

CHRISTOPHER A. BAILEY, PHD, CSCS*D, RSCC

Clinical Assistant Professor
University of North Texas
Department of Kinesiology, Health Promotion, & Recreation

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EDUCATION

Ph.D. in Sport Physiology and Performance

2014

East Tennessee State University

Dissertation Reference: "Force Production Symmetry During Static, Isometric, and Dynamic Tasks" (2014). *Electronic Theses and Dissertations*. Paper 2388. <http://dc.etsu.edu/etd/2388>
Dissertation Committee: Kimitake Sato (Chair), Michael H. Stone, William A. Sands, Angus Burnett

M.Ed. in Kinesiology

2009

Georgia College and State University

Concentration: Human Performance

Thesis: "Physiological and metabolic responses associated with the Battling Ropes training system"

Thesis Committee: Mike Martino (Chair), Chris Black, Scott Butler

B.S. in Health Education

2006

Georgia College and State University

Concentration: Exercise Science

PROFESSIONAL EXPERIENCE

- Clinical Assistant Professor University of North Texas KHPR (2018 – present)
- Assistant Professor LaGrange College Department of Exercise Science (2014 - 2018)
- LaGrange College Exercise Science Interim Department Chair (2017 - 2018)
- LaGrange College Strength and Conditioning Graduate Program Coordinator (2016 - 2018)
- Sport/Data Scientist EZ-Monitoring, LLC (2016 -)
- Coordinator of LaGrange College SPEED Center (2014 - 2016)
- NSCA Georgia State Director (2015 - 2018)
- ETSU Baseball Strength and Conditioning Coach and Sport Scientist (2011-2014)
- NSCA Tennessee State Director (2013-2014)
- Southeast Regional NSCA Advisory Board Member (2013-2014)
- San Diego Padres Minor League Strength and Conditioning Coach (2010 - 2011)
2010 Season with the Eugene Emeralds 2011 Season with the San Antonio Missions

- Georgia College & State Univ. Grad. Asst. Strength & Conditioning Coach (2007-2009)
- Sports Fitness Experience (SFX) Sports Performance Coach (2007)
- Quality Sports Training (QST) Sports Performance Coach (2006)
- BodyPlex Fitness and Fitness Plus personal trainer (2005-2009)

TEACHING EXPERIENCE

University of North Texas

-Clinical Assistant Professor

- KINE 2010, Fundamentals of Strength and Conditioning, Fall 2019 (multiple sections)
- KINE 3050, Biomechanics, Fall 2019 (Hybrid)
- KINE 4310, Advanced Strength and Conditioning, Fall 2019
- KINE 3050, Biomechanics, May 2019 (Hybrid)
- KINE 5150, Quantitative Procedures in Exercise and Sport Sciences, Spring 2019
- KINE 4320, Exercise Testing and Prescription, Spring 2019
- KINE 2010, Fundamentals of Strength and Conditioning, Spring 2019 (multiple sections)
- KINE 2010, Fundamentals of Strength and Conditioning, Fall 2018
- KINE 4050, Quantitative Analysis in Kinesiology, Fall 2018
- KINE 4320, Exercise Testing and Prescription, Fall 2018
- KINE 5290, Special Topics in Exercise Physiology: Monitoring Athlete Performance, Fall 2018

LaGrange College

-Assistant Professor

- EXCS 2200, Medical Terminology, Spring 2018 (Online)
- EXCS 5360, Research Design, Spring 2018
- EXCS 5613, S&C Practicum IV, Spring 2018
- EXCS 6495, Directed Study: Sports Biomechanics, Spring 2018
- EXCS 6900, S&C Thesis, Spring 2018
- EXCS 6330, Athlete Monitoring, January 2018 (Online)
- EXCS 6330, Athlete Monitoring, Fall 2017
- EXCS 6310, Sport Biomechanics, Fall 2017
- EXCS 6310, Sport Biomechanics, Fall 2017 (Online)
- EXCS 5360, Research Design in S&C, Summer 2017 (Online)
- EXCS 3354, Applied Exercise Anatomy, Summer 2017 (Online)
- EXCS 5360, Research Design in S&C, Spring 2017
- EXCS 4310, Biomechanics of Sport and Exercise, Spring 2017
- EXCS 4380, Senior Seminar in Exercise Science, Spring 2017
- INTM 3515, Baseball's Influence on World History, JTerm 2017 (Online)
- EXCS 6330, Techniques and Methods for Athlete Monitoring, Fall 2016
- EXCS 6330, Techniques and Methods for Athlete Monitoring, Fall 2016 (Online)
- EXCS 3354, Applied Exercise Anatomy, Fall 2016
- EXCS 4360, Research in Exercise Science, Fall 2016
- PEDU 1122, Weight Training, Fall 2016
- EXCS 4330, Techniques in Human Performance Assessment, Fall 2016
- EXCS 4310, Biomechanics of Sport and Exercise, Spring 2016
- EXCS 4312, Theories and Principles in Athletic Conditioning, Spring 2016

- EXCS 4380, Senior Seminar in Exercise Science, Spring 2016
- EXCS 4330, Techniques in Human Performance Assessment, Spring 2016
- EXCS 4495, Ind. Study in Exercise Sci.: Ground Reaction Force Analysis in Football, Spring 2016
- PEDU 1122, Weight Training, Spring 2016
- INTM 3501, Personal Trainer Certification Prep, Interim 2016 (Online)
- EXCS 3354, Applied Exercise Anatomy, Fall 2015
- EXCS 4360, Research in Exercise Science, Fall 2015
- EXCS 2000, Introduction to Exercise Science, Fall 2015
- PEDU 1122, Weight Training, Fall 2015
- EXCS 4310, Biomechanics of Sport and Exercise, Spring 2015
- EXCS 4312, Theories and Principles in Athletic Conditioning, Spring 2015
- EXCS 4380, Senior Seminar in Exercise Science, Spring 2015
- EXCS 4495, Ind. Study in Ex Sci.: Evaluating & Predicting Base Stealing Performance, Fall 2014
- EXCS 3354, Applied Exercise Anatomy, Fall 2014
- EXCS 3354L, Applied Exercise Anatomy Lab, Fall 2014
- EXCS 4330, Techniques in Human Performance Assessment, Fall 2014
- EXCS 4360, Research in Exercise Science, Fall 2014

East Tennessee State University

-Lecturer

- PEXS 3032, Psychomotor Development, Summer 2013 (Online)
- PEXS 4270, Structural Kinesiology, Spring 2013
- PEXS 4061, Exercise and Fitness Testing, Fall 2012
- PHED 1180, Wellness for Life, Spring 2012
- PHED 1180, Wellness for Life, Fall 2011

-Guest Lecturer

- PEXS 4270, Structural Kinesiology, Spring 2014
- PEXS 7000, Research Design and Statistics in Sport Science, Fall 2013
- PEXS 4270, Structural Kinesiology, Fall 2013
- PEXS 4270, Structural Kinesiology, Fall 2012

-Teaching Assistant

- PEXS 4061, Exercise Fitness Testing, Summer 2012
- PEXS 4270, Structural Kinesiology, Summer 2012

Georgia College and State University

-Guest Lecturer

- KINS 6613, Methods of Human Performance Programs I, Spring 2008
- KINS 4203, Exercise Prescription for Normal and Special Populations, Spring 2008
- KINS 3223, Biomechanics of Sport and Exercise, Spring 2009

-Teaching Assistant

- KINS 3262, Exercise Testing for Normal and Special Populations (lab), Fall 2008

NSCA (Exam Prep Live)

- Biomechanics (2016)
- Testing & Evaluation (2016)
- Warm-up & Flexibility, Aerobic Training Modalities (2016)

COURSE DEVELOPMENT

University of North Texas

Generated course curriculum, learning objectives and assessments

- KINE 4310, Advanced Strength and Conditioning, Fall 2019
- KINE 5150, Quantitative Procedures in Kinesiology and Sport Science, Spring 2019
- KINE 4050, Quantitative Analysis in Kinesiology, Fall 2018
- KINE 4320, Exercise Testing and Prescription, Fall 2018
- KINE 2010, Fundamentals of Strength and Conditioning, Fall 2018
- KINE 5290, Special Topics in Exercise Physiology: Monitoring Athlete Performance, Fall 2018

LaGrange College

Generated course curriculum, learning objectives and assessments

- EXCS 6310, Sport Biomechanics (graduate)
- EXCS 6310, Sport Biomechanics (graduate) (online)
- EXCS 5360, Research Design in S&C (graduate)
- EXCS 5360, Research Design in S&C (graduate) (online)
- EXCS 6330, Techniques and Methods for Athlete Monitoring, (graduate)
- EXCS 6330, Techniques and Methods for Athlete Monitoring (graduate) (online)
- INTM 3515, Baseball's Influence on World History (online)
- EXCS 3354, Applied Exercise Anatomy (online)
- INTM 3501, Personal Training Certification Prep (online)(hybrid)
- EXCS 4312, Theories and Principles in Athletic Conditioning
- EXCS 4310, Biomechanics
- EXCS 4380, Senior Seminar in Exercise Science
- EXCS 3354, Applied Exercise Anatomy
- EXCS 4360, Research Design
- EXCS 4330, Techniques for Human Performance Assessment

East Tennessee State University

- PEXS 3032, Psychomotor Development, Summer 2013: developed and adapted course material to be delivered as an online course
- PEXS 5600, Sport Conditioning, Fall 2013: Adapted course material to be delivered as an online course
- PEXS 5610, Sport Physiology I: Muscle Metabolism and Hormonal Control, Fall 2013: Adapted course material to be delivered as an online course

AWARDS/FUNDING

- **Bailey, CA.** "Longitudinal monitoring of lean body mass and bone density and associations with workloads in NCAA Division I basketball players." *NSCA Young Investigator Grant (\$22,917.55) (2019 not funded)*.
- **Bailey, CA.** UNT Faculty First Flight Grant Funded by the Center for Learning, Experimentation, Application, and Research (CLEAR) (\$1,000).

- **Bailey, CA.** "Monitoring of Velocity Based Strength Straining." LaGrange College Summer Research Grant (2017) (\$2,891.40) (*not funded*).
- **Bailey, CA.** "Validation of Velocity Based Strength Straining Measurement via an Inertial Measurement Unit." LaGrange College Summer Research Grant (\$2,939.64) (*not funded*).
- **Bailey, CA,** Sato, K, Burnett, A, and Stone, MH. "Kinetic asymmetry and center of mass displacement during jumps." *Proceedings of the International Society of Biomechanics in Sports (ISBS) annual conference*, Poitiers, France 2015. & **Bailey, CA.** *Optimal Loading and Performance During Strength Training Symposium*. Swiss Federal Institute of Technology in Zurich (ETH Zurich). Zurich, Switzerland 2015. Funded by LaGrange College Summer Research Grant (\$2,925).
- **Bailey, CA,** McInnis, TC, Sato, K, Johnston, BD, Sha, ZX, and Stone, MH. "Is a 20 kg load sufficient to simulate fatigue in squat jumps?" *Presentation at The 9th Annual Coaches and Sport Science College*, Johnson City, TN, 5-6, 2014. \$319.95 travel grant from the LaGrange College Academic Services Committee.
- Bricker, JC, **Bailey, CA,** Driggers, A, McInnis, TC, and Alami, A. "Reliability of a novel method for evaluating and predicting base stealing performance." John R. Hines, Jr. Undergraduate Research Award winner for Applied Science
- Bricker, JC, **Bailey, CA,** Driggers, A, McInnis, TC, and Alami, A. "Reliability of a novel method for evaluating and predicting base stealing performance." *Presentation at The 9th Annual Coaches and Sport Science College*, Johnson City, TN, 5-6, 2014. \$500 student travel grant from the LaGrange College Academic Services Committee.
- **Bailey, C,** Sato, K, Johnston, B, Sands, WA, Burnett, A, and Stone, MH. "Kinetic and kinematic asymmetries during unloaded and loaded static jumps." *Proceedings of the Eighth Annual Coaches and Sport Science College*, Johnson City, TN, 2013 (1st Place award winner for Sport Science) (\$100)
- 2013 International Society of Biomechanics in Sport (ISBS) Student Travel Grant Award, Tapei, Taiwan (Extramural) – 500 Euro (\$645.04 USD)
- Student Travel Scholarship (East Tennessee State University - Intramural) ISBS 2013 (\$816.50)
- Student Travel Scholarship (East Tennessee State University - Intramural) ACSM 2013 (\$387.63)
- Hornsby, WG, **Bailey, CA,** Chiang, CY, Johnston, BJ, Gentles, J, and Stone, MH. "Relationship between isometric force characteristics and hitting performance in NCAA Division I baseball players." *Sixth Annual Coaches and Sport Science College*, Johnson City, TN 2011.) (1st Place award winner for Sport Science)(\$150)
- Georgia College and State University "Outstanding Graduate Student in Human Performance" (2008-2009)
- Georgia College and State University "Outstanding Graduate Student in Kinesiology" (2007-2008)
- Georgia College and State University "Outstanding Senior in Exercise Science" (2005-2006)

PEER REVIEWED PUBLICATIONS

Articles

1. **Bailey, CA.** "Longitudinal Monitoring of Athletes: Statistical Issues and Best Practices." *Journal of Science in Sport & Exercise* (ePub ahead of print, <https://doi.org/10.1007/s42978-019-00042-4>) 2019.
2. Beckham, G, Suchomel, T, Sole, C, **Bailey, CA**, Grazer, J, Talbot, K, Kim, S & Stone, MH. "Influence of Sex and Maximum Strength on Reactive Strength Index-modified." *J Sport Sci Med*, 18(1):65-72, 2019.
3. Driggers, A, Bingham, G, **Bailey, CA.** "The relationship of throwing arm mechanics and elbow varus torque: Letter to the Editor." *American Journal of Sports Medicine* 47(1), 2018.
4. **Bailey, CA**, McInnis, TC, and Batchner, JJ. "Bat Swing Mechanical Analysis with an Inertial Measurement Unit: Reliability and Implications for Athlete Monitoring." *Journal of Trainology*, 5(2), 42-44, 2016.
5. Bricker, JC, **Bailey, CA**, Driggers, A, McInnis, TC, and Alami, A. "A new method for evaluating and predicting base stealing performance." *Journal of Strength and Conditioning Research*, 30(11), 3044:3050, 2016.
6. **Bailey, CA**, Sato, K, Sands, WA, Burnett, A, and Stone, MH. "Carry-over of force production symmetry in athletes of differing strength levels" *Journal of Strength and Conditioning Research*. 29(11), 3188-3196, 2015.
7. **Bailey, CA**, Sato, K, Burnett, A, and Stone, MH. "Force production asymmetry in male and female athletes of differing strength levels." *International Journal of Sport Physiology and Performance*. 10(4), 504-508, 2015.
8. Suchomel, TJ, Sole, CJ, **Bailey, CA**, Grazer, JL, and Beckham, GK. "A comparison of reactive strength index-modified between six U.S. collegiate athletic teams." *Journal of Strength and Conditioning Research*, 29(5), 1310-1316, 2015.
9. Suchomel, TJ, **Bailey, CA**, Sole, CJ, Grazer, JL, and Beckham, GK. "Using reactive strength index-modified as an explosive measurement tool in Division I athletes." *Journal of Strength and Conditioning Research*, 29(4), 899-904, 2015.
10. Suchomel, TJ, **Bailey, CA.** "Monitoring and managing fatigue in baseball players." *Strength and Conditioning Journal*. 36(6), 39-45, 2014.
11. Bazzyler, C, **Bailey, CA**, Chiang, CY, Sato, K, Stone, MH. "The effects of strength training on isometric force production symmetry in recreational athletes." *Journal of Trainology*, 3(1), 6-10, 2014.
12. **Bailey, CA**, Sato, K, Alexander, R, Chiang, C, Stone, MH. "Isometric force production symmetry and jumping performance in college athletes." *Journal of Trainology*, 2(1), 1-5, 2013.

Under review

1. **Bailey, CA**, McInnis, TC, Nilson, KW, Batchner, JJ, North, TR. "Asymmetry direction and magnitude appear to be dependent on task in collegiate baseball players." (submitted)

2. **Bailey, CA**, Sato, K. "Simulating fatigue in squat jumps: A preliminary investigation." (revisions submitted)

Works in Preparation

1. Nilson, KW, **Bailey, CA**. "Alterations in jump performance based upon varying warm-up techniques."
2. Brown, DB, **Bailey, CA**. "Associations between tennis serve velocity and countermovement jump performance."
3. Brown, DF, Nilson, KW, Batchner, JJ, North, TR, Raszeja, NJ and **Bailey, CA**. "A comparison of explosive characteristics in NCAA Division III athletes."
4. **Bailey, CA**, McInnis, TC. "Data-Driven Development in Sport Performance."
5. **Bailey, CA**, and McInnis, TC. "Changes in explosive ground reaction force characteristics across an entire macrocycle in collegiate baseball players."

Published Peer Reviewed Conference Proceedings

1. Eusufzai, R. and **Bailey, CA**. "Predicting ball exit velocity with an inertial measurement unit in collegiate baseball players." *Journal of Strength and Conditioning Research*, proceedings of the NSCA National Conference, Washington DC 2019.
2. **Bailey, CA**, McInnis, TC, Nilson, KW, Batchner, JJ, and North, T. "Bat swing ground reaction force characteristics and ball exit velocity in collegiate baseball players." *Journal of Strength and Conditioning Research*, proceedings of the NSCA National Conference, Indianapolis, IN 2018.
3. **Bailey, CA**, McInnis, TC, Nilson, KW, Batchner, JJ, North, T. "Force production asymmetry is task dependent in collegiate baseball players." *Journal of Strength and Conditioning Research*, proceedings of the NSCA National Conference, Indianapolis, IN 2018.
4. Beckham, G., Suchomel, TJ, Sole, CJ, **Bailey, CA**, Grazer, J, Kim, S, Talbot, K, and Stone, MH. "Influence of sex and maximal strength on reactive strength index-modified." *Journal of Strength and Conditioning Research*, proceedings of the NSCA National Conference, Indianapolis, IN 2018.
5. **Bailey, CA**, Driggers, AR. "Segmental multi-frequency bioelectrical impedance body composition analysis in major league baseball players: Implications for athlete monitoring." *Journal of Strength and Conditioning Research*, proceedings of the NSCA National Conference, Las Vegas, NV 2017.
6. Raszeja, N, Anderson, K, McInnis, T, **Bailey, CA**. "Ground reaction force analysis in football blocking." *Journal of Strength and Conditioning Research*, proceedings of the NSCA National Conference, Las Vegas, NV 2017.
7. Batchner, JJ, Nilson, KW, North, TR, Brown, D, Raszeja, NJ, & **Bailey, CA**. "Validation of jump performance measures assessed with field-based instruments and implications for athlete monitoring." *Journal of Strength and Conditioning Research*, proceedings of the NSCA National Conference, Las Vegas, NV 2017.

8. **Bailey, CA**, McInnis, TC, Batcher, JJ. "Utilizing an Inertial measurement unit for measuring bat swing mechanics: within and between session reliability." *Journal of Strength and Conditioning Research*, 30(s1), 137-38, 2016.
9. Batcher, JJ, Raszeja, N, Embry, TC, **Bailey, CA**. "Associations between performance measures of vertical jumping and bat swing mechanics." *Journal of Strength and Conditioning Research*, 30(s1), 15-16, 2016.
10. **Bailey, CA**, McInnis, TC, Alami, A, Ralph, R. "Better students, better athletes, better coaches: a model for increasing performance by integrating academics and athletics." Proceedings of the 10th Annual Coaches and Sport Science College, Johnson City, TN, 11-12, 2015.
11. **Bailey, CA**, Sato, K, Burnett, A, and Stone, MH. "Kinetic asymmetry and center of mass displacement during jumps." *Proceedings of the International Society of Biomechanics in Sports (ISBS) annual conference*, Poitiers, France 2015.
12. **Bailey, CA**, McInnis, TC, Sato, K, Johnston, BD, Sha, ZX, and Stone, MH. "Is a 20 kg load sufficient to simulate fatigue in squat jumps?" *Proceedings of the 9th Annual Coaches and Sport Science College*, Johnson City, TN, 5-6, 2014.
13. Bricker, JC, **Bailey, CA**, Driggers, A, McInnis, TC, and Alami, A. "Reliability of a novel method for evaluating and predicting base stealing performance." *Proceedings of the 9th Annual Coaches and Sport Science College*, Johnson City, TN, 5-6, 2014.
14. **Bailey, CA**, Bazylar, C, Chiang, CY, Sato, K, and Stone, MH. "The relationship of force production asymmetry and performance in athletes of different strength levels." *Proceedings of the International Society of Biomechanics in Sports (ISBS) annual conference*, Johnson City, TN, USA 2014.
15. **Bailey, CA**, Suchomel, TJ, Beckham, GK, Sole, CJ, and Grazer, JL. "A comparison of baseball positional differences with Reactive Strength Index-modified." *Proceedings of the International Society of Biomechanics in Sports (ISBS) annual conference*, Johnson City, TN, USA 2014.
16. Suchomel, TJ, **Bailey, CA**, Sole, CJ, Grazer, JL, and Beckham, GK. "The use of Reactive Strength Index-modified as an explosive performance measurement in male and female athletes." *Proceedings of the International Society of Biomechanics in Sports (ISBS) annual conference*, Johnson City, TN, USA 2014. (New Investigator Award Finalist)
17. Chiang, CY, **Bailey, CA**, Sole, CJ, Suchomel, TJ, Sato, K, and Stone, MH. Leg dynamic strength predictors of a pre-planned change of direction task in Division I soccer players. *Proceedings of the International Society of Biomechanics in Sports (ISBS) annual conference*, Johnson City, TN, USA 2014.
18. Sha, Z, **Bailey, CA**, McInnis, TC, Sato, K, Stone, MH. Using kinetic isometric mid-thigh pull variables to predict Division I male sprinters' 60m performance. *Proceedings of the International Society of Biomechanics in Sports (ISBS) annual conference*, Johnson City, TN, USA 2014.
19. Suchomel, TJ, Sole, CJ, **Bailey, CA**, Grazer, JL, and Beckham, GK. "Reactive Strength Index-modified: A comparison between six U.S. collegiate athletic teams." *Proceedings of the International Society of Biomechanics in Sports (ISBS) annual conference*, Johnson City, TN, USA 2014.

20. Beckham, GK, Suchomel, TJ, **Bailey, CA**, Sole, CJ, and Grazer, JL. "The relationship of Reactive Strength Index-modified and measures of force development in the isometric mid-thigh pull." *Proceedings of the International Society of Biomechanics in Sports (ISBS) annual conference*, Johnson City, TN, USA 2014.
21. Chiang, CY, Sato, K, **Bailey, CA**, Sole, CJ, Suchomel, TJ, Alexander, RP, Sayers, AL, Sands, WA, and Stone, MH. "Is change of direction ability related to vertical jump height in female soccer players?" *ACSM Annual Conference*, Orlando, FL. 2014 *Med Sci Sports Exerc* 46(5s).
22. **Bailey, CA**, Sato, K, Johnston, B, Sands, WA, Burnett, A, and Stone, MH. "Kinetic and kinematic asymmetries during unloaded and loaded static jumps." *Proceedings of the Eighth Annual Coaches and Sport Science College*, Johnson City, TN, 8-10, 2013.
23. **Bailey, CA**, Suchomel, T, Beckham, G, McInnis, T, Driggers, A, Haun, C, Sato, K, and Stone, MH. "A comparison of baseball and softball players' bilateral strength asymmetry and its relationship with performance." *Proceedings of the Eighth Annual Coaches and Sport Science College*, Johnson City, TN, 5-7, 2013.
24. Sha, ZX, Sato, K, Stamps, H, Alexander, R, **Bailey, CA**, McInnis, T, Johnston, B, Ramsey, MW, Stone, ME, and Stone, MH. "Relationships of sprint intervals to 60 m sprint performance in NCAA Division I sprinters: an exploratory study." *Proceedings of the Eighth Annual Coaches and Sport Science College*, Johnson City, TN, 25-27, 2013.
25. Beckham, G, Sato, K, Suchomel, T, Chiang, CY, Gleason, B, Sands, WA, **Bailey, CA**, Stone, MH. The application of accelerometry to weightlifting: Current challenges. *Proceedings of the Eighth Annual Coaches and Sport Science College*, Johnson City, TN, 14-16, 2013.
26. **Bailey, CA**, Sato, K, Heise, G. "Frontal plane knee displacement in barbell back squat." In: TY Shiang, WH Ho, CF Huang, and CL Tsai, eds. *Proceedings of the International Society of Biomechanics in Sports (ISBS) annual conference*, Taipei, Taiwan. Also in: *Chinese Journal of Sports Biomechanics*, 5(S1), 434-37, 2013.
27. **Bailey, CA**, Sato, K, Hornsby, WG, and Stone, MH. "Predicting offensive performance in collegiate baseball players using isometric force production characteristics." In: TY Shiang, WH Ho, CF Huang, and CL Tsai, eds. *Proceedings of the 31st International Society of Biomechanics in Sports (ISBS) annual conference*, Taipei, Taiwan. Also in: *Chinese Journal of Sports Biomechanics*, 5(S1), 448-51, 2013.
28. **Bailey, CA**, Sato, K, and Stone, MH. "Bilateral strength asymmetry and weight distribution in NCAA Division I baseball players." *Medicine and Science in Sports and Exercise*, 45 (5s), 2013.
29. Sato, K, **Bailey, CA**, Alexander, R, Mizuguchi, S, Stone, ME, Stone, MH. "Preliminary Study: Bilateral strength asymmetry characteristics of collegiate men's and women's soccer players." *International Conference on Strength Training*, Oslo, Norway 2012. *Published in ICST conference proceedings 2012*.

PRESENTATIONS

Invited Presentations

1. **Bailey, CA.** "How Can Strength Coaches Use Wireless Technology to Track and Improve Athletic Performance?" NSCA Nebraska State Clinic. College of St. Mary. Omaha, NE 2019.
2. **Bailey, CA & McInnis, TC.** "Athlete monitoring and performance analytics on a low (or no) budget." *NSCA National Conference*. Las Vegas, NV 2017.
3. **Bailey, CA & McInnis, TC.** "Athlete monitoring and performance analytics on a low (or no) budget." *NSCA Georgia State Clinic*. Armstrong State University, Savannah, GA 2016.
4. **Bailey, CA.** *Swiss Strength Training Symposium*. "Athlete monitoring throughout strength and conditioning programs." Swiss Federal Institute of Technology in Zurich (ETH Zurich). Zurich, Switzerland 2015.
5. **Bailey, CA.** *Blackhawk Strength, Speed and Agility Clinic*. (Multiple topics). Weaverville, NC 2014.
6. **Bailey, CA.** "Designing strength and conditioning programs for team sports." *Sport and Coaching Science Conference*. Taipei, Taiwan 2013.
7. **Bailey, CA.** "Assessing jump performance in tennis: Indications for tennis performance and athlete monitoring." *Integration Sport*, 2012.

Tutorials

1. **Bailey, CA & McInnis, TC.** "Athlete monitoring and performance analytics 101." *20th National Coaching Conference*, Atlanta, GA 2017.
2. Sato, K & **Bailey, CA.** "Use of bilateral asymmetry tests for rehabilitation and athlete monitoring purposes." *Southeast Regional American College of Sports Medicine Annual Meeting*, Greenville, SC 2017.

Oral Research Presentations

1. **Bailey, CA, McInnis, TC, Nilson, KW, Batchner, JJ, and North, T.** "Bat swing ground reaction force characteristics and ball exit velocity in collegiate baseball players." *Journal of Strength and Conditioning Research*, proceedings of the NSCA National Conference, Indianapolis, IN 2018.
2. Beckham, G., Suchomel, TJ, Sole, CJ, **Bailey, CA**, Grazer, J, Kim, S, Talbot, K, and Stone, MH. "Influence of sex and maximal strength on reactive strength index-modified." *Journal of Strength and Conditioning Research*, proceedings of the NSCA National Conference, Indianapolis, IN 2018.
3. **Bailey, CA**, Sato, K, Burnett, A, and Stone, MH. "Kinetic asymmetry and center of mass displacement during jumps." *International Society of Biomechanics in Sports (ISBS) annual conference*, Poitiers, France 2015.
4. **Bailey, CA**, Bazylar, C, Chiang, CY, Sato, K, and Stone, MH. "The relationship of force production asymmetry and performance in athletes of different strength levels." *International Society of Biomechanics in Sports (ISBS) annual conference*, Johnson City, TN, USA 2014.

5. Chiang, CY, **Bailey, CA**, Sole, CJ, Suchomel, TJ, Sato, K and Stone, MH. "Leg dynamic strength predictors of a pre-planned change of direction task in NCAA Division I soccer players" *International Society of Biomechanics in Sports (ISBS) annual conference*, Johnson City, TN, USA 2014.
6. Sha, Z, **Bailey, CA**, McInnis, TC, Sato, K, Stone, MH. Using kinetic isometric mid-thigh pull variables to predict Division I male sprinters' 60m performance. *International Society of Biomechanics in Sports (ISBS) annual conference*, Johnson City, TN, USA 2014.
7. **Bailey, CA**, Sato, K, Heise, G. "Frontal plane knee displacement in the barbell back squat." *International Society of Biomechanics in Sports (ISBS) annual conference*. Taipei, Taiwan 2013.
8. **Bailey, CA**, Sato, K, and Hornsby, WG. "Predicting offensive performance from isometric strength characteristics in NCAA Division I Baseball players." *International Society of Biomechanics in Sports (ISBS) annual conference*. Taipei, Taiwan 2013.
9. Sato, K, **Bailey, CA**, Alexander, R, Mizuguchi, S, Stone, ME, Stone, MH. "Preliminary Study: Bilateral strength asymmetry characteristics of collegiate men's and women's soccer players." *International Conference on Strength Training*, Oslo, Norway 2012.
10. **Bailey, CA**, Sato, K, Johnston, B, Sha, Z, and Stone, MH. "Isometric rate of force development and kinematic changes during weighted static jumps in collegiate baseball players." *Southeast Regional American College of Sports Medicine Annual Meeting*, Greenville, SC 2014. *SEACSM 2014 was cancelled due to inclement winter weather*.
11. Gentles, JA, Johnston, BJ, Hornsby, WG, **Bailey, CA**, MacDonald, CM, and Stone, MH. "Reducing injury is not enough: It also helps to win." *Seventh Annual Coaches and Sport Science College*, Johnson City, TN 2012.
12. **Bailey, CA**, Martino, M, Black, C. "Physiological and metabolic responses associated with the Battling Ropes training system." *Georgia College and State University Research Conference*, 2009.

Poster Research Presentations

1. Eusufzai, R. and **Bailey, CA**. "Predicting ball exit velocity with an inertial measurement unit in collegiate baseball players." *Journal of Strength and Conditioning Research*, proceedings of the NSCA National Conference, Washington DC 2019.
2. **Bailey, CA**, McInnis, TC, Nilson, KW, Batcher, JJ, North, T. "Force production asymmetry is task dependent in collegiate baseball players." *Journal of Strength and Conditioning Research*, proceedings of the NSCA National Conference, Indianapolis, IN 2018.
3. Joyner, CE, **Bailey, CA**. "Force production asymmetry and jumping performance in baseball players." *Southeast Regional American College of Sports Medicine Annual Meeting*, Chattanooga, TN 2018.
4. Rogers, SC, McInnis, TC, **Bailey, CA**. "Relationships between ground reaction forces during vertical jumping and baseball performance." *Southeast Regional American College of Sports Medicine Annual Meeting*, Chattanooga, TN 2018.

5. Wright, AD, McInnis, TC, **Bailey, CA**. "The effectiveness of a collegiate strength and conditioning program in NCAA Division III baseball players." *Southeast Regional American College of Sports Medicine Annual Meeting*, Chattanooga, TN 2018.
6. **Bailey, CA**, Driggers, AR. "Segmental multi-frequency bioelectrical impedance body composition analysis in major league baseball players: Implications for athlete monitoring." *Journal of Strength and Conditioning Research*, proceedings of the NSCA National Conference, Las Vegas, NV 2017.
7. Raszeja, N, Anderson, K, McInnis, T, **Bailey, CA**. "Ground reaction force analysis in football blocking." *Journal of Strength and Conditioning Research*, proceedings of the NSCA National Conference, Las Vegas, NV 2017.
8. Batcher, JJ, Nilson, KW, North, TR, Brown, D, Raszeja, NJ, & **Bailey, CA**. "Validation of jump performance measures assessed with field-based instruments and implications for athlete monitoring." *Journal of Strength and Conditioning Research*, proceedings of the NSCA National Conference, Las Vegas, NV 2017.
9. Edwards, BT, King, T, Swift, J, Theam, O, **Bailey, CA**. Reaction time as a significant measure in baseball. LaGrange College Undergraduate Research Poster Session LaGrange, GA, 2017.
10. Norman, TL, Nilson, KW, **Bailey, CA**. Coefficient of static and dynamic friction in wide receiver gloves. LaGrange College Undergraduate Research Poster Session LaGrange, GA, 2017.
11. Smyth, P, Meigs, D, Osborne, M, **Bailey, CA**. Effects of Water vs. Gatorade on Athlete Performance. LaGrange College Undergraduate Research Poster Session LaGrange, GA, 2017.
12. Young, CS, Coggins, AE, McInnis, TC, **Bailey, CA**. Similarities in jumping and weightlifting performance. LaGrange College Undergraduate Research Poster Session LaGrange, GA, 2017.
13. Lovins, KC, Cauldwell, EE., McInnis, TC, **Bailey, CA**. Change in center of pressure position at takeoff and landing as a measure of jump control in athlete Monitoring. *Southeast Regional American College of Sports Medicine Annual Meeting*, Greenville, SC 2017.
14. Lewis, KD, Norman, TL, McInnis, TC, **Bailey, CA**. "The influence of weightlifting shoes on center of pressure change during the snatch and clean in novice weightlifters." *Southeast Regional American College of Sports Medicine Annual Meeting*, Greenville, SC 2017.
15. Cauldwell, EE, Lovins, KC, Bellon, CR, McInnis, TC, and **Bailey, CA**. "Does the type of scaling influence the relationship between strength and jumping performance?" *Southeast Regional American College of Sports Medicine Annual Meeting*, Greenville, SC 2017.
16. Marcelin, M., Morgan, CB, Bellon, CR, McInnis, TC, and **Bailey, CA**. "Distance running and jumping performance in NCAA DIII Athletes. *Southeast Regional American College of Sports Medicine Annual Meeting*, Greenville, SC 2017.

17. Norman, TL, McInnis, TC, **Bailey, CA**. "Impact of early morning practice on sleep quantity in the collegiate athlete." *Southeast Regional American College of Sports Medicine Annual Meeting*, Greenville, SC 2017
18. Jacobsen, K, Theam, O, Edwards, BT, Alami, A, **Bailey, CA**. "Is chronological age or training age a better predictor of performance in collegiate golf?" *Southeast Regional American College of Sports Medicine Annual Meeting*, Greenville, SC 2017.
19. Coggins, AE, Young, CS, McInnis, TC and **Bailey, CA**. "Lower body power differences between positions in collegiate cheerleaders." *Southeast Regional American College of Sports Medicine Annual Meeting*, Greenville, SC 2017.
20. **Bailey, CA**, McInnis, TC, Batchner, JJ. "Utilizing an inertial measurement unit for measuring bat swing mechanics: within and between session reliability." NSCA National Conference, New Orleans, LA 2016.
21. Batchner, JJ, Raszeja, N, Embry, TC, **Bailey, CA**. "Associations between performance measures of vertical jumping and bat swing mechanics." NSCA National Conference, New Orleans, LA 2016.
22. Batchner, JJ, Nilson, KW, North, TR, Brown, D, Raszeja, NJ, & **Bailey, CA**. "Validation of jump performance measures assessed with various instruments and implications for athlete monitoring." *National Strength and Conditioning Association GA State Clinic*, Savannah, GA 2016.
23. Batchner, JJ and **Bailey, CA**. "Bat swing analysis with the ZEPP Sensor." *Southeast Regional American College of Sports Medicine Annual Meeting*, Greenville, SC 2016.
24. Nix, MK and **Bailey, CA**. "Associations between psychological mood states and sleep quality in NCAA Division III softball players." *Southeast Regional American College of Sports Medicine Annual Meeting*, Greenville, SC 2016.
25. Scruggs, JW, Murrah, SJ, and **Bailey, CA**. "Alterations in body mass and vertical jump height throughout a collegiate baseball season." *Southeast Regional American College of Sports Medicine Annual Meeting*, Greenville, SC 2016.
26. Raszeja, N, Anderson, K, McInnis, T, **Bailey, CA**. "Vertical ground reaction force analysis of football blocking." LaGrange College Undergraduate Research Poster Session LaGrange, GA, 2016.
27. Calhoun, N, **Bailey, CA**. "The Prevalence of Overuse Injuries in NCAA Division III Athletics." LaGrange College Undergraduate Research Poster Session LaGrange, GA, 2016.
28. Batchner, JJ, Raszeja, N, Embry, TC, **Bailey, CA**. "Associations Between Performance Measures of Vertical Jumping and Bat Swing Mechanics." LaGrange College Undergraduate Research Poster Session LaGrange, GA, 2016.
29. Jenkins, AE, **Bailey, CA**. "Does arm length affect arm injuries in baseball." LaGrange College Undergraduate Research Poster Session LaGrange, GA, 2016.
30. Kreulen, J, **Bailey, CA**. "Academics, athletics, exercise and sleep in college students." LaGrange College Undergraduate Research Poster Session LaGrange, GA, 2016.
31. Gravett, D, Oglesby, K, Murrah, SJ, **Bailey, CA**. "Hand arm path lengths while throwing." LaGrange College Undergraduate Research Poster Session LaGrange, GA, 2016.

32. **Bailey, CA**, McInnis, TC, Alami, A, Ralph, R. "Better students, better athletes, better coaches: a model for increasing performance by integrating academics and athletics." Proceedings of the 10th Annual Coaches and Sport Science College, Johnson City, TN, 11-12, 2015.
33. Bricker, JC, **Bailey, CA**, Driggers, A, McInnis, TC, and Alami, A. "Reliability of a novel method for evaluating and predicting base stealing performance." Proceedings of the 10th Annual Coaches and Sport Science College, Johnson City, TN, 11-12, 2015
34. **Bailey, CA**, Suchomel, TJ, Beckham, GK, Sole, CJ, and Grazer, JL. "A comparison of baseball positional differences with Reactive Strength Index-modified." *International Society of Biomechanics in Sports (ISBS) annual conference*, Johnson City, TN, USA 2014.
35. Suchomel, TJ, **Bailey, CA**, Sole, CJ, Grazer, JL, and Beckham, GK. "The use of Reactive Strength Index-modified as an explosive performance measurement in male and female athletes." *International Society of Biomechanics in Sports (ISBS) annual conference*, Johnson City, TN, USA 2014. (New Investigator Award Finalist)
36. Suchomel, TJ, Sole, CJ, **Bailey, CA**, Grazer, JL, and Beckham, GK. "Reactive Strength Index-modified: A comparison between six U.S. collegiate athletic teams." *International Society of Biomechanics in Sports (ISBS) annual conference*, Johnson City, TN, USA 2014.
37. Beckham, GK, Suchomel, TJ, **Bailey, CA**, Sole, CJ, and Grazer, JL. "The relationship of Reactive Strength Index-modified and measures of force development in the isometric mid-thigh pull." *International Society of Biomechanics in Sports (ISBS) annual conference*, Johnson City, TN, USA 2014.
38. Chiang, CY, Sato, K, **Bailey, CA**, Sole, CJ, Suchomel, TJ, Alexander, RP, Sayers, AL, Sands, WA, and Stone, MH. "Is change of direction ability related to vertical jump height in female soccer players?" *ACSM Annual Conference*, Orlando, FL 2014.
39. Bricker, JC, **Bailey, CA**, Driggers, A, McInnis, TC, and Alami, A. "Reliability of a novel method for evaluating and predicting base stealing performance." *The 9th Annual Coaches and Sport Science College*, Johnson City, TN, 8-10, 2014.
40. **Bailey, CA**, McInnis, TC, Sato, K, Johnston, BD, Sha, ZX, and Stone, MH. "Is a 20 kg load sufficient to simulate fatigue in squat jumps?" *The 9th Annual Coaches and Sport Science College*, Johnson City, TN, 8-10, 2014.
41. Beckham, GK, Suchomel, TJ, **Bailey, CA**, Sole, CJ and Stone, MH. "The influence of sex on reactive strength index-modified (RSImod)." *33rd Annual Southwest Regional American College of Sports Medicine Annual Meeting*, Costa Mesa, California 2014.
42. **Bailey, CA**, Sato, K, and Stone, MH. "Bilateral strength asymmetry and weight distribution in NCAA Division I baseball players." *American College of Sports Medicine Annual Meeting*, Indianapolis, IN 2013.
43. **Bailey, CA**, Sato, K, Johnston, B, Sands, WA, Burnett, A, and Stone, MH. "Kinetic and kinematic asymmetries during unloaded and loaded static jumps." *Proceedings of the Eighth Annual Coaches and Sport Science College*, Johnson City, TN 2013
44. **Bailey, CA**, Suchomel, T, Beckham, G, McInnis, T, Driggers, A, Haun, C, Sato, K, and Stone, MH. "A comparison of baseball and softball players' bilateral strength asymmetry

and its relationship with performance.” *Proceedings of the Eighth Annual Coaches and Sport Science College*, Johnson City, TN 2013.

45. **Bailey, CA**, Sato, K, Alexander, RP, Chiang, CY, Gray, HS, Mizuguchi, S, and Stone, MH. “Force production symmetry in NCAA Division I soccer players.” *Southeast Regional American College of Sports Medicine Annual Meeting*, Greenville, SC 2013.
46. Hornsby, WG, **Bailey, CA**, Chiang, CY, Johnston, BJ, Gentles, JA, and Stone, MH. “Relationship between isometric force characteristics and hitting performance in NCAA Division I baseball players.” *Sixth Annual Coaches and Sport Science College*, Johnson City, TN 2011.
47. **Bailey, CA**, Martino, M, Black, C, Butler, S. “Physiological and metabolic responses associated with the Battling Ropes training system.” *Southeast Regional American College of Sports Medicine Annual Meeting*, Greenville, SC 2010.

SUPERVISED STUDENT RESEARCH

1. Coniglio, Christine (2018/ongoing) – “GPS and accelerometry derived training loads in collegiate volleyball” – (Dissertation Committee Member)
2. Norman, Luke (2018/2019) – “Bilateral Deficit in Jumping Performance of Collegiate Athletes” (Graduate Thesis Committee Member)
3. Nilson, Ken (2017/2018) – “Alterations in jump performance based upon varying warm-up techniques” (Graduate Thesis Chair/Coordinator)
4. Brown, Dale (2017/2018) – “Kinetics and kinematics of various types of tennis serve in collegiate athletes” (Graduate Thesis Chair/Coordinator)
5. Bloodworth, Ashlan, Cauldwell, Emily, Lovins, Kaitlin, and Porter, Lea Ann (2017/2018) – “Pet Therapy and Athletics: Does the presence of dogs in the weight room influence objective and subjective athlete monitoring data?” (Faculty Supervisor)
6. Joyner, Chandler (2017/2018) – “Force production asymmetry and jumping performance in baseball players” (Faculty Supervisor)
7. Rogers, Stanton (2017/2018) – “Relationships between ground reaction forces during vertical jumping and baseball performance” (Faculty Supervisor)
8. Chafin, Ashley (2017/2018) – “Body composition and performance during strength and endurance related tasks. (Faculty Supervisor)
9. Marcelin, Mackens, Morgan, Corey (2016/2017) – “Distance running and jumping performance in NCAA DIII athletes” (Faculty Supervisor)
10. Theam, Osborn, Edwards, Blakely (2016/2017) – “Is chronological age or training age a better predictor of performance in collegiate golf?” (Faculty Supervisor)
11. Lovins, Katilin, Caudlwell, Emily (2016/2017) – “Change in center of pressure position at takeoff and landing as a measure of jump control in athlete monitoring.” (Faculty Supervisor)
12. Lewis, Kelsey, Norman, Timothy (2016/2017) – “The influence of weightlifting shoes on center of pressure change during the snatch and clean in novice weightlifters.” (Faculty Supervisor)

13. Cauldwell, Emily, Lovins, Kaitlin (2016/2017) – “Does the type of scaling influence the relationship between strength and jumping performance?” (Faculty Supervisor)
14. Batcher, Justin, Nilson, Kenneth, North, Trey, Brown, Dale, and Raszeja, Nicholas (2016/2017) (graduate) – “Validation of jump performance measures assessed with various instruments and implications for athlete monitoring.” (Faculty Supervisor)
15. Norman, Luke, Holmes, Jamarkis, Goodin, Pat, Morgan, Corey, and Lampkin, Blair (2016/2017) (Undergraduate) – “Changes in coefficient of static and dynamic friction in wide receiver’s gloves.” LaGrange College (Faculty Supervisor)
 - a. John R. Hines, Jr. Undergraduate Research Award winner for Applied Science
16. Edwards, Ty, Theam, Osborn, King, Toby, and Swift, Blane (2016/2017) (undergraduate) – “The influence of reaction time on sprinting performance.” LaGrange College (Faculty Supervisor)
17. Coggins, Aspen and Young, Chelsea (2016/2017) (Undergraduate) – “Similarities in jumping and weightlifting performance.” LaGrange College (Faculty Supervisor)
18. Smyth, Paige, Meigs, Denney, and Osborne, Michaela (2016/2017) (Undergraduate) – “The effects of water vs Gatorade on sprinting performance.” LaGrange College (Faculty Supervisor)
19. Hernandez, Celestino, Marcelin, Mikee, and Maxwell, James (2016/2017) (Undergraduate) – “The effects of sleep and stress on general fitness.” LaGrange College (Faculty Supervisor)
20. Stephens, Kathryn (2016/2017) (Undergraduate) – “Attitudes about performance nutrition amongst college students.” LaGrange College (Faculty Supervisor)
21. Nicholas Raszeja (2015/2016) (Undergraduate) – “Vertical ground reaction force analysis of football blocking.” LaGrange College (Faculty Supervisor)
22. Jennifer Kreulen (2015/2016) (Undergraduate) – “Trends and associations between students’ academic and athletic workloads, outside stressors, sleep quality, time management and participation in exercise.” LaGrange College (Faculty Supervisor)
23. Mary Kate Nix (2015/2016) (Undergraduate) – “Associations between psychological mood states and sleep quality in NCAA Division III softball players.” LaGrange College (Faculty Supervisor)
24. Will Scruggs and Samantha Murrah (2015/2016) (Undergraduate) – “Alterations in body mass and vertical jump height throughout a collegiate baseball season.” LaGrange College (Faculty Supervisor)
25. Nikeja Calhoun (2015/2016) (Undergraduate) – “The prevalence of overuse injuries in multiple NCAA Division III sports.” LaGrange College (Faculty Supervisor)
26. Anthony Jenkins (2015/2016) (Undergraduate) – “Overuse injuries in Major League Baseball: the role of pitching anthropometrics and biomechanics in predicting injury.” LaGrange College (Faculty Supervisor)

27. Justin Batchter, Thomas Embry and Nicholas Raszeja (2015/2016) (Undergraduate) – “Associations between bat swing and jumping kinetic and kinematic variables.” LaGrange College (Faculty Supervisor)
28. Danielle Gravett, Kalin Ogelsby, and Samantha Murrah (2015/2016) (Undergraduate) – “A performance comparison of two softball throwing styles.” LaGrange College (Faculty Supervisor)
29. Joshua Bricker (2014/2015) (Undergraduate) – “Reliability of a novel method for evaluating and predicting base stealing performance.” LaGrange College (Faculty Supervisor)
 - a. John R. Hines, Jr. Undergraduate Research Award winner for Applied Science

SUPERVISED INTERNSHIPS

1. Nicholas Raszeja (Spring 2016) – Sport Performance Enhancement Education and Development (SPEED) Center intern. Internship focus: athlete monitoring, strength and conditioning and sport performance assessment and enhancement.
2. Jordan Conner (Spring 2015) – Sport Performance Enhancement Education and Development (SPEED) Center intern. Internship focus: athlete monitoring, strength and conditioning and sport performance assessment and enhancement.
3. Justin Batchter (JanTerm 2015) – Sport Performance Enhancement Education and Development (SPEED) Center intern. Internship focus: athlete monitoring, strength and conditioning and sport performance assessment and enhancement.
4. James Reed (JanTerm 2015) – Sport Performance Enhancement Education and Development (SPEED) Center intern. Internship focus: athlete monitoring, strength and conditioning and sport performance assessment and enhancement.
5. Tyler Brooks (Fall 2014) – Sport Performance Enhancement Education and Development (SPEED) Center intern. Internship focus: strength and conditioning and sport performance assessment and enhancement.

RESEARCH ASSISTANT

- Acute responses of implementing pulsatile compression recovery sessions on weightlifting performance.
- Reactive strength index characteristics of NCAA Division I athletes.
- Kinematic analysis of acceleration phase in NCAA Division I sprinters and relationships with maximal strength characteristics.
- Physical performance characteristics of Army ROTC Cadets and relationships with APFT performance
- Post activation potentiation and electromyography associated with eccentric accentuated loading during barbell back squats.
- Volume load and training intensity with and without exercise displacement.
- Change of direction performance associated with various periodized training plans in male and female soccer athletes.

- The effects of vertically oriented resistance training on golf swing performance variables.
- The role of post-activation potentiation on countermovement jump performance following a supramaximal back squat.
- Movement screening normative ranges for various NCAA Division II sports.

EQUIPMENT, TECHNOLOGY, AND LABORATORY SKILLS

Equipment

- Accelerometry assessment (Myotest and PASCO)
- Biopac MP36 surface electromyography
- Brower Timing Systems
- Cardiac Science Quinton treadmill and EKG
- COSMED BODPOD air displacement plethysmography
- digital cameras
- force plate measurement (uni- and multi-planar, AMTI, Bertec, Fitness Technology, PASCO, Rice Lake)
- hydration testing (refractometry)
- lactate assessment
- Noraxon TELEMYO 2400R G2 (wireless surface electromyography)
- Parvomedics Trueone 2400 Metabolic Measurement System
- Polar heart rate monitoring
- Potentiometers
- Probotics just jump system
- Skinfold calipers/assessment
- Sony Smart Sensor (IMU)
- Vertec vertical jump assessment
- Vicon Nexus 3D motion capture
- ZEPP swing analysis sensor (IMU)

Software & Programming Languages

- AMTI - Accupower software
- Bertec Data Acquisition
- Fitness Technology Ballistic Measurement System (BMS)
- Kinovea motion analysis software
- Graphic/design software (Adobe Photoshop, Gimp 2.8.14)
- Labview
- Microsoft Excel, PowerPoint, Word
- MyoResearch (Noraxon EMG analysis software)
- PASCO Scientific DataStudio and Capstone (kinetic and kinematic data analysis software)
- R (Statistical Computing Software), RStudio, Shiny
- SPSS (statistical package)
- SQL
- Vicon Nexus (ver. 1.85) (3D motion analysis)

Teaching Software

- Canvas (LMS)
- Connect (LMS)

- Desire 2 Learn (LMS)
- educannon (Web 2.0 online learning interactive video lessons)
- iClicker classroom polling
- Microsoft Excel, PowerPoint, Word
- Moodle (Learning House)(LMS)
- Turnitin (plagiarism detection software)

ACADEMIC APPOINTMENTS AND COMMITTEES

- UNT KHPR Graduate Curriculum Committee (2019 -)
- UNT KHPR Activity Program Committee (2018 –)
- LaGrange College Exercise Science Interim Department Chair (2017 - 2018)
- LaGrange College Academic Council (2017-2018)
- LaGrange College Graduate Council (2016 - 2018)
- LaGrange College Development and Evaluation Committee (2016 - 2018)
- Servant Scholars Task Force (2015/2016)
- Student Engagement Committee (2015/2016)
- Servant Scholars Committee (2014/15)
- Presidential Scholars Interviewer and Essay Reviewer (2015, 2016)

PROFESSIONAL SERVICE, MEMBERSHIPS, AND CERTIFICATIONS

- Dataquest Data Analyst in R (2019)
- ISBS 2018 Scientific Committee (Reviewer)
- NSCA 2017 National Conference Poster Award Judge
- NSCA 2016, 2017, 2018, 2019 National Conference Abstract Reviewer
- ISBS 2017 Scientific Committee (Reviewer)
- Georgia State Director for National Strength & Conditioning Association (NSCA) (2015-2018)
- NSCA Baseball Special Interest Group Chair (2017-2018)
- NSCA Registered Strength and Conditioning Coach (RSCC) (2015 - present)
- Tennessee State Director for National Strength & Conditioning Association (NSCA) (2013-14)
- Southeast Regional NSCA Advisory Board Member (2013-14, 2015-2018)
- Georgia State NSCA Advisory Board Member (2014 – 2015)
- NSCA-GA Education Recognition Program (ERP) Liaison (2014 – 2015)
- NSCA member (2004 – present)
- American College of Sports Medicine (ACSM), (2009 – present)
- International Society of Biomechanics in Sport (ISBS) (2012 – 2016)
- ISBS 2014 Scientific Committee (Reviewer)
- ISBS 2014 Session Moderator (Landing Biomechanics)
- International Journal of Sports Medicine (IJS) reviewer
- ACSM Certified Personal Trainer (CPT), (2005 – 2018)
- NSCA Certified Strength and Conditioning Specialist (CSCS) (2009 – present)
- American Red Cross CPR and AED certification (current)
- National Pitching Association member (2014 - 2015)
- Association of Professional Ball Players of America (APBPA) member (2010 – present)

- Professional Baseball Strength and Conditioning Coaches Society (PBSCCS) (2010 – 2011)
- Society for American Baseball Research (SABR) member (2012 – 2015)
- SABR Research Committees: Collegiate Baseball, Minor Leagues, Science and Baseball, and Statistical Analysis

PROFESSIONAL DEVELOPMENT AND CONFERENCE ATTENDANCES

- NSCA National Conference, Washington DC, 2019
- NSCA Texas State Clinic, College Station, TX, 2019
- Dataquest.io (Data Analyst in R path) – 2019
- NSCA Nebraska State Clinic, Omaha, NE 2019
- NSCA Coaches Conference, Indianapolis, IN 2019
- NSCA National Conference, Indianapolis, IN 2018
- Dataquest.io (Data Scientist in Python path) 2018-ongoing
- Southeast ACSM Annual Meeting, Chattanooga, TN 2018
- NSCA Coaches Conference, Charlotte, NC 2018
- Shoulder Assessment, Corrective Exercise & Programming (Cressey Performance), Woodstock, GA 2017
- NSCA Georgia State Clinic, Kennesaw, GA 2017 (Conference Organizer)
- NSCA National Conference, Las Vegas, NV 2017
- National Coaching Conference, USCCE, Atlanta, GA 2017
- SEACSM Annual Meeting, Greenville, SC 2017
- NSCA Coaches Conference, Nashville, TN 2017
- Baseball and Sports Performance Conference, Marietta, GA 2016
- NSCA Georgia State Clinic, Savannah, GA 2016 (Conference Organizer)
- NSCA National Conference, New Orleans, LA 2016
- udemy course: Building Interactive Graphs with GGplot2 and Shiny – 2016
- udemy course: SQL Masterclass – 2016
- udemy course: Introduction to Data Visualization in R Using GGplot – 2016
- udemy course: SQL for Newbs: Beginner Data Analysis – 2016
- SEACSM Annual Meeting, Greenville, SC 2016
- NSCA Coaches Conference, San Antonio, TX 2016
- Tenth Annual Coaches and Sport Science College, Johnson City, TN 2015
- udemy course: Advanced Statistics and Data Science in R –2015
- edX course from HarvardX University: “CS50x3 Introduction to Computer Science,” October – December 2015.
- edX course from Boston University: “Force and Motion: Pedagogical Content Knowledge for Teaching Physics,” October – December 2015.
- Delsys Webinar: Analysis of Motor Unit Behavior during Muscle Fatigue 2015
- 33rd International Society of Biomechanics in Sports annual conference, Poitiers, France 2015
- Swiss Strength Training Symposium, Swiss Federal Institute of Technology in Zurich (ETH Zurich), Zurich, Switzerland 2015
- Southeast NSCA Regional meeting, Duluth, GA 2015
- Ninth Annual Coaches and Sport Science College, Johnson City, TN 2014
- 32nd International Society of Biomechanics in Sports annual conference, Johnson City, TN 2014

- Southeast NSCA Regional meeting, Duluth, GA 2014
- Teaching for Higher Learning, ETSU (Spring 2014) (3hr course)
- Eighth Annual Coaches and Sport Science College, Johnson City, TN 2013
- 31st International Society of Biomechanics in Sports annual conference, Taipei, Taiwan 2013
- Sport and Coaching Science Conference. Taipei, Taiwan 2013
- ACSM Medicine Annual Meeting, Indianapolis, IN 2013
- SEACSM Annual Meeting, Greenville, SC 2013
- Seventh Annual Coaches and Sport Science College, Johnson City, TN 2012
- Sixth Annual Coaches and Sport Science College, Johnson City, TN 2011
- Annual Professional Baseball Strength and Conditioning Coaches Society (PBSCCS) Preconference at the Major League Baseball Winter Meetings, Orlando, FL 2010
- SEACSM Annual Meeting, Greenville, SC 2010
- Southeast NSCA Regional meeting, Boone, NC 2008
- NSCA National Conference, Atlanta, GA 2007
- NSCA Georgia State Clinic, Norcross, GA 2007
- Functional Movement Screening Clinic, Atlanta, GA 2007
- NSCA Georgia State Clinic, Suwanee, GA 2006
- NSCA Georgia State Clinic, Suwanee, GA 2005
- NSCA Georgia State Clinic, Kennesaw, GA 2004
- NSCA Georgia State Clinic, Athens, GA 2003

CAMPS

- Olympic Day, Memorial Park, Johnson City, TN, June 2014
- Blackhawk Strength, Speed, & Agility, North Buncombe High School, Weaverville, NC June 2014
- Olympic Day, Memorial Park, Johnson City, TN, June 2013
- Olympic Day, Mountain States Health Alliance Athletic Center, Johnson City, TN, June 2012
- San Diego Padres Prospect Minicamp, Peoria, AZ, February 24th – March 3rd 2011
- San Diego Padres Major League Camp, Peoria, AZ, February 14th – 24th 2011
- San Diego Padres New Draft/Signee Minicamp, Eugene, OR, June 14th – 18th 2010

COACHING CHAMPIONSHIPS AND AWARDS

- Baseball – 2018 USA South Conference Champions, NCAA Div. III, LaGrange College Panthers (strength coach and sport scientist)
- Baseball – 2017 USA South Conference Champions, NCAA Div. III, LaGrange College Panthers (strength coach and sport scientist)
- Softball – 2015 USA South Conference Champions, NCAA Div. III, LaGrange College Panthers (strength coach and sport scientist)
- Baseball – 2013 Atlantic Sun Conference Champions, NCAA Div. I, East Tennessee State University Buccaneers (strength coach and sport scientist)
- Baseball – 2011 Texas League Champions, San Antonio Missions, AA Affiliate of the San Diego Padres (strength and conditioning coach) (2011 Minor League Team of the Year)

LIST OF REFERENCES

Kimitake Sato, PhD, CSCS, USAW, PES

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