findings of Applied Recovery Science Investigations into Periodized and Individualized Plans for Elite Soccer Players. *Professional Soccer Performance Association Conference*.
4. Burghardt, B., Cencer, D., **Vatne, E.** (2026). Applied Sport Science in University and Professional Sports: Implementation Across Organizations, Integrations with Academic Learning and Research, and Future Directions for Practitioners and Programs. *ICAMPAM Symposium*.

5. *Research to Reps Roundtable Podcast* (2025).
6. *Ohio State Strength and Conditioning Podcast* (2025).
7. *Raising a Ball Player Podcast* (2025).
8. **Vatne, E.** (2025) Translating Research into Practice from Foundations to Fads in Collegiate Athlete Recovery. *NSCA Illinois State Clinic*.
9. Saenz, C., **Vatne, E.** (2025). Data-Driven Athletics: How Catapult Enhances Performance and Rehab. Invited presenters at the *2025 University of Maryland Summer Educational Series*.
10. Carpenter, T., Jones, P., **Vatne, E.**, Cencer, D., Enchelmeyer, K., Vatne, M., Pulvermacher, K. (2025) Strength in Structure: Integrating Sport Science for Peak Performance Across 36 Sports. *Collegiate Strength and Conditioning Coaches Association*.
11. \*^Boman, T., **Vatne, E.**, Vatne, M., Cencer, D., Jones, P., Carpenter, T., & Hagen, J. (2025). Impact of team travel on hitting performance in collegiate softball. Abstract submitted to the *2025 Ohio State Sports Analytics Conference*.
12. **Vatne, E.** (2025). Data systems and management in sport. Invited panelist at the *2025 Ohio State Sports Analytics Conference*.
13. Vatne, M., & **Vatne, E.** (2024). Microsoft Fabric for Ohio State Athletics: Purpose, technical components, and practical applications. Invited presentation for Microsoft Data Science and *AI Azure Technical Hour*.
14. **Vatne, E.** (2024). Distinguishing important from interesting: Informing tactical, physical, and recovery periodization with physical and technical performance data. Podium presentation at the *Women in Sports Data Symposium*.
15. **Vatne, E.**, Saenz, C., & Hagen, J. (2023). Comparison of subjective feedback towards wet versus dry floatation-restricted environmental stimulation therapy in college students. Poster presentation at the *EHE Graduate Research Forum*.

## **HONORS, ACTIVITIES, AND LEADERSHIP**

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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*

NSCA Certified Performance and Sport Scientist	2025 – Present
Microsoft Certified: Azure Data Fundamentals	2023
Microsoft Certified: Fabric Analytics Engineer Associate	2024
NSCA Certified Strength and Conditioning Specialist	2021 – 2023
ACSM Certified Exercise Physiologist	2021 – 2023
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*

<b>The Ohio State University Varsity Women's Soccer Team Captain</b>	2018 – 2022 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	
<b>Ohio Premier Soccer Club and Upper Arlington High School</b>	
Ohio Premier Youth Academy <b>Staff Coach</b>	2019 – 2022
Ohio Premier Under-15 and Under-16 girls' teams <b>Head Coach</b>	2023 – 2024
Upper Arlington Junior Varsity girls' soccer team <b>Head Coach</b>	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
Reviewer, International Journal of Sports Performance and Physiology	2025 – Present

*Professional Affiliations*

National Strength and Conditioning Association (NSCA)	2020 – Present
American College of Sports Medicine (ACSM)	2020 – Present
Collegiate Strength and Conditioning Coaches Association (CSCCa)	2025 – Present