

Dr Michail Arvanitidis

PT · PhD · MSc · MMACP

Postdoctoral Research Fellow · Centre of Precision Rehabilitation for Spinal Pain (CPR Spine)
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PROFILE

Dr Michail Arvanitidis (PT, PhD, MSc, MMACP) is a Postdoctoral Research Fellow at the Centre of Precision Rehabilitation for Spinal Pain (CPR Spine), School of Sport, Exercise and Rehabilitation Sciences, University of Birmingham, United Kingdom. His current research examines cervical adaptations in NASA astronauts following spaceflight, aiming to enhance astronaut health for future missions. His main interests involve studying motor adaptations in pain-affected or vulnerable populations. He works principally with high-density surface electromyography, motor unit decomposition and isokinetic dynamometry, and has published 29 peer-reviewed papers (10 as first author). He holds a European Commission Seal of Excellence for the MSCA Postdoctoral Fellowship proposal PRO-AGE (91.8/100).

PROFESSIONAL EXPERIENCE

Post-doctoral Research Fellow <i>CPR Spine, School of Sport, Exercise and Rehabilitation Sciences, University of Birmingham, UK</i> Mentor: Prof. Deborah Falla. Project: <i>Cervical in Space</i> — cervical spine and muscle adaptation after spaceflight and relationship to herniation risk.	Sep 2024 – Present
Pre-doctoral Research Fellow <i>CPR Spine, University of Birmingham, UK</i> Mentor: Prof. Deborah Falla. Project: <i>Cervical in Space</i> .	Sep 2022 – Sep 2024
Pre-doctoral Research Fellow <i>CPR Spine, University of Birmingham, UK</i> Mentor: Prof. Deborah Falla. Project: <i>Cervical in Space</i> .	Feb 2021 – Aug 2022
Specialist Musculoskeletal Physiotherapist (part-time) <i>The Birmingham Back Pain Clinic, Birmingham, UK</i> Employer: Dr David W. Evans.	Jun 2018 – Jul 2023
Musculoskeletal Physiotherapist <i>Private Physiotherapy Centre, Drama, Greece</i> Employer: Mr Panagiotis Gklavopoulos.	Nov 2016 – Aug 2017

EDUCATION

PhD, Sport, Exercise and Rehabilitation Sciences <i>CPR Spine, University of Birmingham, UK</i> Supervisors: Dr Eduardo Martinez-Valdes, Prof. Deborah Falla. Funded scholarship.	Feb 2019 – Sep 2024
MSc Advanced Manipulative Physiotherapy <i>School of Sport, Exercise and Rehabilitation Sciences, University of Birmingham, UK</i> Supervisors: Dr Eduardo Martinez-Valdes, Prof. Deborah Falla.	Sep 2017 – Feb 2019
BSc Physiotherapy (First Class Honours) <i>Department of Physiotherapy, University of Thessaly, Lamia, Greece</i> Supervisor: Prof. Georgios Gioftsos.	Sep 2011 – Nov 2015

AWARDS & DISTINCTIONS

- **Seal of Excellence**, European Commission — Horizon Europe MSCA Postdoctoral Fellowships 2025, proposal PRO-AGE (101274439), score 91.8/100; host: Aristotle University of Thessaloniki. **2026**

- Level 2 CPD Award (£1,500), Musculoskeletal Association of Chartered Physiotherapists. [2024](#)
- Level 2 Research Award (£1,500), Musculoskeletal Association of Chartered Physiotherapists. [2024](#)
- Shortlisted, Oral Student Presentation Awards, XXIV Congress of the International Society of Electrophysiology and Kinesiology. [2022](#)
- IFOMPT Travel Bursary Award (£500), Musculoskeletal Association of Chartered Physiotherapists. [2020](#)
- Honorary fellowship for distinction in BSc studies, National Scholarships Foundation, University of Thessaly. [2011–12](#)

RESEARCH FUNDING

- **UK Space Agency** (co-applicant) — *Cervical spine and muscle adaptation after spaceflight and relationship to herniation risk*. £97,000 (2025–26); £486,183 (2022–25); £116,341 (2021–22).
- **The Royal Society** (co-applicant) — *Real-time augmented reality feedback of muscle activity to enhance human performance*. £11,907 (2022). Contributed to the writing of the application.

PUBLICATIONS — UNDER REVIEW & IN PREPARATION

1. Mendez-Rebolledo G, **Arvanitidis M**, Martinez-Valdes E. Altered neural drive to the fibularis longus during progressive loading in chronic ankle instability. *Journal of Applied Physiology*. Under review.
2. Contreras-Hernandez I, Falla D, **Arvanitidis M**, Negro F, Jimenez-Grande D, Martinez-Valdes E. Eccentric and concentric torque feedback training induce similar clinical improvements but distinct triceps surae motor unit adaptations in non-insertional Achilles tendinopathy: a randomised controlled trial. *Journal of Sport and Health Science*. Under review · preprint on medRxiv. doi: 10.1101/2025.06.20.25330016
3. Parrella M, **Arvanitidis M**, Borzuola R, Macaluso A, Falla D. Effects of ageing on fatigue resistance and neuromuscular control of the trunk extensor muscles during isokinetic contractions. *Journal of Applied Physiology*. Under review.
4. Purushotham S, Casolo A, **Arvanitidis M**, Grison A, Gardner A, Falla D. Erector spinae muscle fibre size estimation using high-density surface electromyography in people with and without non-specific chronic low back pain. *Scientific Reports*. Under review.
5. McIntosh J, Sidiropoulos G, **Arvanitidis M**, Falla D. The effect of neck-specific exercise on neck muscle morphology in people with chronic neck pain: a systematic review and meta-analysis. *Musculoskeletal Science and Practice*. Under review.
6. **Arvanitidis M**, Contreras I, Negro F, Martinez-Valdes E. Assessing the interplay between neural drive and muscle contraction dynamics during postural tasks in older individuals. *The Journal of Physiology*. In preparation.
7. **Arvanitidis M**, Cerone GL, Gazzoni M, Falla D. Real-time augmented reality biofeedback from high-density surface electromyography improves knee extensor endurance performance in humans. *British Journal of Sports Medicine*. In preparation.

PEER-REVIEWED PUBLICATIONS

1. Parrella M, **Arvanitidis M**, Borzuola R, Jiménez-Grande D, Macaluso A, Falla D. Age-related alterations in trunk extensor force control during isometric and isokinetic contractions. *Scientific Reports*. 2026. doi: 10.1038/s41598-026-41572-6
2. Thoomes EJ, **Arvanitidis M**, van Geest S, van der Windt DA, Verhagen AP, de Graaf M, Kuijper B, Scholten-Peeters GGM, Vleggeert-Lankamp CL, Falla D. Diagnostic accuracy of physical examination tests for painful cervical radiculopathy: update of a systematic review and meta-analysis. *BMC Musculoskeletal Disorders*. 2026. doi: 10.1186/s12891-026-09551-0
3. **Arvanitidis M**, Pincheira PA, Negro F, Botter A, Cerone GL, Martinez-Valdes E. Interactions between motor unit firing and fascicle dynamics during shortening and lengthening contractions. *Journal of Neurophysiology*. 2026. doi: 10.1152/jn.00188.2026
4. Contreras-Hernandez I, Falla D, **Arvanitidis M**, Negro F, Jimenez-Grande D, Martinez-Valdes E. Load and muscle-dependent changes in triceps surae motor unit firing properties in individuals with non-insertional Achilles tendinopathy. *The Journal of Physiology*. 2026;604(2):955–978. doi: 10.1113/JP287588
5. Sageshima H, **Arvanitidis M**, Sidiropoulos G, River Y, Falla D. The effect of eccentric exercise-induced delayed onset neck muscle soreness on force steadiness and the spatial distribution of neck extensor muscle activity. *Scientific Reports*. 2026. doi: 10.1038/s41598-026-49353-x
6. Sidiropoulos G, **Arvanitidis M**, Falla D, Kanellopoulos A, Tsekoura M, Strimpakos N, Dimitriadis Z. Association between neck muscle size and physical features in individuals with chronic non-specific neck pain: a systematic review. *Musculoskeletal Science and Practice*. 2025;80:103428. doi: 10.1016/j.msksp.2025.103428

7. Sageshima H, Parrella M, **Arvanitidis M**, Devecchi V, Falla D. Does pain alter the spatial distribution of muscle activity in people experiencing spinal pain? A systematic review and meta-analysis. *Journal of Electromyography and Kinesiology*. 2025. <https://www.sciencedirect.com/science/article/pii/S1050641126000519>
8. **Arvanitidis M**, Falla D, Sanderson A, Martinez-Valdes E. Does pain influence control of muscle force? A systematic review and meta-analysis. *European Journal of Pain*. 2025;29(2):e4716. doi: 10.1002/ejp.4716
9. Devecchi V, **Arvanitidis M**, Falla D. Effects of microgravity on neuromuscular control of the spine: a protocol for a systematic review and meta-analysis. *BMJ Open*. 2025;15(6):e098172. doi: 10.1136/bmjopen-2024-098172
10. Parrella M, Borzuola R, Siciliano FP, **Arvanitidis M**, Nuccio S, Falla D, Piacentini MF, Macaluso A. Fatigue-induced alterations in the spatial distribution of lumbar erector spinae activity in older versus young adults. *European Journal of Applied Physiology*. 2025;125(12):3663–3674. doi: 10.1007/s00421-025-05864-5
11. **Arvanitidis M**, Falla D, Negro F, Boccia G, Rainoldi A, Martinez-Valdes E. Reduced knee extensor torque steadiness and increased motor unit discharge variability in young people with patellofemoral knee pain: a pilot study. *European Journal of Applied Physiology*. 2025. doi: 10.1007/s00421-025-06083-8
12. Parrella M, **Arvanitidis M**, Macaluso A, Falla D. The effects of ageing on fatigue and endurance of the spinal extensor muscles: a systematic review and meta-analysis. *GeroScience*. 2025. doi: 10.1007/s11357-025-01987-x
13. Selvamoorthy R, **Arvanitidis M**, Negro F, Pincheira P, Evans D, Martinez-Valdes E. Torque visuomotor feedback training versus standard eccentric exercise for the management of patellar tendinopathy: protocol for a randomised controlled trial. *BMJ Open*. 2025;15(2):e092104. doi: 10.1136/bmjopen-2024-092104
14. **Arvanitidis M**, Mak HHK, Martinez-Valdes E, Barbero M, Falla D. Validation of a novel device for assessing neck muscle strength. *Archives of Physiotherapy*. 2025;15:148–157. doi: 10.33393/aop.2025.3476
15. Contreras-Hernandez I, **Arvanitidis M**, Falla D, Negro F, Martinez-Valdes E. Achilles tendon morpho-mechanical parameters are related to triceps surae motor unit firing properties. *Journal of Neurophysiology*. 2024;132(4):1198–1210. doi: 10.1152/jn.00391.2023
16. **Arvanitidis M**, Jiménez-Grande D, Haouidji-Javaux N, Falla D, Martinez-Valdes E. Eccentric exercise-induced delayed onset trunk muscle soreness alters high-density surface EMG-torque relationships and lumbar kinematics. *Scientific Reports*. 2024;14(1):18589. doi: 10.1038/s41598-024-69050-x
17. Deane J, **Arvanitidis M**, Briggs M, Falla D, Johnson M. Evaluating the efficacy of wearable biofeedback on the outcomes of exercise interventions in people with chronic non-specific spinal pain: protocol for a systematic review and meta-analysis. *BMJ Open*. 2024;14(7):e085206. doi: 10.1136/bmjopen-2024-085206
18. **Arvanitidis M**, Jiménez-Grande D, Haouidji-Javaux N, Falla D, Martinez-Valdes E. Low back pain-induced dynamic trunk muscle control impairments are associated with altered spatial EMG-torque relationships. *Medicine & Science in Sports & Exercise*. 2024;56(2):193–208. doi: 10.1249/MSS.0000000000003314
19. Corvini G, **Arvanitidis M**, Falla D, Conforto S. Novel metrics for high-density sEMG analysis in the time-space domain during sustained isometric contractions. *IEEE Open Journal of Engineering in Medicine and Biology*. 2024;5:760–768. doi: 10.1109/OJEMB.2024.3449548
20. Tsimouris D, **Arvanitidis M**, Moutzouri M, Koumantakis GA, Giotfos G, Papandreou M, Grammatopoulou E. Is manual therapy of the diaphragm effective for people with obstructive lung diseases? A systematic review. *Respiratory Medicine and Research*. 2023;83:101002. doi: 10.1016/j.resmer.2023.101002
21. Valencia O, Weinstein A, Salas R, Guzmán-Venegas R, **Arvanitidis M**, Martinez-Valdes E. Temporal differences in the myoelectric activity of lower limb muscles during rearfoot and forefoot running: a statistical parametric mapping approach. *European Journal of Sport Science*. 2023;23(6):983–991. doi: 10.1080/17461391.2022.2081094
22. Belavý DL, Armbrrecht G, Albracht K, Brisby H, Falla D, Scheuring R, Sovellius R, Wilke HJ, Rennerfelt K, Martinez-Valdes E, **Arvanitidis M**, Göll F, Braunstein B, Kaczorowski S, Karner V, Arora NK. Cervical spine and muscle adaptation after spaceflight and relationship to herniation risk: protocol from the 'Cervical in Space' trial. *BMC Musculoskeletal Disorders*. 2022;23(1):772. doi: 10.1186/s12891-022-05684-0
23. **Arvanitidis M**, Jiménez-Grande D, Haouidji-Javaux N, Falla D, Martinez-Valdes E. People with chronic low back pain display spatial alterations in high-density surface EMG-torque oscillations. *Scientific Reports*. 2022;12(1):15178. doi: 10.1038/s41598-022-19516-7
24. Varrecchia T, Ranavolo A, Conforto S, De Nunzio AM, **Arvanitidis M**, Draicchio F, Falla D. Bipolar versus high-density surface electromyography for evaluating risk in fatiguing frequency-dependent lifting activities. *Applied Ergonomics*. 2021;95:103456. doi: 10.1016/j.apergo.2021.103456

25. **Arvanitidis M**, Falla D, Sanderson A, Martinez-Valdes E. Does pain influence force steadiness? A protocol for a systematic review. *BMJ Open*. 2021;11(1):e042525. doi: 10.1136/bmjopen-2020-042525
26. Martinez-Valdes E, Negro F, **Arvanitidis M**, Farina D, Falla D. Pain-induced changes in motor unit discharge depend on recruitment threshold and contraction speed. *Journal of Applied Physiology*. 2021;131(4):1260–1271. doi: 10.1152/jappphysiol.01011.2020
27. **Arvanitidis M**, Bikinis N, Petrakis S, Gkioka A, Tsimpolis D, Falla D, Martinez-Valdes E. Spatial distribution of lumbar erector spinae muscle activity in individuals with and without chronic low back pain during a dynamic isokinetic fatiguing task. *Clinical Biomechanics*. 2021;81:105214. doi: 10.1016/j.clinbiomech.2020.105214
28. **Arvanitidis M**, Falla D, Martinez-Valdes E. Can visual feedback on upper trapezius high-density surface electromyography increase time to task failure of an endurance task?. *Journal of Electromyography and Kinesiology*. 2019;49:102361. doi: 10.1016/j.jelekin.2019.102361
29. Giotsos G, **Arvanitidis M**, Tsimouris D, Kanellopoulos A, Paras G, Trigkas P, Sakellari V. EMG activity of the serratus anterior and trapezius muscles during the different phases of the push-up plus exercise on different support surfaces and different hand positions. *Journal of Physical Therapy Science*. 2016;28(7):2114–2118. doi: 10.1589/jpts.28.2114

REFEREED CONFERENCE PROCEEDINGS

An asterisk (*) signifies the presenter.

Oral — 13 presentations

1. Belavý DL, Albracht K, Brisby H, Falla D, Scheuring R, Sovelius R, Wilke HJ, Rennerfelt K, **Arvanitidis M**, Arora NK, Braunstein B, Göll F, Kaczorowski S, Moreira E*, Teichert F, Armbrrecht G. Spaceflight-Associated Changes in Cervical Spine Structure, Muscle Function, and Disc Health in Astronauts. *10th Forschungssymposium Physiotherapie*. 27–28 November 2026
2. Belavý DL, Albracht K, Brisby H, Falla D, Scheuring R, Sovelius R, Wilke HJ, Rennerfelt K, **Arvanitidis M**, Arora NK*, Braunstein B, Göll F, Kaczorowski S, Moreira E, Teichert F, Armbrrecht G. Spaceflight-Associated Changes in Cervical Spine Structure, Muscle Function, and Disc Health in Astronauts. *EUROSPINE Annual Meeting 2026*. 7–9 October 2026
3. Selvamoorthy R*, **Arvanitidis M**, Negro F, Pincheira P, Evans D, Martinez-Valdes E. Association Between Patellar Tendon Morphomechanical Characteristics, Quadriceps Muscle Architecture, and Motor Unit Firing Properties. *XXVI Congress of the International Society of Electrophysiology and Kinesiology*. 24–27 June 2026
4. Desmons M*, **Arvanitidis M**, Jiménez-Grande D, Massé-Alarie H, Martinez-Valdes E. Motor control of lumbar muscles during a complex visuomotor task. *XXVI Congress of the International Society of Electrophysiology and Kinesiology*. 24–27 June 2026
5. **Arvanitidis M***. **Invited talk**. Neuromuscular adaptations of the trunk extensor muscles in chronic non-specific low back pain – clinical implications. *Special session EE6: “New evidence in the management of spinal pain”, 33rd Panhellenic Scientific Congress of Physiotherapy, Peace and Friendship Stadium, Athens, Greece*. 13–15 March 2026
6. Parrella M*, Borzuola R, Siciliano FP, **Arvanitidis M**, Nuccio S, Jiménez-Grande D, Falla D, Piacentini MF, Macaluso A. Does older age affect high-density EMG force coherence of the lumbar erector spinae during fatigue?. *30th Annual Congress of the European College of Sport Science*. 1–4 July 2025
7. Parrella M*, Borzuola R, Siciliano FP, **Arvanitidis M**, Nuccio S, Falla D, Piacentini MF, Macaluso A. Fatigue-induced alterations in the spatial distribution of lumbar erector spinae muscle activity in older versus young adults. *29th Annual Congress of the European College of Sport Science*. 2–5 July 2024
8. **Arvanitidis M***, Jiménez-Grande D, Haouidji-Javaux N, Falla D, Martinez-Valdes E. Associations between delayed onset trunk muscle soreness, altered EMG-torque relationships, and lumbar kinematics in dynamic contractions. *XXV Congress of the International Society of Electrophysiology and Kinesiology*. 26–29 June 2024
9. Martinez-Valdes E*, Jiménez-Grande D, **Arvanitidis M**, Falla D, Farina D, Jenkinson N, Negro F. Changes in cortical beta inputs to spinal motoneurons during the acquisition and retention of a new visuomotor skill task. *XXV Congress of the International Society of Electrophysiology and Kinesiology*. 26–29 June 2024
10. **Arvanitidis M***, Jiménez-Grande D, Haouidji-Javaux N, Falla D, Martinez-Valdes E. Reduced lumbar extensor muscle torque steadiness is associated with increased activity of the lumbar erector spinae muscle during eccentric contractions in people with chronic low back pain. *XXIV Congress of the International Society of Electrophysiology and Kinesiology*. 22–25 June 2022
11. **Arvanitidis M***, Jiménez-Grande D, Haouidji-Javaux N, Falla D, Martinez-Valdes E. Lumbar extensor muscle isometric torque steadiness and torque-HDsEMG coherence is altered in individuals with chronic low back pain. *XXVIII Congress of the International Society of Biomechanics*. 25–29 July 2021

12. Martinez-Valdes E*, Negro F, **Arvanitidis M**, Farina D, Falla D. Pain-induced Adjustments in Motor Unit Discharge Depend on Contraction Speed. *XXVIII Congress of the International Society of Biomechanics*. **25–29 July 2021**
13. **Arvanitidis M***, Bikinis N, Petrakis S, Gkioka A, Tsimpolis D, Falla D, Martinez-Valdes E. Effect of a dynamic isokinetic fatiguing task on the spatial distribution of erector spinae muscle activity in individuals with low back pain. *XXIII Congress of the International Society of Electrophysiology and Kinesiology*. **12–14 July 2020**

Poster — 9 presentations

1. Farsi A*, Cerone GL, **Arvanitidis M**, Falla D, Gazzoni M. Augmented Reality EMG Biofeedback for Optimizing Upper-to-Middle Trapezius Activation During Seated Row Training: A Pilot Comparison with Conventional Coaching. *XXVI Congress of the International Society of Electrophysiology and Kinesiology*. **24–27 June 2026**
2. Sageshima H*, **Arvanitidis M**, Sidiropoulos G, River Y, Falla D. The Effect of Eccentric Exercise-induced Delayed Onset Neck Muscle Soreness on Force Steadiness and Spatial Distribution of Neck Extensor Muscle Activity. *XXVI Congress of the International Society of Electrophysiology and Kinesiology*. **24–27 June 2026**
3. **Arvanitidis M***, Falla D, Negro F, Boccia G, Rainoldi A, Martinez-Valdes E. Altered Motor Unit Behaviour and Torque Steadiness in Athletes with Patellofemoral Pain during Single- and Multi-Joint Exercises. *International MotoNeuron Society Meeting*. **8–11 July 2025**
4. **Arvanitidis M**, Martinez-Valdes E, Falla D*. Evaluation of Neck Force Control and Neck Muscle Activation in Astronauts post Spaceflight. *PAINWeek*. **3–6 September 2024**
5. **Arvanitidis M***, Jiménez-Grande D, Haouidji-Javaux N, Falla D, Martinez-Valdes E. Associations between impaired dynamic trunk muscle control in people with chronic low back pain and altered spatial EMG-torque correlations. *XXV Congress of the International Society of Electrophysiology and Kinesiology*. **26–29 June 2024**
6. Cerone GL, **Arvanitidis M**, Sergi M*, Gazzoni M, Falla D. Design, development, and experimental validation of an augmented reality biofeedback system providing information about muscle activation through HD-sEMG. *XXV Congress of the International Society of Electrophysiology and Kinesiology*. **26–29 June 2024**
7. **Arvanitidis M***, Martinez-Valdes E, Falla D. Evaluation of Neck Force Control and Neck Muscle Activation in Astronauts post Spaceflight. *XXV Congress of the International Society of Electrophysiology and Kinesiology*. **26–29 June 2024**
8. Contreras I*, **Arvanitidis M**, van Helden J, Falla D, Martinez-Valdes E. Morphological and mechanical properties of the Achilles tendon and their relationship with triceps surae motor unit firing properties during isometric contractions. *XXIV Congress of the International Society of Electrophysiology and Kinesiology*. **22–25 June 2022**
9. **Arvanitidis M***, Falla D, Martinez-Valdes E. Effect of high-density surface electromyography visual feedback on shoulder-abduction endurance: a pilot study. *Physiotherapy UK*. **1–2 November 2019**

TEACHING & MENTORING

- **Neuromuscular Adaptations to Training** — postgraduate practical laboratories in isokinetic dynamometry and high-density EMG, University of Birmingham.
Annually 2020–2025 · ~204 students
- **Analysis of Motor Performance** — undergraduate practical laboratories in isokinetic dynamometry and high-density EMG, University of Birmingham.
Annually 2022–2025 · ~357 students
- **Invited lecturer**, MSc Advanced Physiotherapy, University of Thessaly, Greece — “The role of high-density surface EMG in the assessment and treatment of musculoskeletal disorders: clinical applications”.
Annually 2021–2025 · ~66 students

Mentoring — visiting doctoral and Master's researchers from Europe

- **Martina Parrella** (PhD), 2025–present — trunk muscle function in ageing.
- **Georgios Sidiropoulos** (PhD), 2024–2026 — neck morphological characteristics and chronic neck pain.
- **Hirofumi Sageshima** (PhD), 2024–2026 — delayed-onset muscle soreness and neck muscle function.
- **Martina Sergi** (MSc), 2022 — a novel system providing real-time augmented reality visual feedback on vasti and lumbar erector spinae HD-sEMG during functional tasks.

Co-supervision — doctoral theses and Master's / Bachelor's dissertations

- **Annie Jain** (MSc), 2026–present — effect of exercise on trunk muscle behaviour in chronic non-specific low back pain: a systematic review and meta-analysis.
- **Jessica McIntosh** (MSc), 2026 — effect of neck-specific exercise on neck muscle morphology in chronic neck pain: a systematic review and meta-analysis.
- **Dhruv Intwala** (MSc), 2025 — exercise, inflammation and musculoskeletal pain: a systematic review.
- **Rongda Zhang** (PhD), 2024–present — neuromuscular adaptations to machine versus free-weight lower-limb resistance training.
- **Anna Gray** (MSc), 2024 — effects of exercise on pain and force steadiness in neck pain.
- **Shilpa Purushotham** (PhD), 2023–present — lumbar erector spinae composition and trunk muscle function in chronic low back pain.
- **Cillian Worrall, Xuemin Jiang, Yu Zha** (MSc), 2023 — effect of AR visual feedback on vasti HD-sEMG activity on knee extension endurance, with and without patellofemoral knee pain.
- **Hon Ken Mak** (BSc), 2022 — validation of a novel device for the measurement of neck strength.
- **Hoi Lau, Sara Lilley** (BSc), 2022 — effects of delayed-onset muscle soreness on neck muscle force and activity.
- **Joseph Ford, Joel Nathan, Luci Owen** (BSc), 2022 — differences in trunk muscle force control and activity during isometric, concentric and eccentric contractions, with and without chronic low back pain.

Research placement supervision

- **Mayowa Akinnifesi** (MSc), 2024 — training in HD-sEMG and isokinetic dynamometry.
- **William Price** (MSc), 2024 — training in HD-sEMG and systematic review methods.
- **Lily Brewster** (BSc), 2023 — training in systematic review methods.
- **Sze Chan** (BSc), 2023 — training in systematic review methods.

PROFESSIONAL SERVICE

- **External examiner**, postgraduate research degrees — MSc by Research thesis examination of Mr Harry Clutterbuck, Manchester Metropolitan University, UK. **20 May 2026**
- **Journal peer reviewer** — Applied Psychophysiology and Biofeedback; BMC Musculoskeletal Disorders; Clinical Biomechanics; European Journal of Applied Physiology; European Spine Journal; Journal of Applied Biomechanics; Journal of Applied Physiology; Journal of Biomechanics; Journal of Electromyography and Kinesiology; Journal of Sports Sciences; Musculoskeletal Science and Practice; Occupational and Environmental Medicine; PLOS ONE; Scientific Reports.
- **Patient and Public Involvement** — presentations and interactive discussions with people living with chronic spinal pain via the CPR Spine PPI panel, integrating public feedback into study design, University of Birmingham. **2019–2024**

REGISTRATIONS, MEMBERSHIPS & CERTIFICATIONS

Registration & membership

Health and Care Professions Council (HCPC), 2018 · Chartered Society of Physiotherapy (CSP), 2018 · Musculoskeletal Association of Chartered Physiotherapists (MACP), 2019 · International Society of Electrophysiology and Kinesiology (ISEK), 2020 · Association of Chartered Physiotherapists in Occupational Health and Ergonomics (ACPOHE), 2026 · Panhellenic Association of Physiotherapists, 2016.

Certifications & continuing training

Vehicle Ergonomics Online Training, ACPOHE, 2026 · Office Ergonomics (DSE), ACPOHE, 2026 · Supervised Machine Learning: Regression and Classification, DeepLearning.AI / Stanford Online, 2025 · R Programming, Johns Hopkins University, 2024 · The Data Scientist's Toolbox, Johns Hopkins University, 2023 · Certified Peer Reviewer Course, Elsevier, 2021 · Introduction to Programming with MATLAB, Vanderbilt University, 2019 · Otago Exercise Programme (OEP) Leader Award, Later Life Training, 2015.