Full Name and Title	Professor Mark John Lake
Faculty, School, Department	Faculty of Science School of Sport and Exercise Sciences
Address for Correspondence	Room 1.30 Tom Reilly Building, Byrom Street Campus, Liverpool L3 3AF.
E-mail Address	m.j.lake@ljmu.ac.uk
Daytime Phone Number	0151 904 6260
Title and Date of Current Appointment or Conferment	Reader in Biomechanics July 2008
Higher Education: Include class of degrees.	BSc (Hons) Human Biology and Biodynamics (2:1), 1992, University of Loughborough, U.K. MSc Human Locomotion (Distinction), 1994, Pennsylvania State University, U.S.A. PhD Biophysics, 1998, University of Guelph, Canada.
Membership of Professional Bodies	International Societies of Biomechanics, Footwear Biomechanics and Biomechanics in Sports

Please complete the summary table below to note clear metrics: -

Number of peer reviewed journals	73
Number of conference papers	20
Number of monographs	0
Number of Book chapters published	3
Number of books published	0
Number of other publications/documents published	6
Number of bids applied for	15
Number of successful bids and total amount	10, £610,000
Other metrics as determined by your specific subject area	Research Gate (RG) score of 32 (top 10% on RG). 1,477 citations RG H-Index 19.
Number of Successful PhD Completions as DoS	5
Number of Successful PhD Completions as Non-DoS	9
Number of Current PhD Supervisions	6 (3 as DoS)

APPOINTMENTS

2008 - : Reader in Biomechanics, LJMU.
- Programme leader in MSc Sport and Clinical Biomechanics.
- Module leader for BSc Science and Football and MSc Biomechanics.
- Supervision of BSc, MSc and PhD students.
- Commercial research projects.
- Management of main Biomechanics Laboratory.

1998 - 2008: Senior Lecturer in Biomechanics, LJMU.
- Module leader in level 4 and level 5 Biomechanics.
- Level 4, 5 and 6 year tutor.
- Supervision of BSc, MSc and PhD students.

1997 - 1998: Lecturer in Biomechanics, Movement Science Department, University of Liverpool.

- Programme Leader for MSc Movement Science.
- Module leader for three biomechanics modules.
- Supervision of BSc, MSc and PhD students.

CURRENT TEACHING

I contribute across multiple areas of the BSc and MSc programmes.

MSc Sport and Clinical Biomechanics: 7111SPOSCI Current Issues in Biomechanics. Module leader and delivery of 6 x 2 h lectures/seminars and 8 x 3 hour laboratory practical sessions. 2018-2019 **Module Appraisal:** 90% overall student satisfaction (OSS). **7115SPOSCI Applications in Sports Biomechanics**. Delivery of 4 hours of lectures and laboratory practical session. **7114SPOSCI Muscle-Tendon Mechanics.** Delivery of 2 hrs of practical and lecture sessions. **7109SPOSCI Major project.** Supervision of 4 student research projects. **BSc Sport and Exercise Sciences and Football: 6111SPFOOT Biomechanics of Football**. Module leader and delivery of 4 x 2 h lectures and 6 x 2hrs of laboratory practical sessions. **4101SPOSCI** and **4101SPFOOT Foundation modules in Sports Science, Science and Football.** 2 x 2 hours lecture.

PAST TEACHING (Last 5 years)

2010 - 2015: MSc Advanced Technical training in Biomechanics. Module leader with 10 x 2 hours contact per week (taught lectures, seminars and laboratory practicals).

2014 - 2018: BSc Sport and Exercise Biomechanics (Level 6). Module Leader and delivery of 5 x 2 hrs lectures and 2 x 2 hrs practicals.

Management and Organisation of UG, PG & Other Teaching

- Strategic leadership and delivery of the MSc Sport and Clinical Biomechanics programme (0.5 days per week).
- Re-structured and successfully revalidated this Programme in 2018 using feedback from students, external examiners and industry.
- Laboratory management and maintenance in order to enhance the quality of the student learning experience.

Membership of National and International Educational/Accreditation Committees

- External advisor for the validation of a new programme in BSc Sports Technology programme, University of Ulster (2014).

External Examining

- 2008 - 2011: University of Strathclyde, Scotland - BSc Sports Science.
- 2010 - 2013: University of Central Lancashire – BSc Sports Technology.
- 2012 - 2015: Manchester Metropolitan University – BSc Sport and Exercise Science.
- 2015 - 2016: Manchester Metropolitan University – MSc Sports Science.
- 2019 - 2022: Loughborough University – MSc Musculoskeletal Sports Science and Health.
- International External examiner for 7 PhD viva examinations
- External examiner for 8 PhD viva examinations in the U.K.
- Reviewer for the Belgium government – National Research Scholarship Grants.

Contributions to Public Engagement and Civic Engagement

- Frequent contributions to the BBC and other media outlets (SKY Sports) regarding applications of sports science to current sports practise. This includes marathon running (2019), ball heading in soccer (2018) and new developments in footwear for sports (2019).
- Public engagement through publication in International Science news journals such as ‘The Conversation’ (one article has 27,922 reads and ranks 3rd highest contribution from LJMU during 2017) and ‘The Independent’ newspapers.

Student Welfare and Pastoral Care

- 2013 - : Personal tutor to all students enrolled in the MSc Programme in Sport and Clinical Biomechanics.
- 2013 - : Close liaison with student welfare services as part of my role as programme leader. Particularly for student disability awareness.
- 2005 - 2008: Year tutor at level 4, level 5 and level 6.

Educational Scholarship, Teaching Awards and Learning and Teaching Qualifications

- Nominated by the MSc cohort in 2017 for the 'Amazing' teacher award at the annual LJMU awards banquet.
- One of my PhD students won 'Young Investigator of the Year Award' at the International Footwear Biomechanics meeting in Brisbane, Australia, 2017.
- Successfully took the programme through re-validation last year with excellent feedback from the external validation advisor in terms of teaching quality and innovative content. The programme is consistently deemed to be outstanding by the current and previous external examiners.

CURRENT RESEARCH STUDENT SUPERVISIONS

2020-2023: PhD – Vince Zevallos-Herencia, Benefits of Auxetic materials for footwear, 2nd Supervisor, Full-Time.
2019-2022: PhD – Hannah Tang, Use of virtual reality for sports injury rehabilitation, 3rd Supervisor, Full-Time.
2018-2021: PhD - Irene Kyriakidou, Lower limb load monitoring in the field using instrumented insoles, DoS, Full-Time.
2018-2021: PhD - Seokwon Lee, Knee joint loading estimates during dynamic sporting tasks, DoS, Full-Time.
2018-2021: PhD - Martin McIntyre, Reducing the risk of hamstring re-injury in Gaelic Football, DoS, Full-Time.
2018-2021: PhD – Sugi Sugei, Biomechanics of kicking styles, 3rd Supervisor, Full-time,

COMPLETED RESEARCH STUDENT SUPERVISIONS

2019: PhD - Philipp Baumart, 3rd Supervisor, Full-time
2019: PhD - Shodong Li, 2nd Supervisor, Full-time
2018: PhD - Simon Evans, 3rd Supervisor, Part-time
2018: MPhil - Jack Dowling, DoS, Part-time
2018: MPhil - John Noonan, DoS, Part-time
2017: PhD - Charlotte Apps, DoS, Full-time
2015: PhD - Yaodong Gu, 2nd supervisor, Full-time
2014: PhD - Grace Smith, DoS, Full-time
2013: MPhil - Tobias Underdown, DoS, Full-time
2012: PhD - Mohammad Shariatmadari, 3rd supervisor, Full-time
2011: PhD - Adam Clansey, 2nd supervisor, Full-time
2003: PhD - Ben Patritti, DoS, Full-time
2002: PhD - Virginia Coyles, DoS, Full-time
2001: PhD - Lee Nolan, DoS, Full-time
2001: PhD - Neil Fell, 2nd supervisor, Full-time
2000: PhD - Ana Isossifidou, 2nd supervisor, Full-time
1998: PhD - Elefteros Kellis, 2nd supervisor, Full-time

RESEARCH

Highlights of key research contributions to knowledge and impact are included below.

1. Lower limb loading during locomotion.

- Footwear with unexpectedly changing levels of stability during locomotion have the potential to be used as a training device to reduce the risk of ankle injury (Apps et al., 2019, JSS, **IF:2.81**; Blair et al., 2018, HMS, **IF: 1.96**).
- Ankle joint stiffness setting is a useful mechanism to stabilise the ankle during locomotion (Apps et al., 2017, JEK, **IF: 1.86**) and should be monitored in future training studies and in athletes recovering from ankle sprain injury.
- Using biofeedback of tibial shock to reduce impact loading during running appears to have only short-term effectiveness (Clansey et al., 2014, MSSE, **IF: 4.48, Citations, 52**; Clansey et al., 2015, JAB, **IF: 1.32**)
- External loading for the steps before a cut or rapid turning movement in team sports can be higher than for the pivot foot contact (Nedergaard et al., 2014, JSS, **IF: 2.81**; Apps et al., 2020, JSS, **IF: 2.81**). The rapid decelerations prior to turning are more likely related to the risk if injury than the turn itself. This has implications for the interpretation of much of the previous literature that has investigated only the pivot or turning foot contact with the ground.

2. Neuromuscular performance and return to play.

- Genetic factors influence the susceptibility of an individual to muscle soreness and inflammation after a bout of strenuous exercise (Baumart et al., 2016, EJAP, **IF: 3.06, Citations 45;** Baumart et al., 2018, PG**, IF: 2.58**).
- The lateral hamstring (Biceps Femoris) is most commonly injured when there is a hamstring strain injury and we have found that it is the most susceptible to fatigue after a bout of strenuous exercise (Rimmer et al., 2020, ISBS). Furthermore, we have found evidence of compensatory increased activity in the medial hamstrings when the lateral hamstrings are either fatigued or recovering from injury (Lake et al., 2018). This has led us to develop a novel functional screening test for the hamstrings to assess whether an athlete is ready to return to sport participation with less risk of re-injury (Lake, 2020, ECSS conference).
- At a given speed of running, lower limb muscle activation levels of better trained runners are reduced compared to novice runners and they have a better utilisation of energy stored in their tendons (Verheul et al., 2017, JAP, **IF: 3.35**). A summary article based on that paper was the headline in 'The Conversation' and 'The Independent' worldwide news journals and it received almost 28,000 reads.

3. Sports performance.

- In contrast to the literature, we found that the metatarsal phalangeal joint was important for sprinting performance (Smith et al., 2013, JAB, **IF: 1.32, Citations, 17**) but the functionality was often not measured appropriately (Smith et al., 2012, JSS, **IF: 2.81, Citations, 14**). This has implications for sprinting shoe design and the different functional roles of the medial and lateral forefoot during the landing and push-off phase of locomotion.
- Using a novel measurement procedure (Apps et al., 2020, JSS, **IF: 2.81**) we found that reducing movement of the foot relative to the shoe can improve performance during rapid turning in court sports (Apps et al., 2020, JSS, **IF: 2.81**).
- Although we have previously found high shoe bending stiffness to be important for sprinting performance (Smith et al., 2016, FS), shoe cushioning is relatively more important for distance running success (McCavish et al., 2020, ISBS conf.). This has implications for which shoe features are most important to performance and may be restricted in competition.

RESEARCH GRANTS AND CONTRACTS OBTAINED OVER THE PAST FIVE YEARS

2020 - 2022: 'Defence against lower limb injuries using smart insoles' (Ministry of Defence Phase 2, Principal Investigator £750,000). PENDING
2020 - 2023: 'Monitoring lower limb loading in the field using smart insoles' (Sportscentia Incorporated, Principal Investigator £82,000).
2019 - 2020: 'Defence against lower limb injuries using smart insoles' (Ministry of Defence Phase 1, Principal Investigator £98,500).
2018: 'Development of smart insoles for soccer' (Sensor City, University of Liverpool and LJMU, Principal Investigator £10,000),(part external funding).
2017 - 2020: 'Development of a more economical running shoe' (New Balance Inc. U.S.A., Principal Investigator £65,100).
2016 - 2018: 'Player load monitoring across two seasons' (Everton Football Club, Principal Investigator £9,500).
2015 - 2017: 'Lower limb loading during snow board landings' (British Snowboarding Association, Principal Investigator £9000).
2014 - 2017: 'The training effect of using unstable sports shoes' (Li Ning Sports Inc., China, Principal Investigator £35,000).
2014 - 2015: 'Forefoot loading in basketball' (Anta Sports Company, China, co-applicant, £40,000

PUBLICATIONS

A complete publication list (1996 - 2020) can be found on my LJMU Symplectic Profile. Outputs since my readership application are listed below and categorised under 3 research themes. My specific contribution is denoted as follows: [1]principal investigator and/or director of studies; [2]substantial contribution to the concept and design of the study; [3]organisation of the conduct of the study or to carrying out the study including acquisition of study data; [4]analysis and interpretation of study data. Outputs regarded as 3-4* also display the journal impact Factor (IF).

THEME 1: Lower limb loading during locomotion.

1. Lee, S., Robinson, M., Brennan, S. and **Lake, M. J.[1,2,4]** (2020). Peak magnitudes of dynamic knee joint loading are not influenced by customised body segment parameters. Paper accepted for International Society for Biomechanics in Sports (ISBS) conference, Liverpool.
2. Madsen, S. B., **Lake, M. J.[1,2,4]** and de Zee, M. (2020). Development of a test protocol to identify potential risk factors for lower limb injuries in ballet dancers. Paper accepted at ISBS conference, Liverpool.
3. Apps, C., Rodrigues, P., Isherwood, J., **Lake, M. J.[1,2,4]** (2020). Footwear insoles with higher frictional properties enhance performance by reducing in-shoe sliding during rapid changes of direction, Journal of Sports Sciences, 38:2, 206-213, DOI: 10.1080/02640414.2019.1690618 **IF: 2.81**
4. Lozano-Berges, G., Clansey, A., Casajús, J. and **Lake, M. J. [1,2,4]** (2019). Lack of impact moderating movement adaptation when soccer players perform game specific tasks on a third-generation artificial surface without a cushioning underlay. Sports Biomechanics, DOI: 10.1080/14763141.2019.1579365 **IF: 1.72**
5. Apps, C., Sterzing, T. **Lake, M. J. [1,2,4]** (2019). Unpredictable shoe midsole perturbations provide an instability stimulus to train ankle posture and motion during forward and lateral gym lunges. Journal of Sports Sciences, 37(17): 1951-1961, DOI: 10.1080/02640414.2019.1609161 **IF: 2.81**
6. Blair, S., **Lake, M. J.[2]**, Ding, R., Sterzing, T. (2018). Magnitude and variability of gait characteristics when walking on an irregular surface at different speeds. Human Movement Science, 59: 112-120. https://doi.org/10.1016/j.humov.2018.04.003 **IF: 1.96**
7. Apps, C., Sterzing, T., O'Brien, T., Ding, R., **Lake, M. J. [1,2,4]** (2017). Biomechanical locomotion adaptations on uneven surfaces can be simulated with a randomly deforming shoe midsole, Footwear Science, 9:2, 65-77, DOI: 10.1080/19424280.2017.1293175
8. Apps, C., Sterzing, T., O'Brien, T., **Lake, M. J. [1,2,4]** (2017). Lower Limb Joint Stiffness and Muscle Co-contraction Adaptations to Instability Footwear during Locomotion. Journal of electromyography and kinesiology 31: 123-130. DOI 10.1016/j.jelekin.2016.09.003 **IF: 1.86**
9. **Lake, M. J.,[1,2,3,4]** Isherwood, J and Clansey, C. (2016) Determining initial knee joint loading during a single limb drop landing: reducing soft tissue errors. Proceedings of the International Society for Biomechanics in Sports, Tokyo, Japan (July).

10. Nedergaard, N; Kersting, U. and **Lake, M. J.**[1,2,4] (2014) Using accelerometry to quantify deceleration during a high-intensity soccer turning manoeuvre. Journal of Sports Sciences, 32:20, 1897-1905, DOI: 10.1080/02640414.2014.965190 **IF: 2.81**

11. Clansey, A. C, **Lake M. J.**[2,4] Wallace, E. S., Feehally, T., Hanlon, M. (2015). Can Trained Runners Effectively Attenuate Impact Acceleration During Repeated High-Intensity Running Bouts? Journal of Applied Biomechanics, 32(3): 261-268. **IF: 1.32** https://doi.org/10.1123/jab.2015-0125

12. Gu, Y., Li, F., Li, J., Feng, N., **Lake, M. J.**[4], Li, Z., and Ren, J. (2014). Plantar pressure distribution character in young female with mild hallux valgus wearing high-heeled shoes. *Journal of Mechanics in Medicine and Biology*, *14*(1). DOI:10.1142/S0219519414500080

13. Clansey, A. C., Hanlon, M., Wallace, E. S., Nevill, A., & **Lake, M. J.**[2,4] (2014). Influence of tibial shock feedback training on impact loading and running economy. *Med Sci Sports Exerc*, *46*(5), 973-981. DOI:10.1249/MSS.000182 **IF: 4.48**

14. Mei, Q., Feng, N., Ren, X., **Lake M. J.**[4]**,** Gu, Y. (2015) Foot loading patterns with different unstable soles structure**.** Journal of Mechanics in Medicine and Biology, 15, No. 01, 1550014.

15. **Lake, M. J.**[1,2,3,4], Apps, C., Sterzing, T. (2013). Lower limb kinematics and plantar pressure distribution with different foot strike patterns during running Footwear Science, 5, 32-34.

16. Blair, S. J., **Lake, M. J.** [1,2,3,4], Sterzing, T., Cheung, J. T. (2013). Lower extremity biomechanics following a period of adaptation to wearing unstable shoes. Footwear Science, 5, 12-16.

17. Gu, Y., Li, J., Ren, X., **Lake, M. J.**[4], Li, Z. (2012). A pilot study in different unstable designs on the biomechanical effect of gait characteristics. Journal of Mechanics in Medicine and Biology, 12.

18. Gu, Y. D, Rong, M., Li, Z. Y., **Lake, M. J.**[4]**,** Ruan, G. Q. (2012). Finite element analysis of deep transverse metatarsal ligaments mechanical response during landing. Advanced Materials Research, 472-475: 2558-2561.

19. Clansey, A. C., Hanlon, M., Wallace, E. S., **Lake, M. J.**[2,4] (2012). Effects of fatigue on running mechanics associated with tibial stress fracture risk**.** Med Sci Sports Exerc, 44 :1917-1923. **IF: 4.48**

20. Gu, Y. D., Li, J. S., **Lake, M. J.**[4], Zeng, Y. J., Ren, X. J., Li, Z. Y. (2011). Image-based midsole insert design and the material effects on heel plantar pressure distribution during simulated walking loads. Computer Methods in Biomechanics and Biomedical Engineering, 14: 747-753.

21. Li, J. S., Gu, Y. D, Ren, X. J., **Lake, M. J.**[4], Zeng, Y. J. (2010). Biomechanical effects of foam inserts on forefoot load during the high-heeled gait: a pilot study. Journal of Mechanics in Medicine and Biology, 10 (4): 667-674.

22. Gu, Y. D., Ren, X. J., Li, J. S., **Lake, M. J.**[4]**,** Zhang, Q. Y., Zeng, Y. J. (2010). Computer simulation of stress distribution in the metatarsals at different inversion landing angles using the finite element method. Int Orthop, 34: 669-676.

23. Gu, Y., Li, J., Ren, X., **Lake, M. J**.[4], Zeng, Y. (2010). Heel skin stiffness effect on the hind foot biomechanics during heel strike.
Skin Research and Technology, 16: 291-296.
24. Morio, C., **Lake, M. J.**[1,2,3,4], Gueguen, N., Rao, G., Baly, L. (2009). The influence of footwear on foot motion during walking and running. Journal of Biomechanics,42:2081-2088.**IF:2.58**
https://doi.org/10.1016/j.jbiomech.2009.06.015

THEME 2: Neuromuscular performance and return to play.

1. Rimmer, E., Verheul, J. and **Lake, M. J.** [1,2,4] (2020) Effect of fatigue from repeated sprints on hamstring muscle activation patterns during running. Paper accepted for ISBS conference, Liverpool.
2. McIntyre, M., Reilly, C., Baltzopoulos, B. and **Lake, M. J.**[1,4] (2020). Eccentric hamstring strength in club gaelic footballers. Paper accepted for ISBS conference, Liverpool.
3. **Lake, M. J.** (2020) Functional assessment of the hamstrings across a range of running speeds: reducing the risk of re-injury. Invited paper accepted for the European College of Sports Science conference, Sevilla.
4. Baumart, P., Temple, S., Stanley, J. M., Cocks, M., Strauss, J. A., Shepherd S. O., Drust, B., **Lake, M. J.**[4] and Stewart, C. (2020). Neuromuscular fatigue and recovery after strenuous exercise depends on skeletal muscle size and stem cell characteristics. bioRxiv, DOI: 10.1101/740266
5. Baumart, P., **Lake, M. J.**[4]**,** Stewart, C., Drust, B., and Erskine, R. (2018) *TRIM63* (MuRF-1) gene polymorphism is associated with biomarkers of exercise-induced muscle damage. Physiological genomics 50: 142-143. https://doi.org/10.1152/physiolgenomics.00103.2017. **IF: 2.58**
6. Baumart, P., Stewart, C., Drust, B., **Lake, M. J.**[4] and Erskine, R. (2018) Variations of Collagen-Encoding Genes are Associated with Exercise-Induced Muscle Damage. Physiological genomics 50(9): 691-693. DOI: 10.1152/physiolgenomics.00145.2017. **IF: 2.58**
7. **Lake, M.J.**, Keeling, P., Verheul, J. (2018) Exploratory electromyographic assessment of neuromuscular hamstring function after injury. XXVII Isokinetic Medical Group Conference, Barcelona.
8. Verheul, J., Clansey, A. C., **Lake, M. J.**[1,2,3,4] (2017). Adjustments with running speed reveal neuromuscular adaptations during landing associated with high mileage running training. Journal of Applied Physiology, 122: 653 - 665. **IF: 3.35**
9. Baumert, P., **Lake, M. J.**[4]**,** Stewart, C. E, Drust, B., Erskine, R. M. (2016). Inter-individual variability in the response to maximal eccentric exercise. European Journal of Applied Physiology, 116: 2055-2056. **IF: 3.06**
10. Baumert, P., **Lake, M. J.**[4], Stewart, C. E., Drust, B., Erskine, R. M. 2016. Genetic variation and exercise-induced muscle damage: implications for athletic performance, injury and ageing. European Journal of Applied Physiology, :1-31. **IF: 3.06**
11. Gu, Y. D., Li, J.S., Ruan, G. Q., Wang, Y. C., **Lake, M. J.**[4], Ren, X. J. (2010). Lower limb muscles SEMG activity during high-heeled latin dancing IFMBE Proceedings, 31 IFMBE: 198-200.

THEME 3: Sports performance.

1. McCavish, C., Rodrigues, P., Wager, J., and **Lake, M. J.** [1,2,4,](2020) The relative importance of shoe cushioning and bending stiffness on running economy and mechanics. Paper accepted for ISBS conference, Liverpool.
2. Apps, C., Rodrigues, P., Isherwood, J. and **Lake, M. J.**[1,2,4](2020) Footwear insoles with higher frictional properties enhance performance by reducing in-shoe sliding during rapid changes of direction, Journal of Sports Sciences, 38:2, 206-213, DOI: 10.1080/02640414.2019.1690618 **IF: 2.81**
3. Sugi, S., Nunome, H., Tamura, Y., Iga, T. and **Lake, M. J.**[2,4] (2020). Contribution of lower body segment rotations in various height soccer volley kicking, Sports Biomechanics, DOI: 10.1080/14763141.2019.1667422
4. Nunome, H., Yoshida, W., Arayama, M. and **Lake, M. J.**[4] (2019) Back extension strength improvement due to insoles is influenced by foot alignment, FootwearScience, 11:sup1, S56-S58, DOI: 10.1080/19424280.2019.1606076
5. Evans, S. D., Brewer, C., Haigh, J. D., **Lake, M. J.**[4], Morton, J. P., Close, G. L. (2018). The change in external match loads and characteristics for a newly promoted European super league rugby league team over a three-season period. Science and Medicine in Football, 2 (4): 309-314, DOI: 10.1080/24733938.2018.1462502
6. Smith, G., **Lake M. J.**[1,2,4], Sterzing, T., and Milani, T. (2016). The influence of sprint spike bending stiffness on sprinting performance and metatarsophalangeal joint function**.** Footwear Science, 8(2): 109-118.
7. Fu, F., Zhang, Y., Shao, S., Ren, J., **Lake, M. J.**[4]**,** Gu, Y. (2016). Comparison of center of pressure trajectory characteristics in table tennis during topspin forehand loop between superior and intermediate players. International Journal of Sports Science and Coaching, 11: 559-565.
8. Evans, S. D., Brewer, C., Haigh, J. D., **Lake, M. J.**[4], Morton, J. P., Close, G. L. (2015). The physical demands of Super League rugby: Experiences of a newly promoted franchise. European Journal of Sport Science, 15: 505-513.
9. Nedergaard, N. J., Kersting, U., **Lake, M. J.** [1,2,4] (2014). Using accelerometry to quantify deceleration during a high-intensity soccer turning manoeuvre. Journal of Sports Sciences, 32: 1897-1905. **IF: 2.81**
10. Smith, G., Lees, A., **Lake, M. J.** [1,2,4] (2013) Metatarsophalangeal Joint Function During Sprinting: A Comparison of Barefoot and Sprint Spike Shod Foot Conditions. Journal of Applied Biomechanics, DOI: 10.1123/jab.2013-0072. **IF: 1.32**
11. Smith, G., **Lake, M. J.** [1,2,4], Lees, A., Worsfold, P. (2012). Measurement procedures affect the interpretation of metatarsophalangeal joint function during accelerated sprinting. Journal of Sports Sciences, 30: 1521-1527. **IF: 2.81**

EVIDENCE OF ESTEEM, EXTERNAL VISIBILITY AND PROFESSIONAL ACTIVITIES

- Appointed as graduate student extramural academic supervisor for the School of Fashion Engineering, Shanghai University of Engineering Science (SUES). Helped to set-up a formal Research Hub with the functional sports clothing research group at SUES.
- Awarded funding to be a 'Visiting research Scholar' at University of Fukuoka, Japan for two weeks in the summer of 2018. Involved in PhD supervision and gave a Keynote lecture at the Japanese National Congress for Sport and Leisure. On-going collaboration with the biomechanics of kicking in soccer (see references) and impact loading in ballet dancers with researchers from Fukuoka and Tokyo University.
- Awarded Adidas prize for basic research from the International Footwear Biomechanics Group. Also organised a special session for this group at the World Congress of Biomechanics in Boston (2014) and Dublin (2018).
- Successfully bid to host and Chair the biannual International Footwear biomechanics group symposium at LJMU in 2015. 250 delegates from all around the World joined the meeting which was held at the John Lennon Building and opened by the Vice Chancellor.
- Successfully bid to host the International Society of Biomechanics in Sports annual conference in 2020. Will co-chair the meeting with my colleague Dr Mark Robinson. This will be one of the biggest International conferences hosted by LJMU with over 500 delegates expected. In its forty-year history, it is the first time that this major conference is being held in the U.K.
- Selected as part of the research team to investigate player-surface interaction and performance on artificial turf versus natural turf pitches by the World Governing Body for Soccer, FIFA.
- International External examiner for PhD examinations all around the globe (Australia, South Africa, France, Belgium, Holland).