LA TROBE UNIVERSITY

Discipline of Sport and Exercise Science
School of Allied Health, Human Services and Sport

Bachelor of Sport and Exercise Science (Honours)
Bachelor of Sport Coaching and Development (Honours)

2024 Honours Projects Booklet – plenty of exciting projects to choose from!

ENQUIRIES
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Course and Subjects

Within the Discipline of Sport and Exercise Science, we offer two Honours degrees:

- **Bachelor of Sport and Exercise Science (Honours)** – website – 2024 handbook link
- **Bachelor of Sport Coaching and Development (Honours)** – website – 2024 handbook link

Regardless of which degree students enrol in, you will undertake the same two subjects (one per semester).

The current intended learning outcomes for Honours are:

1. Apply technical research skills, including the design and implementation of database search strategies, to locate relevant research literature in response to a complex research question.
2. Critically appraise the research literature relating to an existing body of knowledge in order to justify a research proposal.
3. Apply critical thinking, knowledge, and research skills of sports analytics to plan a substantial research-based project.
4. Apply critical thinking, knowledge, and research skills, with increasing independence, to execute a substantial research-based project.
5. Synthesise research findings in order to communicate theoretical propositions, methodologies and conclusions to a professional audience via written and oral communication methods.
6. Develop coherent and advanced knowledge along with rational and rigorous arguments that produce a substantial body of work in the relevant field of study.
7. Apply the principles of academic integrity and ethical conduct of research.

The two subjects represent the 'first' and 'second' semester of the year-long Honours program (approximately 9 months). Both subjects need to be undertaken to complete your Honours degree. The two subjects **do not** function the same way that usual undergraduate subjects would. Honours students will enrol in both subjects, but the assessment tasks are shared across the entire year. To help with completing your research project and assessments, there will be a variety of general research training workshops, with the majority earlier in the year to get you prepared for your research project and some towards the end of the year to help with finishing and writing up your project. **Further information regarding the specifics of these research training workshops and your assessment tasks will be provided on the Honours LMS and via email.** As well as your assessments and research training workshops, a large component of these two subjects is your regular meetings (face-to-face, Zoom, Teams, email, phone, etc.) with your supervisor(s).

PREPARING FOR HONOURS

The Honours year is designed so that students complete a major research component, within two semesters (FTE). For that reason, students and supervisors need to plan the research project carefully. As the research project is the largest and most important component of the Honours program, students are strongly encouraged to discuss the timing of the different components of their research with their supervisor(s), so that they know when they have to achieve milestones towards their research goals. Students and supervisors should consider if ethics clearance is required (for research involving human or animal subjects) and factor time required to obtain ethics clearance into the timeline. In some situations, this will mean applying for ethics clearance prior to commencement of candidature. Your proposed supervisor can advise whether this will be necessary.

In the first week of the Honours year (usually in February), you should organise a meeting with your supervisor(s) to discuss the year ahead, and to decide on a regular meeting schedule. In particular, you should make sure you understand your supervisor's expectations for work and be sure to communicate any restrictions on your own availability through the year. Honours should be treated as a 9-5, 5 days a week workload, but there may be times when this is not possible or when the workload fluctuates depending on the stage of your research project. Students are expected to inform their supervisor and the Honours Coordinator if they are unable to attend workshops or seminars through illness. In general, students are not expected to take long holidays (within reason), and any proposed absences should be discussed with your supervisor.

THE SUPERVISOR-STUDENT RELATIONSHIP

All students in the Honours program have at least one supervisor. The supervisor will ensure that the student receives clear direction as to the general aim of the project and that the project is achievable as an Honours project. The principal supervisor is responsible for the administration of the project and student. Students may have more than one supervisor, and this is particularly advisable when the additional supervisors have recognised expertise in the area of study, or the project is multidisciplinary. Both the students and supervisors should keep in regular contact with the Honours Coordinator.

The supervisory relationship should be characterised by (for both parties):

- Professional, ethical, and respectful behaviour
- Clearly articulated roles, responsibilities, and expectations, established early in the Honours year
- A thorough understanding of the program requirements
- Provision of adequate commitment of time during planning, implementation, and completion

This relationship involves obligations on both parties. Your supervisor will assist you with advice, guidance, and constructive criticism and help you to achieve your personal academic goals. Your supervisor is there to help you choose and design the research project, guide the research in a practical and productive way, and advise you on writing the best thesis of which you are capable. At the same time, your supervisor can only guide your efforts if you produce drafts for them to read and are receptive to, and act upon their advice. You must take the responsibility for maintaining communication with your supervisor, meeting deadlines, and the final results of your work.

Your supervisors will play an important role in guiding you through your project and will be your most important source of feedback as you prepare for your assessments during the year. It is, however, important that your assessments in Honours are an assessment of ***your abilities***, rather than those of your supervisors.

Responsibilities of the supervisor:

- Assist the student in selecting and defining the scope of a suitable thesis topic or problem; assist the student in devising a schedule for the year's work
- Attend the supervisors meeting (with other supervisors and Honours Coordinator) early in the year to set expectations for the year ahead
- Guide the student in the selection and application of appropriate data collection practices, laboratory and field research methods, conceptual frameworks, and analysis procedures, and advise on the solution of any difficulties that arise

- Advise on matters of assessment content, organisation and writing, including the timely provision of comments, written and oral, on drafts
- Meet/communicate frequently with the student to discuss and evaluate each stage of the Honours project; where there are joint supervisors, they should arrange joint meetings with the student
- Monitor student progress and advise the student when progress is unsatisfactory
- Advise students on gaining training, ethics clearance, and appropriate permits for research
- Ensure that alternative supervisory arrangements are in place should they be absent for part of the student's project

Responsibilities of the student:

- Fulfil all the requirements of the Honours course
- Write a plan and develop a timetable for the work
- Take responsibility for the day-to-day running of the project
- Ensuring relevant ethics and safety approval and permits are obtained where necessary before work commences
- Consult regularly with the supervisor; students should prepare in advance for consultations by determining the help they require and the areas in which advice would be useful
- Consider advice seriously; if advice is not taken, the supervisor should be informed and given the reasons for the decision
- Produce and deliver written material in accordance with the schedule agreed on with the supervisor, and to meet all deadlines
- Take responsibility for their progress overall and to seek advice early if problems arise
- Fulfil all requirements when completing the project (e.g., leaving all research records with the supervisor, disposing or storing all project materials as required)

AFTER HONOURS

Upon completion of your Honours course, students will often seek to **publish their research project** in a relevant academic journal. For those that wish to pursue a career in research, publishing is an important step in your journey. For those that wish to pursue a career in any science-related field, having a publication is often looked upon favourably by employers as it demonstrates your motivation and academic skills, including the ability to complete and communicate your research project. You should discuss expectations with your supervisor about publishing your research and also the expectations for authorship order. Also, we will look to keep a record of your thesis for internal use by future Honours students.

After Honours, there is the option to continue on to **further research** following your Honours year. There are two main pathways for further research study, and each student's situation is unique, so early discussions with your supervisor(s) is recommended to plan for what comes after your Honours. One pathway is to transfer into a Master by Research degree. This process will involve a continuation of your Honours research, where you will directly enter into the second year of your Masters. Once completed, you will graduate with a Master by Research degree, but if you decide to not complete the Masters, you will still graduate with Honours. The other pathway is to complete your Honours and apply directly to a PhD. Both pathways have scholarships available. Further details can be found at the following links.

Masters: https://www.latrobe.edu.au/researchers/grs/hdr/applying/transfer-process-from-honours-to-masters

PhD: https://www.latrobe.edu.au/study/apply/research/doctor

You may also wish to continue studying in another field (e.g., https://www.latrobe.edu.au/study/postgrad) or go directly out into Industry (e.g., https://twitter.com/JobsinSportSci). Early planning is always important, so reach out to your supervisor(s) or Honours Coordinator if you want to discuss your options after Honours. The Student Advising team can also help with career goals.

Assessments and Grades

ASSESSMENT OVERVIEW

The Honours program is centred around a research project, on a topic agreed upon with your supervisor(s). To help you complete this research project, and to assess your ability to undertake research, there are a number of assessment tasks that you will need to complete throughout the year. Specific details of the assessments will be provided on your LMS page. Usually, you have a literature review and project plan to complete early in the year along with a research proposal presentation, and then a final presentation and thesis later in the year. The thesis is the main assessment task for your Honours project.

GRADES AND ADMINISTRATIVE CODES (HONOURS)

There are four classes of Honours, with final marks generated from all of your assessments.

- **First Class (H1)** | indicating an overall mark equal to or exceeding 80%. A First Class Honours degree demonstrates that the student has excellent potential for independent research. A first-class thesis would be free of major faults, demonstrate originality and skills in planning, analysis, and execution of a logical research plan, and would be written clearly and succinctly. It would also illustrate the scientific and/or applied relevance of the project work.

- **Second Class, Division A (H2A)** | indicating an overall mark of 70-79%. This indicates a competent student who has potential to proceed to a higher degree but would need appreciable guidance to meet the required standards. An H2 thesis would exhibit a thorough understanding of the research issues and a professional or original approach to its resolution. Research design and analyses would be good, presentation clear, and errors of fact and style minimal.

- **Second Class, Division B (H2B)** | indicating an overall mark of 60-69%. Such a thesis is competently written but contains some inadequacies in scope, content, presentation, data analysis, or understanding of the topic.

- **Third Class (H3)** | indicating an overall mark of 50-59%. Thesis work may indicate much effort but suffer inadequacies in scope, content, presentation, data analysis, or understanding of the topic.

If the overall mark is <50%, the student has failed the degree and the thesis has serious inadequacies in some or all areas.

Sport and Exercise Science Staff

Dr Benjamin Mentiplay, Honours Coordinator, https://scholars.latrobe.edu.au/bmentiplay

Professor Paul Gastin, Discipline Lead, https://scholars.latrobe.edu.au/pgastin

Dr Minh Huynh, Course Coordinator Sport and Exercise Science, https://scholars.latrobe.edu.au/m2huynh

Mr Maris Lidums, Course Coordinator Sport Coaching and Development, https://scholars.latrobe.edu.au/mlidums

Dr Andrew Govus, Senior Lecturer in Exercise Physiology, https://scholars.latrobe.edu.au/agovus

Dr Anthea Clarke, Senior Lecturer in Applied Sport Science, https://scholars.latrobe.edu.au/acclarke

Dr Charlie Davids, Lecturer in Strength and Conditioning, https://scholars.latrobe.edu.au/cdavids

Dr Claire Willis, Lecturer in Paediatric Sport and Exercise Science, https://scholars.latrobe.edu.au/cewillis

A/Professor Clare MacMahon, Associate Professor in Skilled Performance, https://scholars.latrobe.edu.au/cmacmahon

Dr Corey Perrett, Research Fellow in Biomechanics, https://scholars.latrobe.edu.au/cperrett

Dr David Carey, Lecturer in Sports Analytics and Data Science, https://scholars.latrobe.edu.au/dcarey

Dr Haresh Suppiah, Lecturer and Research Fellow in Analytics and Sleep, https://scholars.latrobe.edu.au/hsuppiah

Dr Julia Walsh, Adjunct Senior Lecturer Sport Coaching and Development, https://scholars.latrobe.edu.au/j5walsh

Dr Kane Middleton, Senior Lecturer in Biomechanics, https://scholars.latrobe.edu.au/kmiddleton

Ms Kate Perry, Associate Lecturer in Sport Science and Sport Coaching, https://scholars.latrobe.edu.au/keperry

Professor Kate Webster, Professor in Knee Orthopaedics, https://scholars.latrobe.edu.au/kwebster

Dr Lachlan James, Senior Lecturer in Strength and Conditioning, https://scholars.latrobe.edu.au/lpjames

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Dr Mary Grant, Lecturer in Career Development in Sport, https://scholars.latrobe.edu.au/m3grant

A/Professor Matt Driller, Associate Professor Sport and Exercise Science, https://scholars.latrobe.edu.au/mdriller

Dr Matthew Varley, Senior Lecturer in Applied Sport Science, https://scholars.latrobe.edu.au/mvarley

Dr Melanie Clarke, Lecturer in Sport and Exercise Science, https://scholars.latrobe.edu.au/m3clarke

Dr Paul Xanthos, Lecturer in Sport and Exercise Science, https://scholars.latrobe.edu.au/pxanthos

2024 Honours Projects – please see the following pages for available projects and relevant contacts.

REDUCING KNEE PAIN IN ATHLETES WITH BLOOD FLOW RESTRICTION EXERCISE

MELBOURNE REBELS

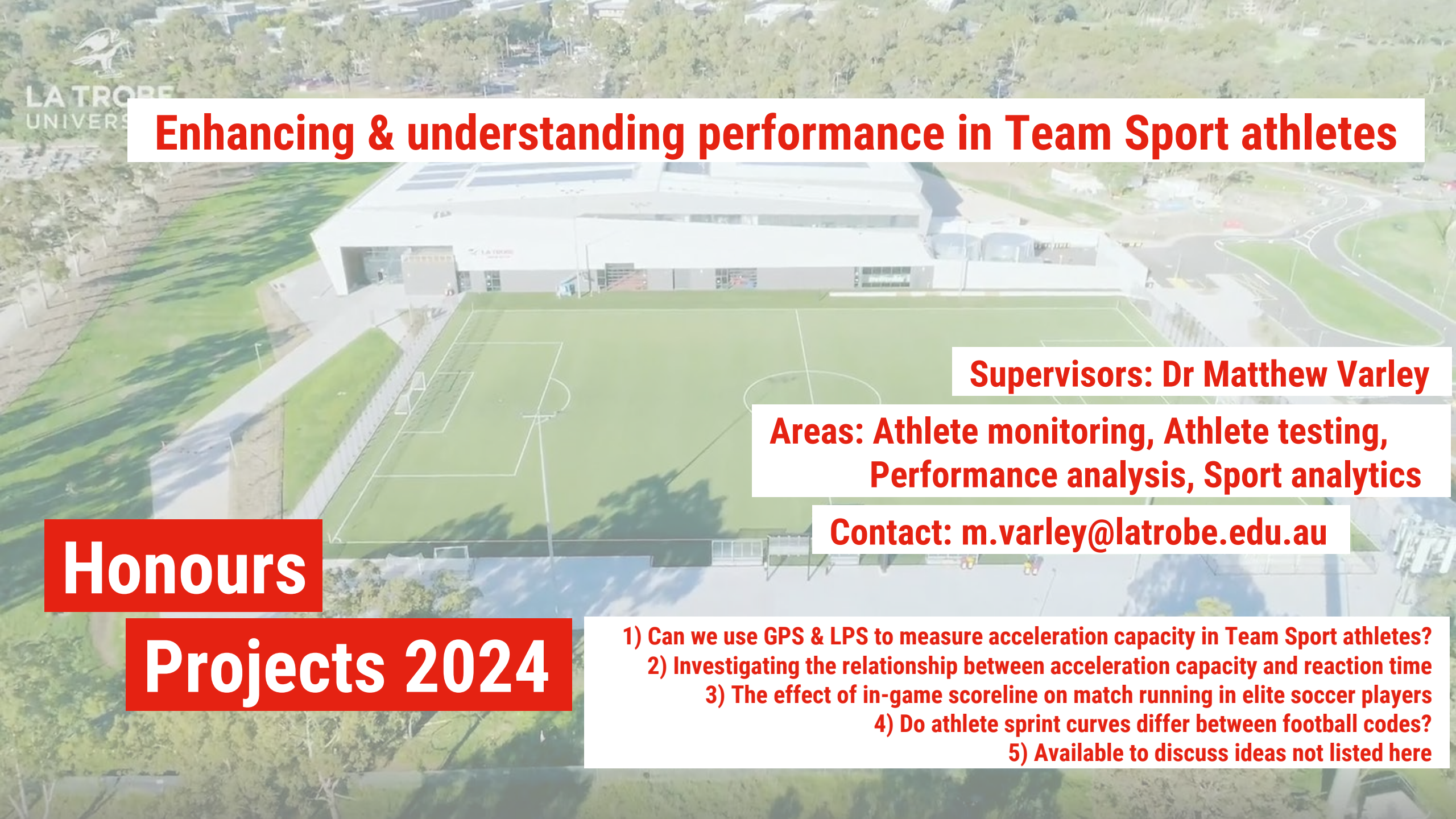
Honours Projects 2024

Supervisors: Dr Charlie Davids, Dr Luke Vella

Area: Strength & Conditioning, Exercise Physiology

Contact: c.davids@latrobe.edu.au

Enhancing & understanding performance in Team Sport athletes



Supervisors: Dr Matthew Varley

Areas: Athlete monitoring, Athlete testing, Performance analysis, Sport analytics

Contact: m.varley@latrobe.edu.au

Honours Projects 2024

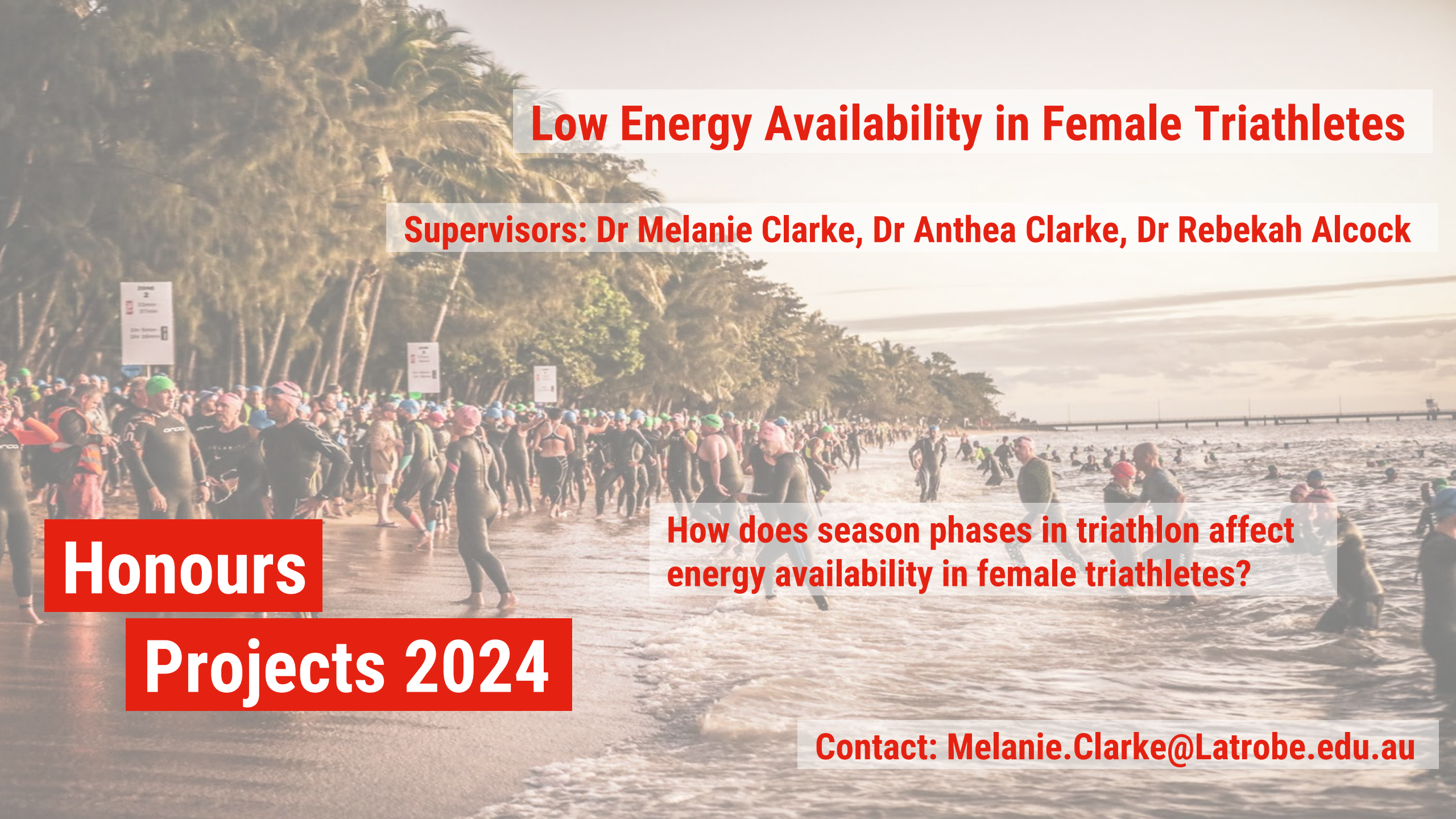
1) Can we use GPS & LPS to measure acceleration capacity in Team Sport athletes?
2) Investigating the relationship between acceleration capacity and reaction time
3) The effect of in-game scoreline on match running in elite soccer players
4) Do athlete sprint curves differ between football codes?
5) Available to discuss ideas not listed here

Tracking the menstrual cycle relative to duration: Improving individualisation for athletes

Honours Projects 2024

Supervisors: Dr Anthea Clarke, Ms Mikaeli Carmichael

Contact: a.clarke@latrobe.edu.au



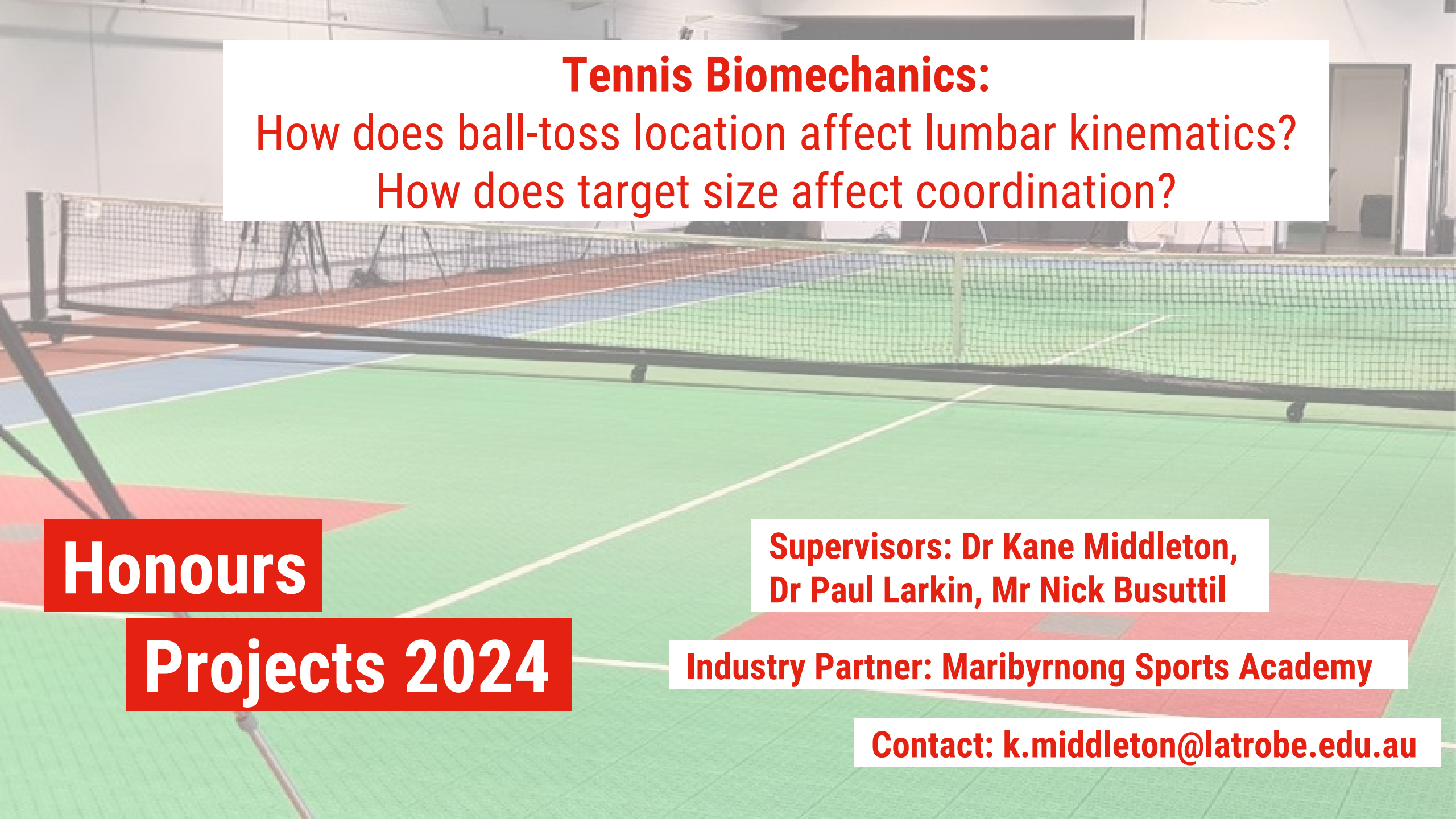
Low Energy Availability in Female Triathletes

Supervisors: Dr Melanie Clarke, Dr Anthea Clarke, Dr Rebekah Alcock

Honours Projects 2024

How does season phases in triathlon affect energy availability in female triathletes?

Contact: Melanie.Clarke@Latrobe.edu.au



Tennis Biomechanics:

How does ball-toss location affect lumbar kinematics?
How does target size affect coordination?

Honours Projects 2024

Supervisors: Dr Kane Middleton, Dr Paul Larkin, Mr Nick Busuttil

Industry Partner: Maribyrnong Sports Academy

Contact: k.middleton@latrobe.edu.au

MENTAL FATIGUE AND PHYSICAL PERFORMANCE

How does fatigue affect different types of physical tasks? Can we overcome the effects?

Honours Projects 2024

Supervisors: Assoc Prof Clare MacMahon

Area: Skilled Performance

Contact: c.macmahon@latrobe.edu.au

Virtual Reality in Sport

Honours Projects 2024

Supervisor: Luke Wilkins

Area: Skilled Performance

Contact: l.wilkins@latrobe.edu.au

1) Examining the Construct Validity of VR Sports Games
2) The Effect of VR on Children's Intentions to Play Sport
3) Exploring the Emotional Responses to Short-Pitch Cricket Bowling
4) Baseball Batting in Response to Manipulations in a Pitcher's Release Point
5) Examining the Impact of VR in Cycling for Physical Activity
6) Understanding the Decision-Making Experiences of American Football Quarterbacks
7) Open to Ideas!

Lawn Bowls Biomechanics:

Relationship between technique and performance

Biomechanical differences between types of draw shots

CoM movement during bowl delivery

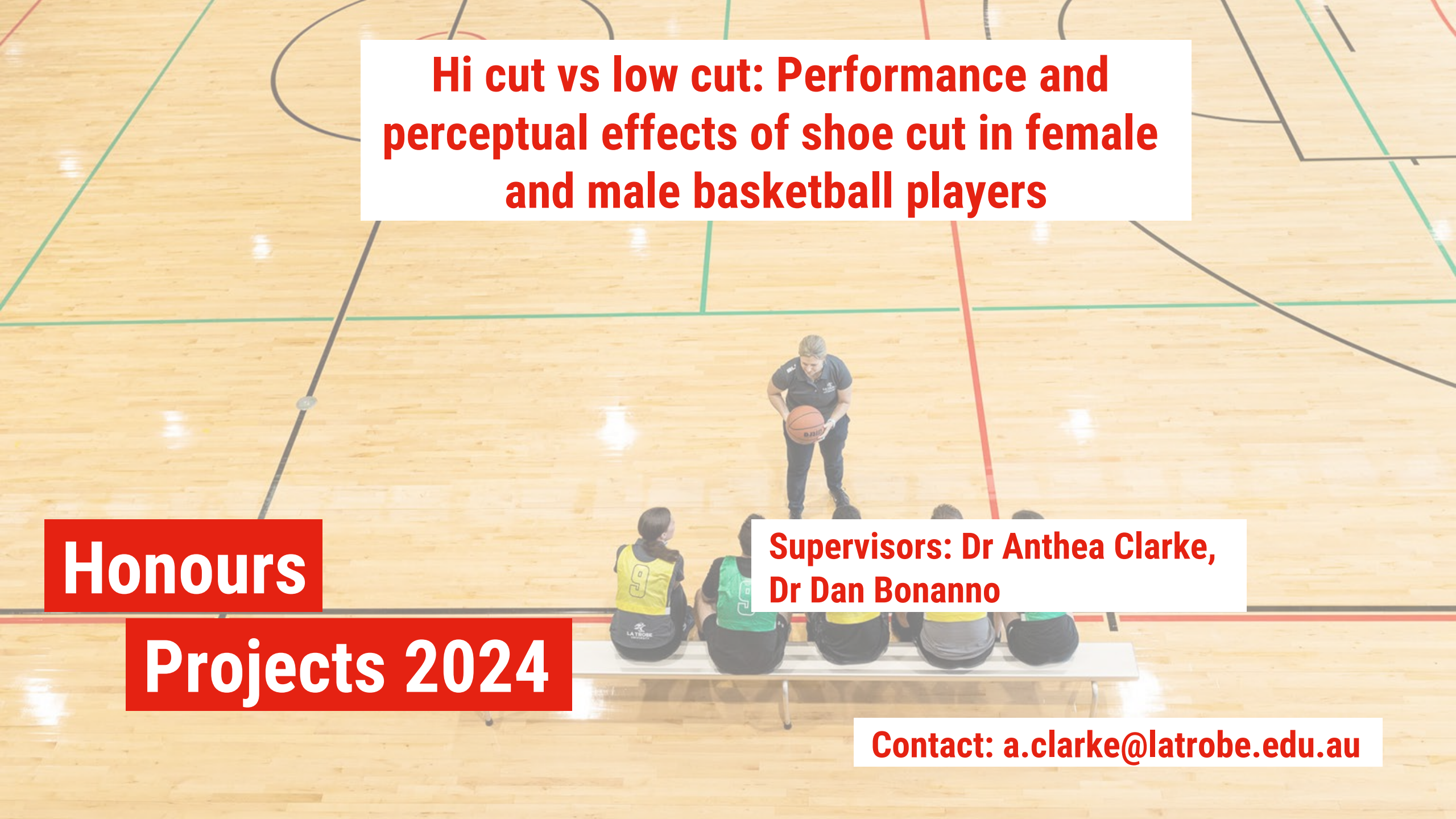
Honours Projects 2024

Supervisors: Dr Kane Middleton, Dr Corey Perrett, Prof. Jodie McClelland, Prof. Kate Webster

Industry Partner: Bowls Australia

Contact: k.middleton@latrobe.edu.au

Hi cut vs low cut: Performance and perceptual effects of shoe cut in female and male basketball players



Honours Projects 2024

Supervisors: Dr Anthea Clarke, Dr Dan Bonanno

Contact: a.clarke@latrobe.edu.au

Effect of treadmill type on responses to load carriage

Honours Projects 2024

Supervisors: Dr Kane Middleton, Ms Danielle Vickery-Howe

Industry Partners: Defence Science and Technology Group, Australian Army

Contact: k.middleton@latrobe.edu.au

Referee Development

Understanding talent development environments for female rugby or hockey officials

Honours

Projects 2024

Supervisors: Assoc Prof Clare MacMahon
Dr Anthea Clarke, Dr Alex Roberts

Area: Talent Development

Contact: c.macmahon@latrobe.edu.au

Effect of treadmill incline on gait and physiological cost

Honours Projects 2024

Supervisors: Dr Kane Middleton, Prof. Ben Dascombe, Ms Danielle Vickery-Howe

University Partners: Western Sydney University

Contact: k.middleton@latrobe.edu.au

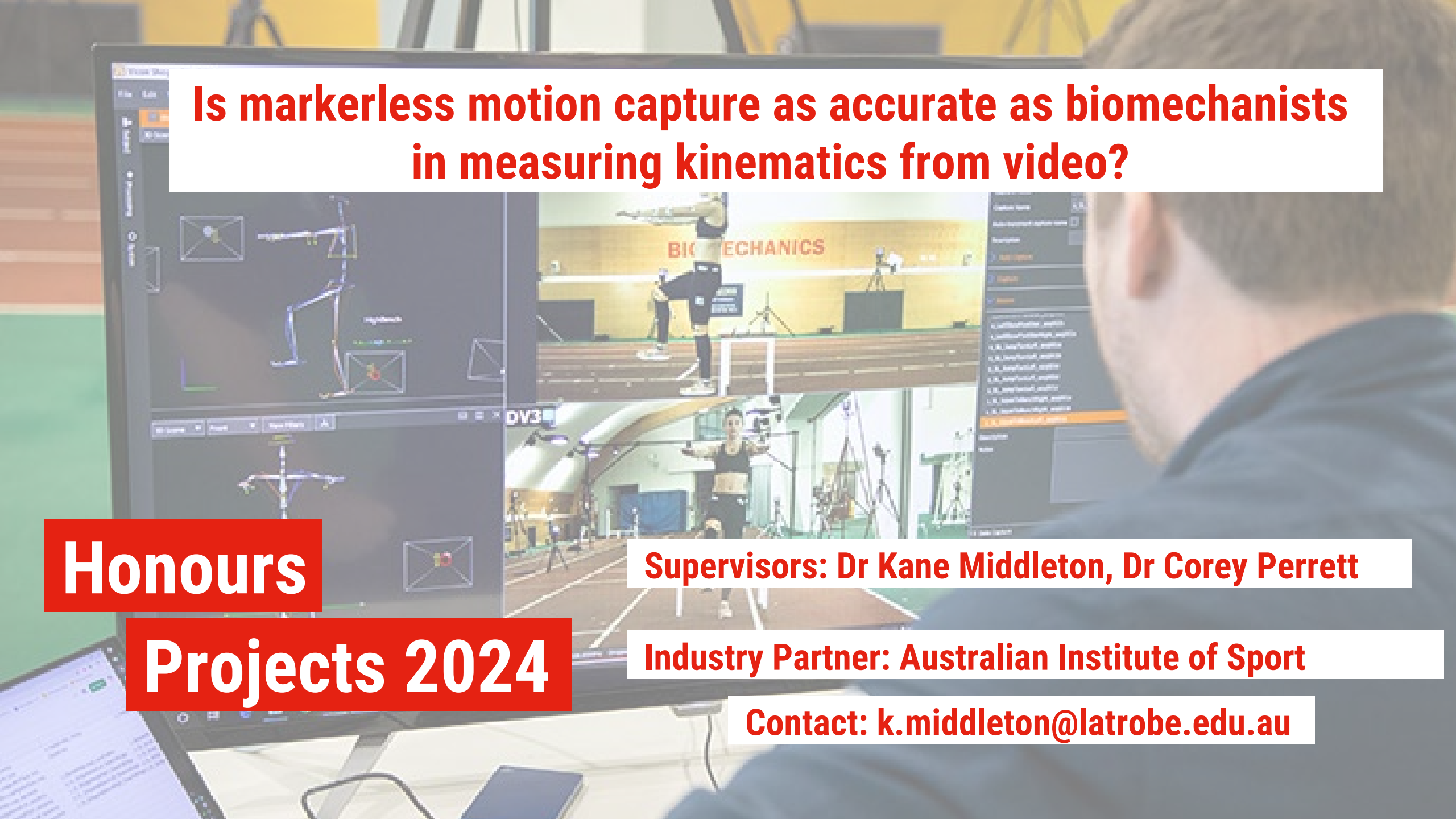
Coach and player perceptions and practices of heading in soccer

Honours Projects 2024

Supervisors: Dr Kane Middleton, Dr Anthea Clarke, Adj. Prof. Alan Pearce

Contact: k.middleton@latrobe.edu.au

Is markerless motion capture as accurate as biomechanists in measuring kinematics from video?



Honours Projects 2024

Supervisors: Dr Kane Middleton, Dr Corey Perrett

Industry Partner: Australian Institute of Sport

Contact: k.middleton@latrobe.edu.au