



Cardiff University and the University of Waikato Collaborative Seed Fund Previously Funded Projects

The seed fund supports staff at Cardiff University and the University of Waikato to develop collaborative research, teaching and/or professional services projects that have clear outcomes and a pathway to develop and sustain the collaboration.

Partnership websites: [Waikato](#) | [Cardiff](#)

Call 5, 2024

Project	Waikato lead	Cardiff lead
The development and characterisation of novel antimicrobial and immunomodulatory titanium alloys for biomedical applications	Leandro Bolzoni	Wayne Nishio Ayre
SUSTAIN3D: Revolutionising Sustainable Construction for Resilient Communities with 3D Printing and Mining Tailings	Dr Kim de Graaf	Viviana Novelli
Understanding human-climate interactions in the South Pacific	Eleanor John	Fiona Petchey
Extremism and counter-extremism: developing a systematic review protocol	Lisa Thompson	Bethan Davies
Safety and Usability of Artificial Pancreas Systems	Jessica Turner	Dr katarzyna Stawarz
Curriculum theorizing and place: How can currere support teachers in creating place-based curricula in Wales and Aotearoa New Zealand?	Dr Jessica Rubin	Dr Kevin Smith

Call 4, 2023

Project	Waikato lead	Cardiff lead	Plain language outcome summary
Automatic apple localisation and ripeness detection in orchard conditions	Dr Hin Lim	Dr Yulia Hicks	PhD student Mr Ziang Zhao visited UoW in February and managed to gather data required to test his AI algorithms for fruit detection and ripeness in a real-world environment on a mobile platform, and this led to a joint peer-reviewed publication accepted at a leading international conference publication, called 20 th International Conference on Automation Science and Engineering (CASE) held in Bari, Italy – 28 th August to 1 st September. Dr Ben McGuinness visited Cardiff University in April and presented our recent work with Ziang. We are currently discussing further collaborative grant application with a potential research problem already identified.
Reprogramming nanobody diagnostics with non-natural amino acids for biosensor conjugation	Dr William Kelton	Prof Dafydd Jones	ongoing
Sharing mentoring methodologies to increase motivation to study languages other than English in secondary schools in New Zealand and Wales	Dr Chelsea Blickem and Dr Laura Gurney	Prof Claire Gorrara	ongoing
The resilience of rural SMEs in Aotearoa New Zealand and Wales: A comparative study	Dr Abhishek Mukherjee and Dr Jonathan Scott	Dr Robert Bowen	ongoing
Scoping new programme developments for ALPSS	Professor Mark Dyer	Prof Juliet Davis	ongoing

Renewable-fed DC homes with innovative converter technology to achieve net-zero GHG emissions	A Prof Nihal Kularatna	Dr Janaka Ekanayake	ongoing
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Call 3, 2023

Project	Waikato lead	Cardiff lead	Plain language outcome summary
Cardiff- Waikato PhD Studentships in English and Creative Writing	Dr Maebh Long	Prof Martin Willis	Ongoing project
Evaluation of biofilm formation by <i>Neisseria gonorrhoeae</i> mutants of DNA ligase LigE	Dr Adele Williamson	Prof David Williams	Ongoing project
FUSCO – FUnctionalised natural fibres for Sustainable COncrete	Dr Christian Gauss	Dr Riccardo Maddalena	<p>This funding proposal sought to investigate local NZ fibres (Harakeke and Hemp) as a reinforcement for cementitious composites with alternative binders. We successfully developed composites with different formulations and studied the mechanical, physical, and microstructure properties. The obtained results enabled us to draft a research article worthy of publication. The collaboration culminated in a joint external grant submission (Marsden Fund) along with the University of Sao Paulo (Brazil).</p>
Dual Language Picturebooks and inservice teachers: Using dual language picturebooks to support Welsh language learning and teaching	A Prof Nicola Daly	Dr Siwan Rosser	<p>The outcome of our 7 week project has been the delivery of 5 workshops with inservice teachers exploring the use of dual language picturebooks to support Welsh language teaching in English Medium schools. We have collected extensive data from these workshops and will now proceed with analysis. We have plans for at least 2 publications (one Welsh, one English), and at least 2 conference presentations in 2024. We also delivered three lectures to key university sites for children's literature scholarship including Glasgow University, Goldsmith University (London), and Cambridge University.</p> <p>The outcome of our 7 week project has been the delivery of 5 workshops with inservice teachers exploring the use of dual language picturebooks to support Welsh language teaching in English Medium schools. We have collected extensive data from these workshops and will now proceed with analysis. We have plans for at least 2 publications (one Welsh, one English), and at least 2 conference</p>

			<p>presentations in 2024. We also delivered three lectures to key university sites for children's literature scholarship including Glasgow University, Goldsmith University (London), and Cambridge University.</p> <p>We have built upon our previous work exploring the comparative forms of dual language picturebooks in Aotearoa and Wales, and our relationship is much strengthened by the opportunity for sustained in person contact, planning, and data collection.</p>
The therapeutic potential of kava in the treatment of psychological trauma	Dr Apo Aporosa	Prof Ben Hannigan	<p>During the week of 30 October 2023, Aporosa was hosted by Professor Ben Hannigan and Dr Dean Whybrow at Cardiff University's School of Healthcare Sciences. Over the course of the week we visited local organisations working with retired vets and ran a full day workshop. This work has led to the formation of a project team who aim to submit a proposal to fund clinical trials to validate the kava PTSD among a local participant cohort. That funding proposal first requires a legal opinion. This is currently in process.</p>
Musical Language/Iaith Gerddorol/Pūtahitanga: The Role of contemporary and popular music genres in language revitalization and emergent forms of cultural identity within Aotearoa and Cymru.	Prof Gareth Schott	Reader Huw Williams	ongoing
The Waters that Binds Us: Exploring Water Citizenship, Knowledge and Understandings in Wales and Aotearoa New Zealand	Prof Belinda Wheaton	Dr Kate Moles	ongoing

Call 2, 2022

Project	Waikato lead	Cardiff lead	Plain language outcome summary
<p>The fundamentals of mental health care in nursing practice: An international comparative qualitative study</p>	<p>Graham Holman</p>	<p>Dr Dean Whybrow</p>	<p>This project will lead to clear evidence to direct both distinctive and generalist approaches to nurse teaching and training. This will include new insights into the inherent nature of the nursing profession, both generally and in a manner that is relevant or specific to the mental health field. Our dissemination plan has included the preparation of a draft manuscript due to be submitted to an international journal. An abstract submission to a relevant international conference.</p>
<p>A cross-national exploration of responses to family violence</p>	<p>Prof Devon Polaschek</p>	<p>Prof Amanda Robinson</p>	<p>Our project team conducted cross-national research and shared teaching knowledge. Our community partners surprised us with an overwhelmingly positive response to our research project, which meant that we collected more interview data than initially anticipated, and are currently working on analyzing the data and writing a journal article. Overall, this project strengthened strategic partnership between the University of Waikato and Cardiff University by connecting the Security, Crime and Intelligence Innovation Institute (SCII) and Te Puna Haumaru (NZISCS).</p>
<p>Learning from Each Other: Understanding and Facilitating the Mobility of Environmental Policy and Practice Between Wales and New Zealand</p>	<p>Prof Iain White</p>	<p>Prof Gareth Enticott</p>	
<p>Sharing good practice in learning and teaching via open publications</p>	<p>Michelle Blake</p>	<p>Tracey Stanley</p>	<p>A 14 chapter, approximately 75,000-word digital book comprising papers derived from presentations at Learnfest 2022, jointly hosted by Waikato and Cardiff. Chapter authors include scholars from Cardiff, Auckland, Waikato, including off-shore campuses in China. The publication will be open access via a creative commons license, and highly flexible with chapters available to be downloaded individually.</p>
<p>Factors that drive Phishing attacks</p>	<p>Dr Vimal Kumar</p>	<p>Dr Amir Javed</p>	<p>The project enabled us in the development of a novel methodology for creating honeypots for phishing emails to understand the techniques and tactics used by adversaries to launch phishing emails. This innovative technique involves setting up simulated email accounts in New Zealand, India and the United Kingdom that mimic</p>

			<p>potential targets to attract phishing attempts. These honeypot accounts are strategically designed to appear as enticing targets for cybercriminals.</p>
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Call 1, 2022

Project	Waikato lead	Cardiff lead	Plain language outcome summary
Enhancing Caregiving during Infancy and Maternal Wellbeing	Dr Oleg Medvedev	Prof Merideth Gattis	<p>Our project investigated parenting beliefs about how to care for infants. The seed funds allowed us to establish a collaborative partnership between researchers with expertise in perinatal mental health, infant care and development, and cutting-edge methods for building statistical models that identify predictor-outcome relations. We used novel statistical techniques to examine relations among parenting beliefs, parenting knowledge, and parent and child characteristics that predict these two factors. The results are reported in four papers that are now under review or near submission. We have also submitted a funding application to build on this valuable foundation and continue our collaborative work.</p>
Bee-coming together: Primary school students connecting with each other and with nature	Dr Megan Grainger & Dr Cathy Bunting	Prof Les Baillie	<p>The Cardiff-Waikato seed funding stimulated new collaborations between Cardiff and Waikato researchers in Science and Education, Waikato researchers and Maeroa Intermediate, and Maeroa Intermediate in Hamilton and Ysgol Pen Rhos in Llanelli. Educational resources developed in Wales were used in Wales and adapted and piloted in New Zealand, including updating the Spot-a-bee citizen science app to feature NZ species. Through the new Waikato-Maeroa school-scientist collaboration we were able to grow teacher and student understanding of science as a process using bees as the context for learning. Research focused on the impacts of school-scientist partnerships and the affordances of boundary-spanning collaborations.</p>
Chwedlau and Purākau: Traditional Legends in Early Childhood Settings	Associate Prof Amanda Bateman	Prof Sioned Davies	<p>A number of key findings emerged from the SEED project, including insight into the types of stories unique to each country and culture, common storytelling techniques and multimodal ways of sharing stories, together with the ways in which stories support local curriculum in both New Zealand and Wales. Key points of difference between Welsh and Māori storytelling practices in early childhood included traditional Welsh stories being utilised to facilitate children’s literacy learning in the early years whereas traditional Māori stories, with their focus on the land, play a crucial role in positive associations with cultural identities more holistically.</p>