

BRIAN KIM

Physiotherapist, PhD Candidate



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EDUCATION

Doctor of Philosophy

The University of Sydney

2023 – Present

- Thesis Title: Enhancing muscle evaluation tools for the rotator cuff on magnetic resonance imaging
- Supervisors: [Prof James M Elliott](#), [Dr Marnee J McKay](#), [Dr Ziba Gandomkar](#), [Dr Kenneth A Weber II](#), [Prof Ameer L Seitz](#).

Bachelor of Physiotherapy (Honours)

Monash University

2017 – 2020

- Thesis Title: Are the acute corticospinal responses of strength training different in high- versus low-volume programs? A pilot randomised controlled crossover trial.
- GPA: 3.7/4.0

PROFESSIONAL REGISTRATION

Registered by the Australian Health Practitioner Regulation Agency (AHPRA) to practise physiotherapy in Australia (PHY0002450540).

ACADEMIC EMPLOYMENT

Tutor

The University of Sydney

2023 – Present | Contract

- PHTY5500 (Foundations of Physiotherapy Practice I), Doctor of Physiotherapy (DPT): Tutor for wet lab anatomy of cardiorespiratory, musculoskeletal and neurological systems.
- PHTY5204 (Musculoskeletal Physiotherapy III), Graduate Entry Masters of Physiotherapy: Tutor for the cervical spine assessment and management. Examiner of practical exams.
- PHTY4226 (Physiotherapy in Sport and Recreation), Bachelor of Applied Science (Physiotherapy): Tutor. Examiner of oral presentations.

Visiting Pre-Doctoral Fellow

Northwestern University

Jun 2024 | Contract

- Curriculum development of DPT program units (MSKI, MSKIII). Drafted changes to shoulder pathology lectures and lab assessment guidelines. Lab instructor.
- Led piloting of 3-D shoulder torque and indwelling rotator cuff electromyography for DPT student research projects exploring rotator cuff tear muscle structure, kinematics and strength variations.

NSW Student Experience Coordinator

Australian Catholic University

2023 – Present | Part Time

- Led the Peer Assisted Study Session program employment processes, managing over 15 student-staff members who, in turn, provided teaching services to a total 180 students.
- Likelihood of HD grade increased by 25% for those who attended the student experience program.

Tutor

Australian Catholic University

2022 – 2024 | Contract

- EXSC346 (Sports Injury Prevention and Rehabilitation): Lead tutor. Assessor of written assignments.
- BIOL121, BIOL125 (Human Biological Science Foundation I): Tutor for cardiovascular, respiratory, nervous and musculoskeletal systems' structure and function. Assessor of written assignments, and written exams.
- BMSC100 (Introductory Biostatistics): Lead tutor. Contributed to tutorial worksheet revision.

- Received the *highest tutor student evaluation results* (/5) for biological foundations for three consecutive semesters (Median individual score: 4.83; Median unit score: 4.56) and biostatistics (Median individual score: 4.80; Median unit score: 4.56).

Research Assistant

Australian Catholic University

2022 – 2024 | Contract

- Wrote technical documentation for the setup of new brain oxygenation and biomechanics devices, resulting in a 7% improvement of joint angle detection accuracy.

Teaching Associate (Peer Assisted Study Sessions)

Monash University

2018 – 2020 | Contract

- PTY1011 (Physiotherapy 1) and PTY1022 (Physiotherapy 2): PASS Leader. Developed first-year physiotherapy worksheets for optional tutorials with unit coordinators covering practical examination skills, kinesiology, anatomy, and physiology.

CLINICAL EMPLOYMENT

Physiotherapist

Mater Clinic Physiotherapy

2023 – 2024 | Part time

- Worked in a multidisciplinary office of North Sydney Orthopaedic and Sports Medicine Centre at the Hospital, providing inpatient care for day surgery unit and private practice.

Head Physiotherapist

Pakenham Football Club

2021 – 2023 | Contract

- Liaised with multidisciplinary healthcare teams in a sporting setting as head physiotherapist for Pakenham Football Club, including a network of Melbourne's most reputable sports physicians.

Physiotherapist

Physioworks Health Group

2021 – 2023 | Full time

- Under Specialist Musculoskeletal Physiotherapists Andrew Dalwood (FACP) and David Francis (FACP) as awarded by the Australian College of Physiotherapy in 2009.

AWARDS AND RECOGNITION

- **Monash University Anatomy Prize** (2020): Finished the course with the highest cohort cumulative score for anatomy assessments.
- **Constance Read Memorial Prize** (2020): Achieved Monash Physiotherapy's highest four-year cumulative scores across all theory- and research-based assessments.
- **Monash Physiotherapy Research Mentorship Program** (2018 - 2020): Formerly known as Physiotherapy Advanced – Research (Honours).
- **Monash University Second-Year Physiotherapy Prize** (2018): Maintained the highest aggregate course score in second year.
- **Monash University First-Year Physiotherapy Prize** (2017): Attained the highest aggregate score across all practical, anatomy, theory, and research units of first year.
- **Sir John Monash Scholarship for Excellence** (2017): Placed within the top ten international applicants across all courses at Monash University who completed Australian secondary education.

GRANTS AND FUNDING

- **NSLHD-NORTH Foundation Grants Program** (2023) – \$15,000 – Lead Investigator: Original funding for longitudinal trial investigating operative outcomes of muscle quality in the rotator cuff.
- **Beryl & Jack Jacobs Travel Award** (2023) - \$8,218: Supported by the Kolling Institute to assist pilot rotator cuff disease studies at Northwestern University's Musculoskeletal Biomotion Laboratory in 2024.
- **University of Sydney Postgraduate Award** (2023 - 2027) – \$129,745 – A scholarship awarded to students of exceptional research potential for the duration of their postgraduate studies.

PROFESSIONAL RESEARCH/PUBLICATIONS (submitted & accepted)

2024

- **B Kim**, Z Gandomkar, MJ McKay, AL Seitz, EO Wesselink, B Cass, AA Young, JM Linklater, J Szajer, K Subbiah, JM Elliott, KA Weber. Developing a convolutional neural network for automated multi-tissue segmentation of the shoulder. *Investigative Radiology*. *Submitted*.
- MJ McKay, KA Weber, EO Wesselink, ..., **B Kim**, ..., DM Walton, LR Wishart, JM Elliott. The MuscleMap Consortium: Enhancing AI model efficacy for MRI analysis through open-source, data-driven methodology. *Journal of Imaging*. *Submitted*.
- **B Kim**, DA Opar, PJ Tofari, N Maniar, SJ Cormack, B Horsely, RG Timmins, DS Carmichael, JT Hickey. Establishing the validity of low sample rates for assessing isometric rate of force/torque development. *International Journal of Sports Physiology and Performance*. *Submitted*.
- M Anthis, S Gourd, **B Kim**, JD Ruddy, R Whitely, RG Timmins, N Maniar, JT Hickey, DA Opar. The Fragility Index of risk factors for hamstring strain injuries. *Journal of Orthopaedic and Sports Physical Therapy*. *Accepted*.

2020

- R Painter S Rahman, **W Kim**, A Frazer, J Tallent, A Pearce, D Kidgell. High-Volume Light-Load Strength Straining, but Not Low-Volume Heavy-Load Strength Training Increases Corticospinal Excitability. *Journal of Science and Medicine*. *Accepted*.

GOVERNANCE LEADERSHIP AND ENGAGEMENT

Journal Reviewer

Various dates

- Journal of Shoulder and Elbow Surgery (2024 – Present)
- Orthopaedic Journal of Sports Medicine (2023 – Present)
- American Journal of Sports Medicine (2023 – Present)
- Musculoskeletal Science and Practice (2021 – 2023)
- British Journal of Sports Medicine (2021 – 2022)

Conference Contributions

Various dates

- Royal North Shore Hospital Scientific Staff Council Research Forum (2024). **Chair**.
- Abstract Committee for Kolling Research Symposium Mini Oral and Poster Session (2024). **Adjudicator**.

Editor

The Ossicle – Faculty of Medicine and Health, The University of Sydney

2024 – Present

- Incoming editor of a longstanding monthly newsletter for the NeuroMusculoSkeletal Research Collaborative for over 200 subscribers.

Executive Committee Member (Chief Editor)

Postgraduate Research Student Society (PReSS) – The University of Sydney & Northern Sydney Local Health District

2023 – Present

- Spearheaded the inaugural PReSS charity bake sale for funding a priority area of research at the Kolling Institute each year, encouraging community engagement between Kolling laboratories. The 2024 bake sale reached Bowel Cancer Australia's top 5 on the fundraiser leaderboard.
- Designed and disseminated a new quarterly HDR student newsletter for the Northern Sydney Local Health District called Fresh off the PReSS.
- Drafted the society's constitution for a successful application to the University of Sydney Union.

Research Supervisor

Kolling Institute – Neuromuscular Imaging Research Laboratory

2023 – Present

- Henry Wu (MD 4): Data and statistical analysis support for MD student research projects building deep learning models for automated quadriceps muscle segmentation. Accepted abstract for RANZCR Annual Scientific Meeting.

PRESENTATIONS (selected)

2024

- Northwestern University Department of Physical Therapy & Human Movements Sciences. 'Developing deep learning models for magnetic resonance imaging of the rotator cuff'. **Invited international speaker.**
- Northwestern University Feinberg School of Medicine, Orthopedic Grand Rounds. 'Developing deep learning models for magnetic resonance imaging of the rotator cuff'. **International guest speaker.**
- Shoulder and Elbow Surgeons Australia (SESA) Biennial Closed Conference. 'Developing an automated multi-tissue segmentation model for the shoulder'. **Invited affiliate member speaker.**
- Faculty of Medicine and Health HDR Conference. 'Developing an automated multi-tissue segmentation model for the shoulder'. **Speaker.**
- Royal North Shore Hospital Scientific Staff Council (SSC) and Postgraduate Research Student Society (PReSS) inaugural Research Forum. 'Developing an automated multi-tissue segmentation model for the shoulder'. **Speaker.**

2023

- Faculty of Medicine and Health HDR Conference 2023. 'Fattening the Odds: Automated Fat Infiltration for Shoulder Surgery Success'. **Speaker, Finalist.**
- SydneyMSK Annual Scientific Meeting 2023. 'Developing a deep learning model for automated multi-muscle segmentation of the shoulder'. **Speaker.**
- SydneyMSK Annual Scientific Meeting 2023. 'Muscle fat Infiltration after rotator cuff repair: A study protocol'. **Speaker.**

PROFESSIONAL MEMBERSHIPS

- Member of Australian Physiotherapy Association, Sport & Exercise National Group
- Member of Statistical Society Australia
- Member of Neuro-Musculoskeletal Research Collaborative
- Member of Monash Musculoskeletal Research Unit