John Abbott, PhD, CSCS

Education

Bachelor of Science in Exercise Science Specialist Concentration, Minor in Coaching

May, 2014 West Chester University West Chester, PA

Master of Science in Sport and Exercise Physiology

May, 2016 West Chester University West Chester, PA

PhD Sport Performance and Physiology, concentration: Physiology

August, 2020 East Tennessee State University Johnson City, TN

Field Experience

Sport Science Specialist

February 2020-Current Chicago Cubs Mesa, Arizona

- Over three years I have developed and implemented training programs for the entire spectrum of athlete in pro-baseball. During this time I led High Performance Camps in the Dominican Republic, led our Arizona Complex Team through a season, spearheaded several major league players rehab process and return to the MLB, and developed the ground work of a Sport Science role.
- Developed players performance by enhancing physical qualities to match the demands of their sport/position/ individual goals.
    - Informing the process by leveraging technology and data analysis to optimize the impact and transfer of training.
- Developed testing protocols to assess qualities of interest from stakeholders (Front Office members, Research and Development, High Performance Staff) ○ Development includes understanding the interest/question, developing protocols, assessing reliability and validity, assessing practicality and buy-in from athletes (is the juice worth the squeeze?)
- Created and operated an extensive Athlete monitoring program including custom made dashboards and reports utilizing R and Python software's and leveraging API integration ○ These process' occur at different intervals from daily reports to quarterly reviews. ○ The reports are a tool to assist in driving conversation about how an athlete is responding to the stress of the game/practice/life and how to promote the most optimal scenario in which an athlete can continue playing.
- Collaborated with Research and Development on high level projects to better understand the interplay between physiology, biomechanics, and game success.
    - Developed models to predict Exit Velocity, sprint time to 1st, and increased understanding of aspects of pitching velocity and shape characteristics.

Doctoral Fellow

September 2017-Current East Tennessee State University Johnson City, TN

- Olympic Weight Room Supervisor ○ Oversaw 10-15 Coaches and interns ○ Developed and implemented training for several D1 NCAA Sports, ○ M/W Soccer, M/W Tennis, W Volleyball, Cross Country, Triathlon, Baseball, and Softball
- Implemented and developed training programs for out Olympic Training Site Athletes ○ NFL, USA: Track and Field, Bobsled, Skeleton, Kayak, Canoe, Canada: Skeleton, Japan: Bobsled, Taiwan Track and Field

Strength and Conditioning Coach

October 2016 - April-2017 H.P.A.T.C West Chester, PA

- Lead Strength and Conditioning Coaches for several levels, boys U-14 and girls U-15 through Men's Juniors.
  - ○ Season ended with the Juniors as EHL Champions

Strength and Conditioning Coach

Spring 2016 - Fall 2016 Iron Athlete Hatfield, PA

Head Diving Coach

October 2015- March 2017 Henderson High School West Chester, PA

Research Experience

Evaluating Accuracy, Precision, and Practicality of a Near Infrared Spectroscopy (NIRS) Device on Blood Lactate Levels. (Thesis Project)

The Relationship Between Accelerometery Derived Training Loads and sRPE In Women's College Soccer. (Poster Presentation)

Validation of inertial sensor to measure velocity of medicine balls. (Secondary Research)

Muscle oxygenation differences during a training cycle during back squat on sprint activities within an elite bobsledder. (Secondary Research)

Validation of inertial sensor to measure barbell kinematics across a spectrum of loading conditions. (Secondary Research)

Validation to identify running phases with an inertial measurement unit. (Secondary Research)

The Effects of Increasing Running Speed on vGRF and Asymmetry. (Secondary Research)

Effects of Neuromuscular Fatigue Resulting from Repeat Sprint Exercise Among Trained Cyclists on Measures of Strength and Power Performance. (Secondary Research)

The Influence of Strength in Load-Velocity Relationships in the Back Squat (Secondary Research)

Bilateral Muscle Oxygenation Kinetics In Response To Repeat Sprint Cycling In Strong And Weak Individuals. (Dissertation Project)

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Presentations

South Carolina University – Sprints, Jumps, and Hurdles Clinic – November 2019
(Substitute Presenter for Dr. Brad DeWeese) – Acceleration Development-Maximizing Transfer- Manipulating Sprint Characteristics Through Shape Factor

East Tennessee State University - Coaches College – Poster – December 2019
Collegiate cross-country and triathlon athletes, a physiological and biomechanical profile

East Tennessee State University - Coaches College – Poster – December 2017
The Relationship Between Accelerometry Derived Training Loads and sRPE In Women's College Soccer.

American College of Sports Medicine - National Annual Meeting - Poster Presentation – May 2017
Evaluating Accuracy, Precision, and Practicality of a Near Infrared Spectroscopy (NIRS) Device on Blood Lactate Levels.

American College of Sports Medicine- Mid-Atlantic Regional Chapter Annual Meeting- November 2016
Masters Award Oral Presentation- Evaluating Accuracy, Precision, and Practicality of a Near Infrared Spectroscopy (NIRS) Device on Blood Lactate Levels.

West Chester University, PA, Research Day- (Guest Presenter) – March 2016
The Effects of sub-concussive head impacts on QTVI in collegiate soccer players

Publications

Peer-Reviewed

Sato, K., Light, T. J., Abbott, J., Painter, K., Gentles, J., Bazyler, C., & Szymanski, D. (2021). Load-Velocity Relationships in the Back Squat: The Influence of Relative Strength. Journal of Sports Performance, 8(1).

Abbott, J. C., Wagle, J. P., Sato, K., Painter, K., Light, T. J., & Stone, M. H. (2020). Validation of Inertial Sensor to Measure Barbell Kinematics across a Spectrum of Loading Conditions. Sports, 8(7), 93.

Sato, K., Carroll, K. M., Wagle, J. P., Lang, H. M., Smith, A. P., Abbott, J. C., ... & Stone, M. H. (2018). Validation of inertial sensor to measure velocity of medicine balls. *Journal of Trainology*, *7*(1), 16-20.

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Teaching Experience

Adjunct Instructor

September 2022 - Current University of Mary Bismark, ND

- Exercise Physiology I – graduate level
- Exercise Physiology II – graduate level

Adjunct Instructor

January 2022 - Current East Tennessee Statue University Johnson City, TN

- Graduate Level Biomechanics Instructor **Instructor**

September 2017 – May 2018 East Tennessee State University Johnson City, TN

- Exercise Physiology I
- Exercise Physiology II
- Structural Kinesiology

Graduate Research Assistant

August 2014 – May 2016 West Chester University West Chester, PA

- Organization and Management of Adult Fitness Programs Clinic/Seminar

Instructor

August 2014 – Dec. 2015 Haverford College Haverford, PA

Awards

2021 Arizona Complex League – Strength Coach of the Year
2020 ETSU Clemmer College Outstanding Dissertation
Recognition by ETSU ROTC for outstanding commitment and service (2019)
Overall Best Poster ETSU Coaches College (2017)
Finalist for MARC ACSM Masters Student Research Award (2016)
Grant - College of Health Sciences Student-Faculty Research Award

Certifications

National Strength and Conditioning Association, Certified Strength and Conditioning Specialist
National Strength and Conditioning Association, Certified Performance Sport Scientist
CPR/AED certification
CRLA Level III Certified Master Tutor