

Ryan D Hoult



Nationality: Australian, Dutch

Date of birth: 01/06/1988

Phone: 04XX XXX XXX

Professional Email: ryan.hoult@newcastle.edu.au

Website: [UoN Research Profile](#)

Website: [Google Scholar](#)

Website: [Research Gate](#)

Website: [LinkedIn](#)

EDUCATION

Doctor of Philosophy (Structural Engineering)

University of Melbourne [01/03/2013 – 11/12/2017]

City: Parkville | **Country:** Australia | **Website:** [Research @ Infrastructure Engineering](#) |

Thesis: Seismic Assessment of Reinforced Concrete Walls in Australia, [Available Online](#)

Supervisors: A/Prof Helen Goldsworthy, Dr Elisa Lumantarna

My PhD research was driven by the poor seismic performance of non-ductile reinforced concrete (RC) walls observed in the 2011 Christchurch earthquake, which raised concerns about similar vulnerabilities in Australian buildings due to limited detailing requirements and outdated seismic hazard data. The study included updated probabilistic seismic hazard and site response analyses for major Australian cities, and advanced finite element modelling of both rectangular and U-shaped RC walls commonly used in local construction. A simple analytical tool—the Secondary Cracking Model (SCM)—was developed and validated to assess whether RC walls contain sufficient longitudinal reinforcement to achieve ductile behaviour. New expressions for equivalent plastic hinge lengths were also proposed, improving displacement capacity predictions for lightly reinforced, unconfined walls. Seismic vulnerability functions were then derived for low-, mid-, and high-rise buildings using national exposure datasets and site-specific ground motion simulations. The outcomes of this research offer important insights for seismic design in regions of low-to-moderate seismicity, and have directly informed updates to AS 3600 (2019), including revised provisions for minimum longitudinal reinforcement in limited ductile RC walls.

Master of Engineering (Structures)

University of Melbourne [Coursework from 01/03/2012 – 15/12/2012]

City: Parkville | **Country:** Australia | **Website:** <https://www.unimelb.edu.au/> |

Thesis: Seismic Performance of Steel Eccentrically Braced Frame Systems

Supervisor: Prof Priyan Mendis

Course Subjects:

CVEN90016 Concrete Design and Technology
CVEN90017 Earthquake Resistant Design of Buildings
CVEN90018 Structural Dynamics and Modelling
CVEN90026 Extreme Loading of Structures
ENEN90011 Energy Efficient Technology
ENEN90014 Sustainable Buildings
ENEN90027 Energy for Sustainable Development
ENEN90033 Solar Energy

Bachelor of Environments (Civil Engineering)

University of Melbourne [01/03/2008 – 16/12/2011]

City: Parkville | **Country:** Australia | **Website:** As above | **Final grade:** Second Class Honours - H2A

Specialist Certificate in Teaching

University of Melbourne [01/03/2014 – 15/12/2014]

City: Parkville | **Country:** Australia | **Website:** As above

RELEVANT EMPLOYMENT

Senior Lecturer (Academic Level C) [01/07/2025 – Present] (Research FTE = 0.4)

University of Newcastle – Callaghan Campus, NSW, Australia

As Senior Lecturer in Structural Engineering, I lead high-quality teaching across undergraduate and postgraduate programs and contribute to curriculum development. My research focuses on sustainable and resilient concrete systems, with an emphasis on seismic performance and emerging materials. I actively secure research funding, foster industry partnerships, and supervise HDR students. I also contribute to academic service, mentoring, and collaboration within the university and broader professional community.

Research Fellow [03/07/2023 – 30/06/2025] (Research FTE = 1.0)

Université catholique de Louvain (UCLouvain) – Louvain-la-Neuve, Belgium

As a Marie Skłodowska-Curie Postdoctoral Fellow at UCLouvain, I lead an independent research project focused on testing novel, cost-effective reinforcing materials for concrete structures with improved durability and sustainability. This work explores the structural performance of innovative materials such as shape memory alloys and corrosion-resistant reinforcements, combining experimental testing with practical design implications. The project supports collaboration between academia and industry and contributes to advancing low-carbon, high-performance construction solutions.

Postdoctoral Researcher [02/07/2021 – 30/06/2023] (Research FTE = 1.0)

Université catholique de Louvain (UCLouvain) – Louvain-la-Neuve, Belgium

As a recipient of the Fonds de la Recherche Scientifique (FNRS) postdoctoral fellowship at UCLouvain, I conducted research under the supervision of Prof. João Almeida on the torsional behaviour of reinforced concrete U-shaped core walls. The project involved the design, construction, and testing of two large-scale wall specimens subjected to combined torsion and flexure, providing new insights into their seismic performance. This work addressed a critical gap in current design standards and contributed to the broader understanding of complex loading in non-planar concrete systems.

Lecturer (Academic B) [16/09/2019 – 30/06/2021] (Research FTE = 0.0, 100% Teaching Role)

University of Melbourne – Parkville Campus, VIC, Australia

As a Lecturer in a 100% teaching-focused role, I was responsible for the delivery and coordination of undergraduate engineering courses. My duties included lecturing core content, leading tutorials and workshops, preparing and managing laboratory sessions, and updating course materials to align with evolving industry standards. I also oversaw assessment design and grading, provided academic support to students, and managed sessional teaching staff by assigning responsibilities and ensuring consistent delivery across course components. This role strengthened my skills in curriculum development, academic leadership, and student engagement.

Postdoctoral Researcher [16/08/2018 – 01/09/2019] (Research FTE = 1.0)

École Polytechnique Fédérale de Lausanne (EPFL)

Earthquake Engineering and Structural Dynamics Lab – Lausanne, Switzerland

As a recipient of the highly competitive Swiss Government Excellence Scholarship, I undertook postdoctoral research at EPFL, where I led a large-scale experimental testing program at the Earthquake Engineering and Structural Dynamics (EESD) Laboratory. The project involved the design, construction, and quasi-static testing of two full-scale reinforced concrete walls to investigate their seismic performance under bi-directional loading. I was responsible for all phases of the project, including experimental planning, instrumentation, data interpretation, and collaboration with international research partners. This role further strengthened my expertise in earthquake engineering, large-scale testing, and project leadership in a high-profile research environment.

Senior Tutor (Academic Level A) [01/07/2017 – 15/08/2018] (Research FTE = 0.0, 100% Teaching Role)

University of Melbourne – Parkville Campus, VIC, Australia

As Senior Tutor in a 100% teaching-focused role, I was responsible for delivering tutorials, practical demonstrations, and occasional lectures across core undergraduate engineering courses. I supported the coordination and training of sessional tutors to ensure consistent teaching quality and contributed to the preparation and refinement of laboratory materials. In addition to academic duties, I provided administrative support to the department, assisting with course coordination, student communications, and assessment logistics. This role enhanced my skills in academic leadership, teaching delivery, and operational support within a large-scale engineering education environment.

Resident Tutor [01/02/2012 – 15/08/2018] (Research FTE = 0.0, 100% Teaching Role)

St Hilda's College – Parkville , Australia

As a live-in Resident Tutor at St Hilda's College, University of Melbourne, I was responsible for supporting undergraduate students—particularly those studying civil and mechanical engineering—through academic tutorials, consultations, and pastoral care. My duties included designing and delivering supplementary workshops aligned with university subject content and assessments, preparing lesson plans and teaching materials to enhance student performance, and offering one-on-one academic support tailored to individual needs. In addition to teaching responsibilities, I was available to provide pastoral care and guidance to college residents, fostering a supportive and inclusive learning environment.

RESEARCH INTERESTS

I am a structural engineering researcher with a focus on improving the seismic performance, resilience, and sustainability of reinforced concrete systems. My work bridges experimental testing and advanced numerical modelling, with particular interest in the behaviour of RC walls and core structures under earthquake loading. I am actively exploring the use of innovative materials such as glass fibre-reinforced polymer (GFRP) bars and shape memory alloys (SMAs) to enhance durability, reduce residual drift, and enable structural recovery post-event. I also investigate sustainable concrete technologies—such as sea-sand and seawater mixes, and low-carbon binders—aiming to develop performance-based design guidelines that integrate ecological responsibility with structural robustness. My broader goal is to contribute to safer and more sustainable infrastructure through cross-disciplinary collaboration and code-informing research.

STATEMENT OF CAREER ASPIRATIONS

I aspire to contribute meaningfully to the field of structural and earthquake engineering by advancing the design of reinforced concrete systems that are not only robust and resilient but also ecologically sustainable. My goal is to lead interdisciplinary research that informs national and international design codes, particularly in the context of seismic resilience, sustainable materials, and innovative reinforcement strategies such as GFRP and shape memory alloys. I am committed to mentoring the next generation of engineers and researchers through thoughtful supervision and collaborative, cross-sector projects. Ultimately, I seek to foster stronger connections between academia, industry, and policy to ensure the built environment of tomorrow is safer, smarter, and more sustainable.

RESEARCH GRANTS AND FUNDING

CESE Pilot Scheme [01/06/2023] \$15,000 AUD

University of Newcastle, College of Engineering, Science and Environment

The aim of this project is to experimentally test the viability of GFRP-reinforced concrete walls in providing the necessary strength, stiffness, ductility, and energy dissipation required for lateral loads expected in Australia. This project adopts a unique approach that ensures ductile components deform in a controlled manner while brittle failures are avoided.

This CESE Pilot Research Scheme funded research program has four key aims: (1) Investigate the structural performance and failure mechanisms of innovative GFRP-reinforced concrete (GFRP-RC) wall systems; (2) Assess the effectiveness of debonding GFRP rebars over engineered lengths to enhance the performance of GFRP-RC wall; (3) Examine the use of a lower-strength concrete toe in dissipating energy within the wall system; (4) Generate high-quality experimental data to support the validation and verification of numerical models simulating GFRP-RC wall behaviour.

Disaster Ready Fund [01/06/2023] \$300,000 AUD

Australian Government, Northern Territory Government

The Australian Earthquake Engineering Society (AEES), in partnership with the Northern Territory Emergency Service, has successfully secured \$150,000 in government funding through the Commonwealth Government's Disaster Ready Fund to install structural monitoring equipment in Darwin buildings. With a further \$150,000 in combined in-kind and direct contributions from partner organisations—including the Australian National University, Geoscience Australia, the Seismology Research Centre, Swinburne University of Technology, and UCLouvain—the total project value reaches \$300,000 over three years. The project aims to promote the adoption of structural health monitoring in Australian buildings, using Darwin as a natural laboratory due to its proximity to the seismically active Banda Sea. Recent significant seismic events (e.g. M7.6 in January 2023) have demonstrated the vulnerability of the region to earthquake-induced building response. The installed equipment will capture structural responses from both moderate and large regional earthquakes, as well as smaller local events, contributing to an open waveform database hosted by ANU's AusPass server. These data will support research, teaching, and refinement of Australia's seismic design standards, while also enhancing real-time situational awareness for emergency response and seismic risk assessment.

Marie Skłodowska-Curie Actions Postdoctoral Fellowship [17/02/2022] €191,000 EUR

European Commission, Université catholique de Louvain, Belgium

In 2021, I was awarded a prestigious Marie Skłodowska-Curie Postdoctoral Fellowship—part of the European Union's flagship programme for postdoctoral research and innovation. My project, SMA-RC-Walls, investigates the seismic resilience of reinforced concrete structures incorporating shape memory alloy (SMA) rebars. Conventional earthquake-resistant buildings often rely on reinforced concrete walls that localise damage at their base—an approach that, while life-saving, can render buildings irreparable after major events. This research explores the use of iron-based SMA reinforcement in the boundary regions of concrete walls, enabling structures to recover their original shape after seismic loading and significantly reducing permanent damage and residual drift. The project combines large-scale experimental testing and material characterisation to support the development of international design guidance for this emerging technology and contribute to a more robust, low-damage built environment.

Success rate of 13.59%. Application Score: 95.40%  [More information on SMA-RC-Walls Project](#)

Learning and Teaching Initiatives Grant [11/08/2020] \$14,119 AUD

School of Engineering, University of Melbourne, Australia

I received internal teaching innovation funding to lead the development of interactive online laboratory modules for structural engineering education during and beyond COVID-19. These modules—covering the design, construction, and testing of reinforced concrete beams—were designed to replicate hands-on learning in a virtual format using embedded video, 3D models, and interactive assessments. The initiative aimed to deliver core intended learning outcomes across multiple undergraduate and graduate subjects, and has since served as a model for remote laboratory teaching across disciplines, including architecture and materials engineering.

 [More information on the interactive laboratory modules at the University of Melbourne](#)

Swiss Government Excellence Scholarship [17/02/2022] F42,000 CHF

Swiss Government, École Polytechnique Fédérale de Lausanne, Switzerland

I was awarded the prestigious Swiss Government Excellence Scholarship to undertake a one-year postdoctoral research program at EPFL, Switzerland, under the supervision of Professor Katrin Beyer in the Earthquake Engineering and Structural Dynamics (EESD) Laboratory. I led large-scale experimental testing of two slender U-shaped reinforced concrete walls detailed with a single reinforcement layer. Unlike conventional studies focused on planar walls, this project addressed the seismic behaviour of non-planar wall geometries (U-, T-, L-, H-shaped), which are more representative of real building cores but remain under-researched. Using advanced instrumentation and data acquisition systems, we captured critical structural performance parameters to inform future design guidelines.

Success rate of ~15%.

RESEARCH INTERST AND RELEVANCY

 [Research Gate](#)

615.3 Research Interest Score | **505** Citations | **14** h-index

 [Google Scholar](#)¹

667 Citations | **15** h-index | **27** i10-index

PUBLICATIONS

Peer-reviewed Journal Articles

- [1] Almeida, J. P. d., Payen, B., **Hoult**, R., & Correia, A. A. (2026). Non-Planar Reinforced Concrete Walls: Assessing Effective Stiffness and Influence of Axial Load Ratio and Eccentricity with Simplified Beam-Truss Models. *Journal of Earthquake Engineering*, 1–28.
 <https://doi.org/10.1080/13632469.2025.2609152>
- [2] **Hoult**, R., Correia, A. A., Bertholet, A., Candeias, P., Cumunel, G., Doneux, C., . . . Almeida, J. P. d. (2025). Shake-table Tests on Two 40-ton Reinforced Concrete U-shaped Walls with Uniaxial and Bidirectional-Torsional Response. *Earthquake Spectra*.
 <https://doi.org/10.1177/87552930251378247>
- [3] Orgnoni, A., Pinho, R., **Hoult**, R., & Almeida, J. P. d. (2025). Numerical simulation of the shake-table response of a U-shaped RC wall using the Applied Element Method. *Bulletin of Earthquake Engineering*, 23(14).
 <https://doi.org/10.1007/s10518-025-02272-0>
- [4] Zacchei, E., **Hoult**, R. D., & de Almeida, J. P. (2025). Influence of chloride and corrosion attack on the seismic resistance of reinforced concrete walls under alternative climate scenarios. *Structural Concrete*, 26(2), 2162–2181.
 <https://doi.org/10.1002/suco.70038>

¹ Metrics taken on 12 September 2025

- [5] Lo Feudo, S., Han, Y., Cumunel, G., **Hoult**, R., Bertholet, A., Garnier, D., ... & Pacheco de Almeida, J. (2025). Video Tracking of Targets for Vibration Measurement of Large-Scale Structures Under Seismic Excitation. *Earthquake Engineering & Structural Dynamics*, 54(8), 2106-2120.
 <https://doi.org/10.1002/eqe.4353>
- [6] Jafari, A., Mirrashid, M., **Hoult**, R. D., & Zhou, Y. (2025). Plastic hinge length of RC shear walls: Practical approximation via machine learning and probabilistic assessment. *Engineering Failure Analysis*, 169, 109179.
 <https://doi.org/10.1016/j.engfailanal.2024.109179>
- [7] **Hoult**, R., & Almeida, J. P. d. (2024). Modified compression field theory and disturbed stress field model on the simulation of the global and local behaviour of non-planar reinforced concrete walls under cyclic and dynamic loading. *Bulletin of Earthquake Engineering*.
 <https://doi.org/10.1007/s10518-024-01982-1>
- [8] **Hoult**, R., & Almeida, J. P. d. (2024). Flexure-Torsion Response of Compressed Open Reinforced Concrete Cores: Experimental Strain Gradients, Numerical Methods, and Interaction Diagrams. *Journal of Structural Engineering*.
 <https://doi.org/10.1061/JSENDH.STENG-13147>
- [9] **Hoult**, R., & Almeida, J. P. d. (2024). Torque Capacity of U- and H-shaped RC Walls using Warping-Equivalent Bending Moment. *ACI Structural Journal*.
 <https://doi.org/10.14359/51740574>
- [10] **Hoult**, R., Doneux, C., & Pacheco de Almeida, J. (2023). Tests on reinforced concrete U-shaped walls subjected to torsion and flexure. *Earthquake Spectra*.
 <https://doi.org/10.1177/87552930231195315>
- [11] **Hoult**, R., Bertholet, A., & de Almeida, J. P. (2023). Core versus Surface Sensors for Reinforced Concrete Structures: A Comparison of Fiber-Optic Strain Sensing to Conventional Instrumentation. *Sensors*, 23(3), 1745.
 <https://doi.org/10.3390/s23031745>
- [12] **Hoult**, R., Correia, A. A., & de Almeida, J. P. (2023). Beam-Truss Models to Simulate the Axial-Flexural-Torsional Performance of RC U-Shaped Wall Buildings. *CivilEng*, 4(1), 292-310.
 <https://doi.org/10.3390/civileng4010017>
- [13] Weng, X., **Hoult**, R. D., & Lumantarna, E. (2023). Site-Specific Seismic Analysis of Buildings Supported by Lightly Reinforced Precast Concrete Walls. *CivilEng*, 4(1), 270-291.
 <https://doi.org/10.3390/civileng4010016>
- [14] **Hoult**, R. (2022). Universal Plastic Hinge Length for Reinforced Concrete Walls. *ACI Structural Journal*, 119(4), 75-83.
 <https://doi.org/10.14359/51734650>
- [15] **Hoult**, R. D., & de Almeida, J. P. (2022). Residual displacements of reinforced concrete walls detailed with conventional steel and shape memory alloy rebars. *Engineering Structures*, 256, 114002.
 <https://doi.org/10.1016/j.engstruct.2022.114002>
- [16] **Hoult**, R., & de Almeida, J. P. (2022). From experimental strain and crack distributions to plastic hinge lengths of RC walls with SMA rebars. *Engineering Structures*, 268, 114731.
 <https://doi.org/10.1016/j.engstruct.2022.114731>
- [17] **Hoult**, R. (2022). A computationally-effective method for rapidly determining the seismic structural response of high-rise buildings with a limited number of sensors. *Bulletin of Earthquake Engineering*, 20(9), 4395-4417.
 <https://doi.org/10.1007/s10518-021-01171-4>
- [18] **Hoult**, R. (2021). Torsional capacity of reinforced concrete U-shaped walls. *Structures* (Vol. 31, pp. 190-204).
 <https://doi.org/10.1016/j.istruc.2021.01.104>
- [19] **Hoult**, R., Allen, T., Borleis, E., Peck, W., & Amirsardari, A. (2021). Source and attenuation properties of the 2012 Moe, southeastern Australia, earthquake sequence. *Seismological Research Letters*, 92(2A), 1112-1128.
 <https://doi.org/10.1785/0220200234>
- [20] **Hoult**, R., & Beyer, K. (2021). RC U-shaped walls subjected to in-plane, diagonal, and torsional loading: New experimental findings. *Engineering Structures*, 233, 111873.
 <https://doi.org/10.1016/j.engstruct.2021.111873>
- [21] **Hoult**, R., Peel, M., & Duffield, C. (2021). Lessons from flipping subjects in engineering: effectiveness of student learning in a flipped environment at the university level. *Journal of Civil Engineering Education*, 147(1), 04020012.
 [https://doi.org/10.1061/\(ASCE\)EI.2643-9115.0000002](https://doi.org/10.1061/(ASCE)EI.2643-9115.0000002)
- [22] Currie, G., Henderson, A., & **Hoult**, R. (2021). Diffusion of innovation in an Australian engineering school. *Australasian Journal of Engineering Education*, 26(2), 219-226.
 <https://doi.org/10.1080/22054952.2021.1979174>

- [23] Sofi, M., Lumantarna, E., **Hoult**, R., Mooney, M., Mason, N., & Lu, J. (2021). Bond strength of GiR in cross-laminated timber: A preliminary study. *Construction and Building Materials*, 301, 123864.
 <https://doi.org/10.1016/j.conbuildmat.2021.123864>
- [24] **Hoult**, R., Appelle, A., Almeida, J., & Beyer, K. (2020). Seismic performance of slender RC U-shaped walls with a single-layer of reinforcement. *Engineering Structures*, 225, 111257.
 <https://doi.org/10.1016/j.engstruct.2020.111257>
- [25] **Hoult**, R., & Beyer, K. (2020). Decay of torsional stiffness in RC U-shaped walls. *Journal of Structural Engineering*, 146(9), 04020176.
 [https://doi.org/10.1061/\(ASCE\)ST.1943-541X.0002733](https://doi.org/10.1061/(ASCE)ST.1943-541X.0002733)
- [26] **Hoult**, R. D. (2019). Shear lag effects in reinforced concrete C-shaped walls. *Journal of Structural Engineering*, 145(3), 04018270.
 [https://doi.org/10.1061/\(ASCE\)ST.1943-541X.0002272](https://doi.org/10.1061/(ASCE)ST.1943-541X.0002272)
- [27] **Hoult**, R., Goldsworthy, H., & Lumantarna, E. (2019). Fragility functions for RC shear wall buildings in Australia. *Earthquake Spectra*, 35(1), 333-360.
 <https://doi.org/10.1193/1.20717EQS251M>
- [28] **Hoult**, R. D., Goldsworthy, H. M., & Lumantarna, E. (2020). Plastic hinge length for lightly reinforced C-shaped concrete walls. *Journal of Earthquake Engineering*, 24(7), 1083-1114.
 <https://doi.org/10.1080/13632469.2018.1453419>
- [29] **Hoult**, R. D., Goldsworthy, H. M., & Lumantarna, E. (2018). Plastic hinge analysis for lightly reinforced and unconfined concrete structural walls. *Bulletin of Earthquake Engineering*, 16, 4825-4860.
 <https://doi.org/10.1007/s10518-018-0369-x>
- [30] **Hoult**, R. D., Lumantarna, E., & Goldsworthy, H. M. (2017). Soil amplification in low-to-moderate seismic regions. *Bulletin of Earthquake Engineering*, 15, 1945-1963.
 <https://doi.org/10.1007/s10518-016-0067-5>
- [31] **Hoult**, R., Goldsworthy, H., & Lumantarna, E. (2018). Plastic hinge length for lightly reinforced rectangular concrete walls. *Journal of Earthquake Engineering*, 22(8), 1447-1478.
 <https://doi.org/10.1080/13632469.2017.1286619>
- [32] **Hoult**, R. D. (2017). Minimum longitudinal reinforcement requirements for boundary elements of limited ductile walls for AS 3600. *Electronic Journal of Structural Engineering*, 17, 43-52.
 <https://doi.org/10.56748/ejse.17218>

Technical Reports

- [33] Griffin, J., Gerstenberger, M., Allen, T., Clark, D., Cuthbertson, R., Dimas, V.-A., Gibson, G., Ghasemi, H., **Hoult**, R., . . . Venkatesan, S. (2018). Expert elicitation of model parameters for the 2018 National Seismic Hazard Assessment: Summary of workshop, methodology and outcomes. Record 2018/27. *Geoscience Australia*, Canberra.
 <http://dx.doi.org/10.11636/Record.2018.028>

Preprints

- [34] **Hoult**, R., Almeida, J. P. d., (2025). Axial Tests on Concrete Wall Boundary Elements Reinforced with FeSMA and GFRP. Submitted to *Bulletin of Earthquake Engineering*.
- [35] Almeida, J. P. d., Payen, B., **Hoult**, R., Correia, A., (2025). Non-rectangular Reinforced Concrete Walls: Assessing Effective Stiffness and Influence of Axial Load Ratio and Eccentricity with Simplified Beam-truss Models. Submitted to *Journal of Earthquake Engineering*.

Others

- [36] **Hoult**, R., & Ninis, D. (2023). Morocco earthquake: experts explain why buildings couldn't withstand the force of the 6.8 magnitude quake. *The Conversation*
 [Article](#)

Conference Papers

- [37] **Hoult**, R. (2025). Assessing Torsional Demands and Residual Drift in RC Core Walls under Earthquake Excitation. Paper presented at the *Australian Earthquake Engineering Society Conference*, November 20 – 22, 2025. Melbourne, Australia.
- [38] **Hoult**, R., Lam, N. (2025). To bond, or not to bond, that is the question: the role of reinforcement debonding in enhancing the performance of RC walls. Paper presented at the *Australian Earthquake Engineering Society Conference*, November 20 – 22, 2025. Melbourne, Australia.
- [39] Weng, X., Menegon, S., **Hoult**, R. (2025). Sliding shear behaviour of horizontal grouted joints in prefabricated concrete walls: review of the literature and current design models. Paper presented at the *Australian Earthquake Engineering Society Conference*, November 20 – 22, 2025. Melbourne, Australia.
- [40] **Hoult**, R., Almeida, J. P. d. (2025). Warping Torque of Symmetrical Non-Planar Open RC Sections. Paper presented at the *Concrete 2025 (CIA Biennial Conference)*, September 7 – 10, 2025. Adelaide, Australia.
- [41] **Hoult**, R., Almeida, J. P. d. (2025). Experimental Investigation of Surface Conditions and Embedment Length Effects on Bond-Slip Behaviour of GFRP Rebars. Paper presented at the *Concrete 2025 (CIA Biennial Conference)*, September 7 – 10, 2025. Adelaide, Australia.
- [42] Almeida, J. P. d., **Hoult**, R. (2025). Seismic Residual Displacements of RC U-shaped Core Walls: Preliminary Findings. Paper presented at the *2025 International Workshop in Engineering Research Infrastructures for European Synergies (ERIES-IW2025)*, May 7 – 9, 2025. Lisbon, Portugal.
-  [Conference Proceedings](#)
- [43] Almeida, J. P. d., **Hoult**, R., Zoller, A. (2025). Influence of Surface Conditions and Embedment Length on the Bond-slip Response of GFRP Rebars in Concrete. Paper presented at the *12th International Conference on Fiber-Reinforced Polymer (FRP) Composites in Civil Engineering*, July 14 - 16, 2025. Lisbon, Portugal.
- [44] Weng, X., Lumantarna, E., **Hoult**, R., Menegon, S., Lam, N. (2024). Prediction of Lateral Drift Behaviour of Precast Concrete Walls Using Finite Element Analysis. Paper presented at the *Australian Earthquake Engineering Society Conference*, November 21 – 23, 2024. Adelaide, Australia.
-  [Conference Paper](#)
- [45] **Hoult**, R., Almeida, J. P. d., & Correia, A. A. (2024). Overview and Blind Prediction from Shake Table Tests of a Large-Scale RC U-shaped Core Wall. Paper presented at the *18th World Conference on Earthquake Engineering (WCEE2024)*, June 30 – July 5, 2024. Milan, Italy.
-  [Conference Paper](#)
- [46] **Hoult**, R., Almeida, J. P. d. (2024). Ongoing Experimental Programmes on RC Walls Reinforced with Iron-Based Shape Memory Alloy Rebars. Paper presented at the *18th World Conference on Earthquake Engineering (WCEE2024)*, June 30 – July 5, 2024. Milan, Italy.
-  [Conference Paper](#)
- [47] Almeida, J. P. d., **Hoult**, R., Bayen, P., Correia, A. (2024). Effective Stiffness of Non-Rectangular Reinforced Concrete Walls for Design and Assessment. Paper presented at the *18th World Conference on Earthquake Engineering (WCEE2024)*, June 30 – July 5, 2024. Milan, Italy.
-  [Conference Paper](#)
- [48] Weng, X., Lumantarna, E., **Hoult**, R., Lam, N. (2023). Sliding shear behaviour of horizontal grouted joints in prefabricated concrete walls: review of the literature and current design models. Paper presented at the *Australasian Conference on the Mechanics of Structures and Materials*, December 3 – 6, 2023. Auckland, New Zealand.
-  [Conference Proceedings](#)
- [49] Weng, X., Menegon, S., Lumantarna, E., **Hoult**, R., Sofi, M., Lam, N. (2023). Pullout Tests of Grout Tube Connections in Limited Ductile Precast Reinforced Concrete Walls. Paper presented at the *Australian Earthquake Engineering Society Conference*, November 23 – 25, 2023. Brisbane, Australia.
-  [Conference Paper](#)
- [50] **Hoult**, R., Bertholet, A., Almeida, J. P. d. (2022). Vertical Displacement and Strain Measurements Of RC Walls using Fiber-Optic Sensors and Conventional Instrumentation. Paper presented at the *8th Asia Conference on Earthquake Engineering*, November 9 – 11, 2022. Taipei, Taiwan.
- [51] **Hoult**, R., Doneux, C., Almeida, J. (2022). Blind prediction results of two RC U-shaped walls subjected to flexure and torsion. Paper presented at the *Australian Earthquake Engineering Society Conference*, November 24 – 25, 2022. Mt Macdeon, Australia.
-  [Conference Paper](#)
- [52] **Hoult**, R., Bertholet, A., Almeida, J. (2022). Fibre-optic sensors in reinforced concrete walls: a comparison of core to surface strain measurements. Paper presented at the *Australian Earthquake Engineering Society Conference*, November 24 – 25, 2022. Mt Macdeon, Australia.
-  [Conference Paper](#)

- [53] **Hoult**, R., Almeida, J., Lezaack, M., Simar, A. (2022). Reinforced concrete walls detailed with shape memory alloys: recent experimental and numerical investigations. Paper presented at the *3rd European Conference on Earthquake Engineering*, September 4 – 9, 2022. Bucharest, Romania.
- [54] **Hoult**, R., Almeida, J. (2022). The plastic hinge length of planar and non-planar RC walls. Paper presented at the *3rd European Conference on Earthquake Engineering*, September 4 – 9, 2022. Bucharest, Romania.
- [55] **Hoult**, R., Almeida, J., Doneux, C. (2022). A blind prediction of the seismic and torsional performance of RC U-shaped core walls. Paper presented at the *3rd European Conference on Earthquake Engineering*, September 4 – 9, 2022. Bucharest, Romania.
- [56] **Hoult**, R., Almeida, J. (2021). Residual displacements of flexure-governed RC walls detailed with conventional steel and shape memory alloy rebars. Paper presented at the *Australian Earthquake Engineering Society Conference*, November 25 – 26, 2021. Virtual Conference.
 [Conference Paper](#)
- [57] **Hoult**, R., Pascale, A., Jones, A., Allen, T. (2021). The M_w 5.9 Woods Point Earthquake: A Preliminary Investigation of the Ground Motion Observations. Paper presented at the *Australian Earthquake Engineering Society Conference*, November 25 – 26, 2021. Virtual Conference.
 [Conference Paper](#)
- [58] Lam, L., de Souza, R., Sutton, C., Oliveira, E.A., Currie, G., **Hoult**, R., Esfahani, L.M., Canny, L., Honig, C., Buskes, G. (2021). Development of an online teaching-focused professional development program for junior teaching staff. Paper presented at the *Research in Engineering Education Symposium Australasian Association for Engineering Education Conference (REES-AAEE2021)*, December 5 – 8, 2021. Perth, Australia.
 [Conference Paper](#)
- [59] **Hoult**, R., Almeida, J. (2021). Residual displacements of flexure-governed RC walls detailed with conventional steel and shape memory alloy rebars. Paper presented at the *Australian Earthquake Engineering Society Conference*, November 25 – 26, 2021. Virtual Conference.
 [Conference Paper](#)
- [60] Weng, X., Lumantarna, E., **Hoult**, R., Lam, N. (2021). Seismic Performance of Precast RC Walls in Australia: Literature Review. Paper presented at the *Australian Earthquake Engineering Society Conference*, November 25 – 26, 2021. Virtual Conference.
 [Conference Paper](#)
- [61] **Hoult**, R. (2020). Experimental Findings on the Seismic Performance of Reinforced Concrete U-shaped Walls using the Digital Image Correlation Technique. Paper presented at the *Australian Structural Engineering Conference*, November 11 – 13, 2020. Virtual Conference.
 [Conference Paper](#)
- [62] **Hoult**, R., Miramini, S., Lumantarna, E. (2020). Students' experience and effectiveness of learning in large classes using a blended learning approach. Paper presented at the *Australasian Association for Engineering Education Annual Conference*, December 6 – 7, 2020. Sydney, Australia.
- [63] **Hoult**, R., Appelle, A., Almeida, J., Beyer, K. (2020). Seismic Performance of Slender and Unconfined RC U-shaped Walls with a Single-Layer of Reinforcement. Paper presented at the *8th International Conference on Advances in Experimental Structural Engineering (8AESE)*, February 3 – 5, 2020. Christchurch, New Zealand.
- [64] **Hoult**, R., Pascale, A., Chan, T.H.T. (2020). A Cost-Effective Approach for Seismic Structural Health Monitoring. Paper presented at the *Australian Structural Engineering Conference*, November 20 – 22, 2020. Virtual Conference.
 [Conference Paper](#)
- [65] **Hoult**, R. (2020). Torsional Performance of RC U-shaped Walls: Recent Experimental and Numerical Findings. Paper presented at the *Australian Structural Engineering Conference*, November 20 – 22, 2020. Virtual Conference.
 [Conference Paper](#)
- [66] **Hoult**, R. (2018). Minimum longitudinal reinforcement requirements proposed for limited-ductile RC walls in as 3600. Paper presented at the *Australian Structural Engineering Conference (ASEC2018)*, September 25 – 28, 2018. Adelaide, Australia.
 [Conference Paper](#)
- [67] **Hoult**, R., Goldsworthy, H., Lumantarna, E. (2017). Seismic Assessment of the RC building stock of Melbourne from rare and very rare earthquake events. Paper presented at the *Australian Earthquake Engineering Society Conference*, November 24 – 26, 2017. Canberra, ACT.
 [Conference Paper](#)

- [68] **Hoult**, R., Goldsworthy, H., Lumantarna, E. (2017). Seismic performance of lightly reinforced and unconfined C-shaped walls. Paper presented at the *Australian Earthquake Engineering Society Conference*, November 24 – 26, 2017. Canberra, ACT.
 [Conference Paper](#)
- [69] **Hoult**, R., Goldsworthy, H., Lumantarna, E. (2016). Displacement Capacity of Lightly Reinforced Rectangular Concrete Walls. Paper presented at the *Australian Earthquake Engineering Society Conference*, November 25 – 27, 2016. Melbourne, Australia.
 [Conference Paper](#)
- [70] **Hoult**, R., Goldsworthy, H., Lumantarna, E. (2016). Non-ductile seismic performance of reinforced concrete walls in Australia. Paper presented at the *Australasian Structural Engineering Conference (ASEC2016)*, November 23 – 25, 2016. Brisbane, Australia.
 [Conference Paper](#)
- [71] **Hoult**, R., Goldsworthy, H., Lumantarna, E. (2015). Torsional displacement for asymmetric low-rise buildings with RC C-shaped cores. Paper presented at the *10th Pacific Conference on Earthquake Engineering*, November 6 – 8, 2015. Sydney, Australia.
 [Conference Paper](#)
- [72] **Hoult**, R., Goldsworthy, H., Lumantarna, E. (2015). Seismic assessment of nonductile reinforced concrete C-shaped walls in Australia. Paper presented at the *Eighth International Structural Engineering and Construction (ISEC) Conference*, November 23 – 28, 2015. Sydney, Australia.
 [Conference Paper](#)
- [73] **Hoult**, R., Goldsworthy, H., Lumantarna, E. (2014). Seismic Performance of Typical C-Shaped Reinforced Concrete Shear Cores in Australia. Paper presented at the *Australian Earthquake Engineering Society Conference*, November 21 – 23, 2014. Lorne, Australia.
 [Conference Paper](#)
- [74] **Hoult**, R., Amirsardari, A., Sandiford, D., Lumantarna, E., Goldsworthy, H., Gibson, G., Asten, M. (2014). The 2012 Moe earthquake and earthquake attenuation in south eastern Australia. Paper presented at the *Australian Earthquake Engineering Society Conference*, November 21 – 23, 2014. Lorne, Australia.
 [Conference Paper](#)
- [75] Leonard, M., **Hoult**, R., Somerville, P., Gibson, G., Sandiford, D., Goldsworthy, H., Lumantarna, E., Spilopoulos, S. (2014). Deaggregating the differences between seismic hazard assessments at a single site. Paper presented at the *Australian Earthquake Engineering Society Conference*, November 21 – 23, 2014. Lorne, Australia.
 [Conference Paper](#)
- [76] **Hoult**, R., Lumantarna, E., Goldsworthy, H. (2013). Ground motion modelling and response spectra for Australian earthquakes. Paper presented at the *Australian Earthquake Engineering Society Conference*, November 15 – 17, 2013. Hobart, Australia.
 [Conference Paper](#)

RECENT CONFERENCE PRESENTATIONS AND TALKS

18th World Conference on Earthquake Engineering (WCEE2024) [30/06/2024 – 05/07/2024] **Chair, Presentation**
 Milan, Italy

At the 2024 World Conference on Earthquake Engineering in Milan, Italy, I successfully led and chaired a technical session titled "RC Structural Walls: Advances and Future Challenges for Design, Modelling, Testing, and Construction." The session featured over 50 contributions from leading research teams and industry experts worldwide, fostering valuable discussion on the latest developments and future directions in the field.

 [Conference Proceedings](#)

2022 Australian Earthquake Engineering Society (AEES) Conference [24/11/2022 – 25/11/2022] **Presentation**
 Mt Macedon, Australia

 [Conference Proceedings](#)

8th Asia Conference on Earthquake Engineering [09/11/2022 – 11/11/2022] **Chair, Presentation**

Taipei, Taiwan

Invited to chair a technical session titled "Case Studies on the Use of Emerging Technologies and Advances in Earthquake Engineering Research" at the 8th Asia Conference on Earthquake Engineering, held in Taipei, Taiwan.

 [Website](#)

3rd European Conference on Earthquake Engineering & Seismology [04/09/2022 – 09/09/2022] **Presentation**

Bucharest, Romania

SUPERVISION AND MENTORING

I have extensive experience mentoring undergraduate and postgraduate students across engineering and interdisciplinary contexts. Through my roles as a resident tutor, supervisor, and collaborator, I have supported students' academic, personal, and professional development, fostering inclusive environments that encourage critical thinking and resilience. My mentorship style is proactive and empathetic, focused on building confidence, research capability, and long-term growth.

PhD Students

Mr Sacha Awad [01/07/2025 – Present]

Université catholique de Louvain, Belgium

"Durability Assessment of GFRP-Reinforced Concrete Structures Under Combined Loading for Sustainable, Long-Life Performance".

Mr Xiangzhe Weng [01/12/2020 – 16/12/2024]

University of Melbourne, Australia

"Seismic Performance of Reinforced Concrete Precast Walls in Australia".

Master's Theses

Mr M.oghor Battal [2025]

Université catholique de Louvain, Belgium

"Large-Scale Experimental Tests of Concrete Walls Reinforced with GFRP".

 [Thesis](#)

Mr Nathan Simons [2024]

Université catholique de Louvain, Belgium

"Bent capacity of GFRP rebars".

 [Thesis](#)

Ms Mathilde Vandenberghe, Ms Florie Tinant [2023]

Université catholique de Louvain, Belgium

"Design of a large-scale experimental test of high-rise concrete wall reinforced with fibre reinforced polymers".

 [Thesis](#)

Mr Thomas Terwagne [2023]

Université catholique de Louvain, Belgium

"Optimising the placement of a minimum number of sensors for seismic health monitoring of mid- and high-rise structures".

 [Thesis](#)

Mr Christophe Saegerman [2023]

Université catholique de Louvain, Belgium

"Influence of axial load ratio and eccentricity on the cyclic response of non-rectangular walls through beam-truss models".

 [Thesis](#)

Mr Basile Payen [2023]

Université catholique de Louvain, Belgium

"U-shaped Reinforced Concrete Walls with Shape Memory Alloys: Large Scale Tests on LNEC-3D Shake Table and Numerical Modelling".

 [Thesis](#)

Mr Mathieu Deridder, Mr Louis Sartenar [2023]

Université catholique de Louvain, Belgium

"Development and testing of GFRP-SMA rebar connections for reinforced concrete members".

 [Thesis](#)

Mr Christophe Dandois [2023]

Université catholique de Louvain, Belgium

“Bond-slip and Anchorage of Glass Fiber Reinforced Polymers Rebars for Concrete: Experimental Tests and Numerical Modelling”.

 [Thesis](#)

Mr Mathis Keirle [2022]

Université catholique de Louvain, Belgium

“Effective Stiffness of Non-Rectangular Reinforced Concrete Structural Walls and Engineering Beam-truss Models in Seismic Design and Analysis”.

 [Thesis](#)

Mr Baudouin Kerautem [2022]

Université catholique de Louvain, Belgium

“Superelastic Alloy Rebars for Improved Seismic Response of Reinforced Concrete Wall Buildings”.

 [Thesis](#)

Mr Sacha Awad [2022]

Université catholique de Louvain, Belgium

“Torsional response of U-shaped walls”.

 [Thesis](#)

Arlindo Viseu, Chi Lao, Jia XIE [2020]

University of Melbourne, Australia

“Torsional Capacity of Reinforced U-Shaped Concrete Walls”.

Zhenran Xu, Zhenyu WANG, Ziheng Wang, Cunxu Wang [2020]

University of Melbourne, Australia

“Crack Analysis of a Reinforced Concrete U-shaped Wall using a Digital Image Correlation”.

Boyu Wang, Yiou Chen, Zhenxiong Zhang [2020]

University of Melbourne, Australia

“A Cost-Effective Method for the Seismic Health Monitoring Of Buildings”.

Ms Lisa Imperatori [2020]

École Polytechnique Fédérale de Lausanne (EPFL), Switzerland

“Modelling reinforced concrete coupling beams designed for low-to-moderate seismic regions”.

TEACHING

2025

University of Newcastle, Australia

Course Coordinator, Structural Engineering Project (CIVL4521)

2024

Université catholique de Louvain, Belgium

Lecturer, Earthquake Engineering (LGCIV2046)

2023

Université catholique de Louvain, Belgium

Lecturer & Tutor, Earthquake Engineering (LGCIV2046)

2022

Université catholique de Louvain, Belgium

Lecturer, Earthquake Engineering (LGCIV2046)

2021

University of Melbourne, Australia

Course Coordinator, Structural Theory and Design 2 (CVEN90049)

Course Coordinator, Engineering Statics (ENGR10005)

Lecturer & Tutor, Earthquake Resistant Design of Buildings (CVEN90017)

2020

University of Melbourne, Australia

Course Coordinator, Structural Theory and Design 2 (CVEN90049)

Lecturer, Structural Theory and Design 1 (CVEN30009)

Course Coordinator, Engineering Statics (ENGR10005)

Lecturer, Steel and Composite Structures Design (CVEN90035)

Lecturer & Tutor, Earthquake Resistant Design of Buildings (CVEN90017)

Lecturer, Concrete Design and Technology (CVEN90016)

2018

University of Melbourne, Australia

Course Coordinator, Sustainable Infrastructure Engineering (CVEN90043)

Course Coordinator, Earth Processes for Engineering (ENEN20002)

Course Coordinator, Engineering Risk Analysis (CVEN30008)

Lecturer, Engineering Materials (ENGR20003)

Lecturer & Tutor, Structural Theory and Design 1 (CVEN30009)

Tutor, Engineering Statics (ENGR10005)

2017

University of Melbourne, Australia

Course Coordinator, Sustainable Infrastructure Engineering (CVEN90043)

Lecturer & Tutor, Structural Theory and Design 1 (CVEN30009)

Tutor, Engineering Statics (ENGR10005)

Tutor, Structural Theory and Design 3 (CVEN90035)

Tutor, Construction Engineering (CVEN90058)

2016

University of Melbourne, Australia

Tutor, Sustainable Infrastructure Engineering (CVEN90043)

Tutor, Structural Theory and Design 1 (CVEN30009)

Tutor, Structural Theory and Design 3 (CVEN90035)

Tutor, Structural Dynamics and Modelling (CVEN90018)

Tutor, Structural Environments (ENVS10009)

2015

University of Melbourne, Australia

Tutor, Structural Theory and Design 1 (CVEN30009)

Tutor, Structural Theory and Design 3 (CVEN90035)

Tutor, Structural Dynamics and Modelling (CVEN90018)

Tutor, Structural Environments (ENVS10009)

2014

University of Melbourne, Australia

Tutor, Structural Theory and Design 1 (CVEN30009)

Tutor, Structural Theory and Design 3 (CVEN90035)

Tutor, Structural Dynamics and Modelling (CVEN90018)

Tutor, Structural Environments (ENVS10009)

Tutor, Extreme Loading of Structures (CVEN90026)

STUDENT FEEDBACK

2023

Université catholique de Louvain, Belgium

Earthquake Engineering (LGCIV2046)

"Ryan teaches very well and it's always interesting to get a different view of UCLouvain."

"Superb surprise with the discovery of Mr Hoult, whom I also adored."

2017

University of Melbourne, Australia

Structural Theory and Design 1 (CVEN30009)

"My tutor was really good (Ryan), he did a good job teaching some of the tougher topics."

"Ryan Hoult has been a great tutor, very easy to talk to and clarifying issues and problems."

"Tutor (Ryan) was amazing, learnt more from him than the lectures most of the time."

"Ryan and Chris have been the two best lecturers I have had in my time at Melbourne university. They were always clear with their explanations of content and they took their time to hand-write calculations out so we could understand the concepts."

"Ryan was a really good lecturer, I like how he went over mechanics content and didn't just assume we knew everything."

"I really enjoyed his lectures and understood it. Dr Ryan Hoult is also way up there in lecturers and tutors. Very helpful, very just good teaching. He explained things well and answered student questions."

2016

University of Melbourne, Australia

Sustainable Infrastructure Engineering (CVEN90043)

"The tutors (Ryan and Nuddin) were really interesting, put a lot of effort into giving feedback and providing useful information for case studies and reports."

"Ryan and Nuddin were fantastic in running workshops and had a good balance between being professional but also understanding of the students and helping where possible."

SERVICE TO DISCIPLINE

Journal Peer Review

Regular manuscript reviewer for high-impact journals, including (but not limited to):

- *Engineering Structures*
- *Soil Dynamics and Earthquake Engineering*
- *Journal of Structural Engineering (ASCE)*
- *Earthquake Spectra*
- *Earthquake Engineering & Structural Dynamics*
- *Bulletin of Earthquake Engineering*
- *Australian Journal of Structural Engineering*
- *Buildings (MDPI)*
- *CivilEng (MDPI)*
- *International Journal of Concrete Structures and Materials*
- *Structures*
- *Journal of Civil Engineering Education*
- *International Journal of STEM Education*

Some of these reviews are listed on my [ORCID](#) profile and [Publons](#) record.

Thesis Examination

Examiner for postgraduate theses in structural and earthquake engineering:

Mr Ben Neefs [2025]

Université catholique de Louvain, Belgium

"The Belgian Macroseismic Database: Creation, Validation, and its Implications for Engineering Seismology".

Mr Rohit Gokhale [2024]

University of Canterbury, New Zealand

"Axial Cyclic Behaviour of RC Prisms Representing Wall Boundary Zones".

Ms Srijana Gurung Shrestha [2023]

University of Canterbury, New Zealand

"Estimating Seismic Demand of Reinforced Concrete Wall Buildings: A Simplified Approach".

Mr Tianhua Deng [2022]

University of Auckland, New Zealand

"Seismic Design of Lightly Reinforced Concrete Walls in Tall Buildings".

Mr Mayank Tripathi [2019]

University of Canterbury, New Zealand

"Bar Buckling in Ductile Reinforced Concrete Walls: Causes, Consequences And Control".

LEADERSHIP

Principal Investigator (PI)

I have been PI on multi-year, international research projects focused on the development of resilient reinforced concrete wall systems, guiding interdisciplinary teams and coordinating with industry stakeholders. Projects include:

ERIES ALL4wALL Project [2023-2024] *Co-Investigator*

Université catholique de Louvain (Belgium)
ENPC ParisTech (France)
ISAE-Supméca - Institut supérieur de mécanique de Paris (France)
University of Ljubljana (Slovenia)
University of Pavia (Italy)
York University (Canada)
National Laboratory of Civil Engineering, LNEC (Portugal)

SMA-RC-Walls [2023-2025] *Principal Investigator*

Université catholique de Louvain (Belgium)

Torsional Response of RC U-shaped Walls [2021-2023] *Co-Investigator*

Université catholique de Louvain (Belgium)

Large-scale Tests on RC U-shaped Walls [2018-2019] *Co-Investigator*

École Polytechnique Fédérale de Lausanne, EPFL (Switzerland)
Universidad EIA (Colombia)
Universidad del Norte (Colombia)
Universidad EAFIT (Colombia)
Universidad de Medellín (Colombia)
National University of Mexico (Mexico)

Conference Chair

Chaired technical sessions at major international conferences, including:

18th World Conference on Earthquake Engineering (WCEE2024) [2024]

Milan, Italy

“RC Structural Walls: Advances and Future Challenges for Design, Modelling, Testing, and Construction”.

8th Asia Conference on Earthquake Engineering (8ACEE) [2022]

Taipei, Taiwan

“Case Studies on the Use of Emerging Technologies, Advances in Earthquake Engineering Research”.

Resident Tutor and Community Leader

St. Hilda's College, the University of Melbourne, Australia [2012-2018]

Parkville, Melbourne, Australia

Supporting the academic and personal development of students in a residential setting, and leading initiatives that foster inclusive collegiate culture.

Supervisor of HDR Students (see previous SUPERVISION AND MENTORING section)

University of Newcastle, Australia [2025 - Present]

Université catholique de Louvain, Belgium [2022 - 2025]

University of Melbourne, Australia [2020]

École Polytechnique Fédérale de Lausanne, Switzerland [2020]

Lead Author, Team Coordinator, Collaborations, and Partnerships

I have led the way for high-impact journal publications and collaborative research outputs, ensuring scientific quality, timely delivery, and team cohesion. This includes the following projects and partnerships:

University of Pavia, Italy [2025]

Professor Rui Pinho

This work largely involved the supervision of a student, now Dr Andrea Orgnoni, and collaboration towards dynamic simulations of reinforced concrete core walls using recently obtained experimental data.



See #3 in Publications section

University of Ljubljana, Slovenia; York University, Canada; National Laboratory of Civil Engineering, Portugal [2023]

Professor Tatjana Isaković

Professor Dan Palermo

Dr António Correia

As part of the ALL4wALL project, funded by the ERIES Transnational Access Program, I co-led a project successfully dynamic testing two large-scale reinforced concrete core walls on a shake table.

 [See #2Error! Reference source not found. in Publications section](#)

University of Salamanca, Spain [2024]

Dr Enrico Zacchei

I led a project that investigated the amount of corrosion attack to reinforcing steel bars for reinforced concrete walls in different regions in the world and under different future climatic scenarios. The research also investigated the reduction of strength and ductility of these walls under different amounts of corrosion.

 [See #4 in Publications section](#)

Tongji University, China [2024]

Prof Ying Zhou

I supervised a PhD-student (now Dr Abouzar Jafari) project that investigated the plastic hinge length of reinforced concrete walls using a large dataset and machine learning.

 [See #6 in Publications section](#)

Grant Application Lead

I have led multiple grant applications, successful or not, responsible for conceptualising, writing, and submitting competitive funding proposals to national and international bodies. These include, but not limited to:

Discovery Project, ARC [2026] [Under Review](#)

Resilient Concrete Walls with Glass Fibre Reinforced Polymer Rebars

CIs: Dr Ryan Hoult, Prof Nelson Lam

Discovery Project, ARC [2024] [Unsuccessful](#)

Self-Healing Concrete Walls with Corrosion-Resistant Reinforcement

CIs: Dr Ryan Hoult, Prof Allan Manalo, Dr Massoud Sofi, Dr Pooria Pasbakhsh

PIs: A/Prof João Almeida, Dr António Correia

Marie Skłodowska-Curie Actions Fellowship, European Commission [2022] [Successful](#)

Seismic performance and residual displacements of reinforced concrete walls detailed with iron-based shape memory alloys

CIs: Dr Ryan Hoult, A/Prof João Almeida

Conference Organising Committee Member

Member of the following Organising Committees for conference, contributing to the planning, coordination, and delivery of the event:

Australian Earthquake Engineering Society (AEES) Conference [2025]

Melbourne, Australia

Member of University Committees

I have been involved in the following committees at the University level:

Education Committee [2015, 2019 - 2021]

University of Melbourne, Australia

President, Graduate Infrastructure Engineering Society [2015]

University of Melbourne, Australia

PROFESSIONAL AFFILIATIONS

Member of the following professional societies:

Australian Earthquake Engineering Society (Engineers Australia) [2013 - Present]

American Society of Civil Engineers [2024 - Present]

Earthquake Engineering Research Institute [2023 - Present]

LANGUAGES

Mother tongue: English

A2 Level Basic User (Conversational): French

A2 Level Basic User (Conversational): Dutch