

Curriculum Vitae for Stuart Antony McErlain-Naylor, BSc, PhD

PERSONAL INFORMATION

Full Name: Stuart Antony McErlain-Naylor

Positions: Lecturer in Sport and Exercise Biomechanics
Course Leader: BSc (Hons) Sport and Exercise Science
Social Media Editor: Sports Biomechanics (Journal)
Publications Committee: International Society of Biomechanics in Sports

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Twitter: [@biomechstu](https://twitter.com/biomechstu)



Peer-reviewed journal publications: 16 (13 since 2019) **Citations:** 86 ([Google Scholar](#)) **h-index:** 4

Research Interests: sporting technique; flywheel resistance exercise; post-impact accelerations

I PREVIOUS ROLES

Period	Title	Body / Institution
Jul 2019 -	Course Leader BSc (Hons) Sport and Exercise Science 100% overall student satisfaction (National Student Survey 2020), including 100% satisfaction with 'Organisation and Management'.	School of Health and Sports Sciences, University of Suffolk (UK)
Aug 2018 -	Lecturer in Sport and Exercise Biomechanics Developed and taught five modules as Module Leader, ranging from 'Mechanics of Strength and Conditioning' to 'Ergonomics in Sport' and 'Motor Control and Skill Acquisition'. Supervised seven BSc students to peer-reviewed journal publications.	School of Health and Sports Sciences, University of Suffolk (UK)
Feb 2018 - Aug 2018	Research Associate / Translational Scientist in Sports Biomechanics Developed automated feedback reports for international players and coaches in badminton and cricket, leading to multiple publications with elite athlete cohorts.	School of Sport, Exercise and Health Sciences; Loughborough University (UK)
Oct 2016 - Jun 2017	Technical Tutor (Biomechanics and Motor Control)	School of Sport, Exercise and Health Sciences; Loughborough University (UK)
Oct 2013 - Aug 2018	University Teacher	School of Sport, Exercise and Health Sciences; Loughborough University (UK)

II ACADEMIC QUALIFICATIONS

Period	Qualifications	Body / Institution
Jan 2019 – Mar 2020	Postgraduate Certificate in Academic Practice (75%) Thesis: <i>Experiences of undergraduates publishing biomechanics research.</i> Published in Journal of Applied Biomechanics	University of Suffolk (UK)
Oct 2013 - Dec 2017	PhD (Sports Biomechanics) Thesis: <i>The effect of joint compliance within rigid whole-body computer simulations of impacts.</i> Supervisors: Prof Mark King; Dr Sam Allen; Available online	Loughborough University (UK)
Oct 2010 - Jun 2013	BSc (Honours 1 st Class; 88%) Sport and Exercise Sciences Thesis: <i>What factors distinguish good from poor performers of the countermovement jump?</i> Supervisor: Prof Mark King; Published in Journal of Sports Sciences	Loughborough University (UK)

III AWARDS AND RECOGNITIONS

Period	Award	Body / Institution
Jul 2020	People's Choice Award for Favourite Presentation : Methods & Equipment Theme <i>'A practical open-source comparison of discrete and continuous biomechanical analysis techniques.'</i>	International Society of Biomechanics in Sports
May 2019	Personal Tutor of the Year (Nomination) <i>"Stuart helps out in every way. Stuart is fair and friendly at all times." "He gets you the support and answers you need as quick as possible."</i>	University of Suffolk
Apr 2015	Best Poster Presentation <i>'A spectral analysis of impact shock attenuation in single leg drop landings.'</i>	Biomechanics Interest Group, The British Association of Sport and Exercise Sciences
Sep 2013	Glendonbrook Doctoral Fellowship	Lord Glendonbrook, Loughborough University
Jul 2013	Dean of School Undergraduate Prize (final-year student with the best performance)	School of Sport, Exercise and Health Sciences, Loughborough University
Jul 2013	G V Sibley Memorial Prize (best final-year student on the BSc Sport and Exercise Science programme)	School of Sport, Exercise and Health Sciences, Loughborough University
Jul 2013	Loughborough University Development Trust Prize (an outstanding final year student)	School of Sport, Exercise and Health Sciences, Loughborough University
Aug 2012	Loughborough University Development Trust Prize (an outstanding second year student)	School of Sport, Exercise and Health Sciences, Loughborough University

IV INCOME GENERATION

Date	Funding Body	Details	Amount
Mar 2020	SportScientia Ltd	Consultancy	£10,000

V SUPERVISION

Date	Position	Name	Title	Institution	Funder
Oct 2020 -	PhD	Laura Dawson	Wearable technology at the foot-ground level: implications for athlete training load monitoring	University of Suffolk	Fee-Waiver Scholarship
Oct 2020 -	PhD	Kevin De Keijzer	Understanding response to isoinertial exercises and their application with athletic and sedentary populations	University of Suffolk	Fee-Waiver Scholarship
Oct 2019 -	PhD	Idrees Afzal	Key determinants influencing performance of the badminton smash	Loughborough University	Badminton World Federation
Oct 2019 -	PhD	Matt Lamb	Computer simulation modelling of fast bowling to minimise lumbar stress fractures in cricket	Loughborough University	England and Wales Cricket Board
Oct 2019 -	PhD (Part time)	Mark Armitage	Application of inertial measurement units to monitor and prescribe return-to-play strategies in footballers	University of Suffolk	

VI ADDITIONAL TRAINING

Period	Course	Body
Feb 2019	Research Team Leadership Training	AdvanceHE

VII AWARDS SUPERVISED

Date	Student	Award
Mar 2019	Kevin De Keijzer	STATSports Best Student Dissertation

VIII ADMINISTRATIVE / OTHER DUTIES

Administrative Work	Period
International Society of Biomechanics in Sports (ISBS) Publications Committee Member	May 2020 -
ISBS Sports Biomechanics Lecture Series – Organiser and Host 28 online lectures viewed over 39,000 times, with a peak of over 4,000 viewers per lecture	Mar 2020 – Sep 2020
University of Suffolk Senate: School-elected Representative	Dec 2019 -
Sports Biomechanics (Journal) Editorial Board: Social Media Editor Increases in all related <i>metrics</i>	Oct 2019 -
School Research Ethics Committee (Health and Sports Sciences)	Oct 2019 -
Course Leader: BSc (Hons) Sport and Exercise Science	Jul 2019 -
Organising Committee Member: the XVI International Symposium on Computer Simulation in Biomechanics , 2017	Jul 2016 – Jul 2017
Royce Hall (Loughborough University) Subwarden	Sep 2014 - Aug 2018
Student Board Member: Technical Group on Computer Simulation, International Society of Biomechanics	Jun 2014 – Oct 2017

IX REVIEWS ([publons](#))

Medicine and Science in Sports and Exercise (Journal Impact Factor = 4.029)
Scandinavian Journal of Medicine and Science in Sports (3.255)
PLOS One (2.740)
Journal of Sports Sciences (2.597)
Journal of Biomechanics (2.320)
Applied Sciences (2.474)
PeerJ (2.38)
Sports Biomechanics (2.023)
Journal of Human Kinetics (1.664)
Journal of Applied Biomechanics (1.617)
BMJ Open Sport & Exercise Medicine (1.510)
Journal of Suffolk Student Research
International Society of Biomechanics in Sport
American Society of Biomechanics

X SOCIETY MEMBERSHIP

International Society of Biomechanics (2017 -)
The British Association of Sport and Exercise Sciences (2019 -)
International Society of Biomechanics in Sport (2020 -)
Society for Transparency, Openness, and Replication in Kinesiology (2020 -)
BASES Special Interest Group: Biomechanics and Motor Behaviour (2019 -)
BASES Special Interest Group: Education and Teaching (2019 -)
BASES Special Interest Group: Sport, Exercise and Health Analytics (2020 -)

XI LIST OF PUBLICATIONS

Journal Articles

1. Beato, M., de Keijzer, K.L., Fleming, A., Coates, A., La Spina, O., Coratella, G., & **McErlain-Naylor, S.A.** (2020). Post flywheel squat vs. flywheel deadlift potentiation of lower limb isokinetic peak torques in male athletes. *Sports Biomechanics*, in press. <https://doi.org/10.1080/14763141.2020.1810750>
2. **McErlain-Naylor, S.A.** (2020). Experiences of undergraduates publishing biomechanics research. *Journal of Applied Biomechanics*, in press. <https://doi.org/10.1123/jab.2020-0069>

3. Harrison, A.J., **McErlain-Naylor, S.A.**, Bradshaw, E.J., Dai, B., Nunome, H., Hughes, G.T.G., Kong, P.W., Vanwanseele, B., Paulo Vilas-Boas, J., & Fong, D.T.P. (2020). Recommendations for statistical analysis involving null hypothesis significance testing. *Sports Biomechanics*, 19(5), 561-568. <https://doi.org/10.1080/14763141.2020.1782555>
4. **McErlain-Naylor, S.A.**, Towler, H., Afzal, I.A., Felton, P.J., Hiley, M.J., & King, M.A. (2020). Effect of racket-shuttlecock impact location on shot outcome for badminton smashes by elite players. *Journal of Sports Sciences*, in press. <https://doi.org/10.1080/02640414.2020.1792132>
5. Spencer, K., Paget, N., Kilding, A., & **McErlain-Naylor, S.A.** (2020). Physical, physiological, and technical demands of national netball umpires at different competition levels. *Journal of Sports Sciences*, 38(14), 1660-1665. <https://doi.org/10.1080/02640414.2020.1754718>
6. Jamil, M., **McErlain-Naylor, S.A.**, & Beato, M. (2020). Investigating the impact of the mid-season winter break on technical performance levels across European football – does a break in play affect team momentum? *International Journal of Performance Analysis in Sport*, 20(3), 406-419. <https://doi.org/10.1080/24748668.2020.1753980>
7. King, M.A., Towler, H., Dillon, R., & **McErlain-Naylor, S.A.** (2020). A correlational analysis of shuttlecock speed kinematic determinants in the badminton jump smash. *Applied Sciences*, 10((4), 1248-1261. <https://doi.org/10.3390/app10041248>
8. Spencer, K., **McErlain-Naylor, S.A.**, Paget, N., & Kilding, A. (2020). Activity profiles of elite netball umpires: a review. *Journal of Human Sport and Exercise*, 15(4), in press. <https://doi.org/10.14198/jhse.2020.154.09>
9. De Keijzer, K.L., **McErlain-Naylor, S.A.**, Dello Iacono, A., & Beato, M. (2020). Effect of volume on eccentric overload-induced post-activation potentiation of jumps. *International Journal of Sports Physiology and Performance*, 15(7), 976-981. <https://doi.org/10.1123/ijsp.2019-0411>
10. Beato, M., **McErlain-Naylor, S.A.**, Halperin, I., & Dello Iacono, A. (2020). Current evidence and practical applications of flywheel eccentric overload exercises as post-activation potentiation protocols: A brief review. *International Journal of Sports Physiology and Performance*, 15, 154-161. <https://doi.org/10.1123/ijsp.2019-0476>
11. Beato, M., Bigby, A. E., De Keijzer, K. L., Nakamura, F. Y., Coratella, G., & **McErlain-Naylor, S. A.** (2019). Post-activation potentiation effect of eccentric overload and traditional weightlifting exercise on jumping and sprinting performance in male athletes. *PloS one*, 14(9), e0222466. <https://doi.org/10.1371/journal.pone.0222466>
12. Beato, M., De Keijzer, K., Leskauskas, Z., Allen, W. J., Dello Iacono, A., & **McErlain-Naylor, S. A.** (2019). Effect of Postactivation Potentiation After Medium vs. High Inertia Eccentric Overload Exercise on Standing Long Jump, Countermovement Jump, and Change of Direction Performance. *Journal of strength and conditioning research*. <https://doi.org/10.1519/JSC.0000000000003214>
13. Peplow, C., **McErlain-Naylor, S. A.**, Harland, A. R., & King, M. A. (2019). Relationships between technique and bat speed, post-impact ball speed, and carry distance during a range hitting task in cricket. *Human Movement Science*, 63, 34-44. <https://doi.org/10.1016/j.humov.2018.11.004>
14. Peplow, C., **McErlain-Naylor, S. A.**, Harland, A. R., & King, M. A. (2018). The relationships between impact location and post-impact ball speed, bat torsion, and ball direction in cricket batting. *Journal of sports sciences*, 36(12), 1407-1414. <https://doi.org/10.1080/02640414.2017.1389484>
15. Peplow, C., **McErlain-Naylor, S.A.**, Harland, A.R., Yeadon, M.R., & King, M. (2018). A curve fitting methodology to determine impact location, timing, and instantaneous post-impact ball velocity in cricket batting. *Proceedings of the Institution of Mechanical Engineers, Part P: Journal of Sports Engineering and Technology*, 232(3), 185–196. <https://doi.org/10.1177/1754337117723275>
16. **McErlain-Naylor, S.**, King, M., & Pain, M.T.G. (2014). Determinants of countermovement jump performance: a kinetic and kinematic analysis. *J Sports Sci*, 32, 1805-1812. <https://doi.org/10.1080/02640414.2014.924055>

Book Chapters

1. **McErlain-Naylor, S.**, Miller, R., King, M., & Yeadon, M.R. (2016). Determining instantaneous shuttlecock velocity: Overcoming the effects of a low ballistic coefficient. *Science and Racket Sports V*. [PDF](#)
2. Miller, R., Felton, P., **McErlain-Naylor, S.**, Towler, H., & King, M. (2016). Relationship between technique and speed in the badminton jump smash. *Science and Racket Sports V*.

Conference Workshops

1. Severino, N., & **McErlain-Naylor, S.A.** The power of movement. XXVIII Isokinetic Medical Group Conference, London, UK, 2019.

Invited Presentations

1. **McErlain-Naylor, S.A.** Cricket Batting Biomechanics. ISBS Sports Biomechanics Lecture Series, 2020. <https://www.youtube.com/watch?v=mTJfW2skBuk>
2. Armitage, M., & **McErlain-Naylor, S.A.** What can MSK learn from Strength and Conditioning for the treatment of pathology? Allied Health Professionals Suffolk's 1st Symposium, Suffolk, UK, 2019.

3. **McErlain-Naylor, S.A.**, Yeadon, M.R., & King, M.A. The effect of drop height on optimum technique in drop jumping. Proceedings of the 25th Congress of the International Society of Biomechanics, Glasgow, UK, 2015.

Conference Proceedings

1. **McErlain-Naylor, S.A.** (2020). A practical open-source comparison of discrete and continuous biomechanical analysis techniques. Proceedings of the 38th International Society of Biomechanics in Sport Conference. [Link](#)
2. **McErlain-Naylor, S.A.**, Peplow, C., Grimley, J., Felton, P.J., Harland, A.R., King, M.A. (2020). The effect of delivery method on cricket batting kinematics. Proceedings of the 38th International Society of Biomechanics in Sport Conference. [Link](#)
3. **McErlain-Naylor, S.A.** (2020). Undergraduate student experiences of publishing biomechanics research. Proceedings of the 38th International Society of Biomechanics in Sport Conference. [Link](#)
4. Afzal, I.A., **McErlain-Naylor, S.A.**, Hiley, M., King, M. (2020). Speed-accuracy trade-off in international badminton players performing the overhead smash. Proceedings of the 38th International Society of Biomechanics in Sport Conference. [Link](#)
5. Miller, R., Towler, H., **McErlain-Naylor, S.A.**, King, M.A. (2020). Technique factors determining badminton overhead smash speed. Proceedings of the 38th International Society of Biomechanics in Sport Conference. [Link](#)
6. Afzal, I., Towler, H., **McErlain-Naylor, S.**, Hiley, M., King, M. (2020). A constraints-led approach for determining speed-accuracy trade-off in international badminton players performing the forehand smash. Proceedings of the 25th Annual Congress of the European College of Sport Science, Seville, Spain. [Link](#)
7. **McErlain-Naylor, S.A.**, & Beato, M (2019).. Vertical and horizontal ground reaction force post-activation potentiation following flywheel eccentric overload half squat exercise. Journal of Sports Sciences, sup1: BASES Conference 2019, 68. <https://doi.org/10.1080/02640414.2019.1671688>
8. **McErlain-Naylor, S.A.**, Peplow, C., Grimley, J., Felton, P.J., & King, M.A. Kinematic determinants of power hitting performance: a technique comparison of male and female cricketers. Proceedings of the 6th World Congress of Science and Medicine in Cricket, Loughborough, UK, 2019. [PDF](#)
9. King, M.A., Afzal, I., & **McErlain-Naylor, S.** Shot outcome as a function of impact location and racket kinematics in the badminton jump smash. Proceedings of the 6th World Racquet Sports Congress, Bangkok, Thailand, 2019. [Link](#)
10. Peplow, C., **McErlain-Naylor, S.**, Yeadon, F., Harland, A., & King, M. Relationships between hitting technique and ball carry distance in cricket. Proceedings of the 35th International Society of Biomechanics in Sport Conference, Cologne, Germany, 2017. [Link](#)
11. **McErlain-Naylor, S.A.**, Allen, S.J., & King, M.A. Acceleration attenuation in drop landing and drop jumping: a spectral analysis. Proceedings of the XXVI Congress of the International Society of Biomechanics, Brisbane, Australia, 2017, pp.437. [PDF](#)
12. Peplow, C., **McErlain-Naylor, S.**, Harland, A., & King, M. Determining instantaneous impact characteristics in cricket batting. Proceedings of the XXVI Congress of the International Society of Biomechanics, Brisbane, Australia, 2017, pp.311. [PDF](#)
13. **McErlain-Naylor, S.A.**, Allen, S.J., & King, M.A. Incorporating joint compliance within a rigid body simulation model of drop jumping. Proceedings of the XVI International Symposium on Computer Simulation in Biomechanics, Gold Coast, Australia, 2017, pp. 17-18. [PDF](#)
14. King, M.A., **McErlain-Naylor, S.A.**, Yeadon, M.R., & Caldwell, G.E. Effects of drop height and ground contact time constraints on optimum drop jumping technique. Proceedings of the XVI International Symposium on Computer Simulation in Biomechanics, Gold Coast, Australia, 2017, pp.7-8. [PDF](#)
15. Peplow, C., **McErlain-Naylor, S.**, & King, M. Identifying cricket bat-ball impact characteristics: a curve fitting technique. Proceedings of the 5th International Conference on Mathematics in Sport, Loughborough, UK 2015. [PDF](#)
16. **McErlain-Naylor, S.**, Miller, R., King, M., & Yeadon, M.R. Determining instantaneous shuttlecock velocity: Overcoming the effects of a low ballistic coefficient. Proceedings of the 14th ITTF Sports Science Congress and 5th World Racquet Sports Congress, Suzhou, China, 2015. [PDF](#)
17. **McErlain-Naylor, S.**, Allen, S., & King, M. A spectral analysis of impact shock attenuation in single leg drop landings. Proceedings of the Biomechanics Interest Group of the British Association of Sports and Exercise Sciences, 30, Roehampton, UK, 2015, pp.25.
18. **McErlain-Naylor, S.A.**, King, M.A., & Pain, M.T.G. Determinants of countermovement jump performance: a kinetic and kinematic analysis. Proceedings of the Biomechanics Interest Group of the British Association of Sports and Exercise Sciences, 29, Manchester, UK, 2014, pp.16.

Conference Sessions Chaired

1. Talent ID and development. The 6th World Congress of Science and Medicine in Cricket, Loughborough, UK, 2019.
2. The XVI International Symposium on Computer Simulation in Biomechanics, Gold Coast, Australia, 2017