

RESEARCH MATTERS

Celebrating research success and opportunities at the University of Wolverhampton

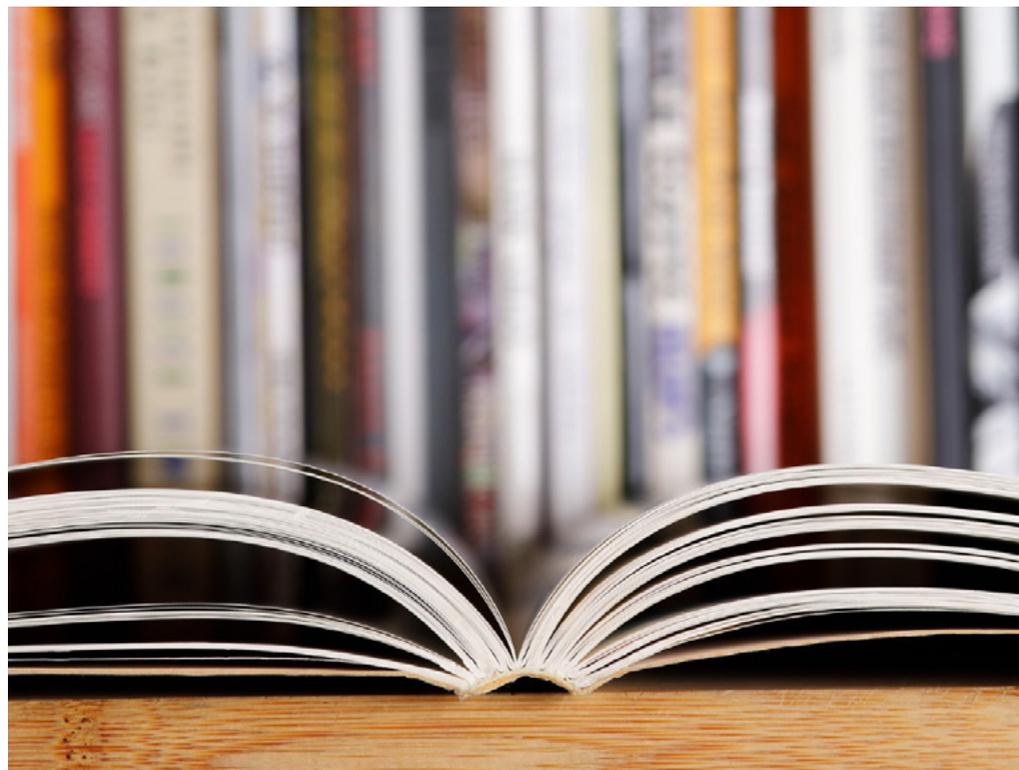
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Research is world-leading in Wolverhampton

Research at the University of Wolverhampton is at its highest ever level according to a national assessment of research quality.

The Research Excellence Framework 2021 (REF 2021) evaluates the quality and impact of research at UK universities across all disciplines. It grades research from nationally recognised (1*) to world-leading (4*) and was last carried out in 2014. Since then, the University of Wolverhampton has significantly grown its research and submitted 4 new subject areas and 75 per cent more staff than in REF2014. The results show that more than half of its research is judged as internationally excellent (3*) or world-leading (4*). Professor Silke Machold, Dean of Research at the University of Wolverhampton said: "I'm absolutely delighted with the outcome of the REF results.

"We have fantastic research in all our schools and institutes, which is making a real difference to people's lives. It's rewarding to see this work nationally recognised. It's the largest and most inclusive submission we have had to date and I'm so pleased to see our scores have significantly improved across the University."
Professor Ian Campbell, Interim Vice-Chancellor at the University of Wolverhampton said: "The outcome of the REF is closely aligned to our vision to transform our place through inclusive student success and world-class research – and today's result truly reflects that vision. I'm so pleased to see that REF2021 has highlighted the world-class work



we do within the institution. "Our research has an impact on business, industry, and society, and our students will continue to benefit from high-quality research-informed teaching. I would like to congratulate everyone who has contributed to this fantastic achievement."

EDITORIAL WELCOME

REF 2021 Research Excellence Framework

The long-awaited Research Excellence (REF) results are in, and we have exceeded all expectations. Our goal was to have 50% of our research rated as world-leading (4*)

and internationally excellent (3*). We thought that was a good stretch target given that in REF2014 we had just over 40% of our research rated as 4* and 3*. That was also in the context of submitting four new units of assessment – which is always challenging! And 75% more staff than we returned in REF2014.

This year, we ended up having an amazing 55% of our research rated as world-leading and internationally excellent, and 93% rated internationally recognised or higher. It is difficult to single out highlights given how well everyone did under very challenging circumstances – remember that we submitted during a pandemic!

Cover story continued overleaf...

But I would like to mention a few submissions that stand out for very different reasons: English Language and Literature entered a submission only for the second time in REF2021. 92% of the research was judged to be of 4* and 3* quality, with the assessors commending the 'strikingly original local focus' and the 'imaginative generation of creativity and educational benefits across an expanded sense of place'. Area Studies has a long and proud history at the University of Wolverhampton and included, amongst others, research on caste, migration, political economy, and religion. 78% of the research was judged to be of 4* and 3* quality and 100% cent of the impact was rated at 3* and 4*, with research on caste receiving a mention in the Main Panel D report. Psychology was a new submission and entered a very competitive sub-panel that received 93 submissions. To be ranked 74th by Grade Point Average (GPA) amongst these is no mean feat and it was especially pleasing to see 50% of the impact rated as internationally excellent.

UOA3, which included staff from biomedical sciences, medicine, health, forensic science and pharmacy, was our largest and most complex submission. 55% of the research was rated as 3* and 4* and almost a quarter of the submitted outputs were considered to be world-leading. In the power-rankings, this UoA came in 53rd place out of the 91 institutions that submitted in this sub-panel.

The biggest overall improvement since the last REF, was achieved by colleagues in Law. After a somewhat disappointing GPA of 1.73 in REF2014, the UoA achieved a GPA of 2.75 in REF2021, with 63% of its research judged to be of 3* and 4* quality. Especially impressive were the results from the impact case studies with the assessors highlighting the outstanding impact of the pre-pack research. Our REF2021 submission was not only the largest but also the most inclusive submission made to date. This was recognised by the assessors who

commented on our commitment to, and progress with, equality, diversity and inclusion. The results are testimony not only to the achievements of our excellent researchers but also to the enormous 'behind the scenes' efforts by many staff across the University. I would like to thank especially the UOA coordinators for their dedication and commitment to ensuring the submissions were as perfectly formed as we could get them.

A special thanks also goes to staff in finance, registry, HR and the library for providing excellent support to the central team and UOAs with data from their respective areas and superb professional advice when we needed it. And, finally, I would like to thank the team in the Research Policy Unit who truly went above and beyond to support the submissions. As always, we will be featuring some of our research that changes lives in this issue. Don't forget to take a look at our website for more fantastic projects and successes across the University.

Researchers support efforts to reduce pandemic food shortages

A team of experts at the University of Wolverhampton have been working with the United Nations Food and Agriculture Organization (FAO) to evidence the reduced risk of food shortages due to Covid-19. The FAO is a specialized agency of the United Nations that leads international efforts to defeat hunger.



The research programme focused on finding evidence that the FAO had influenced government policy to avoid Covid-19-related food shortages. Early in the pandemic, the FAO alerted governments with a warning that pandemic lockdowns might lead to food shortages due to people in the food industry being unable to work.

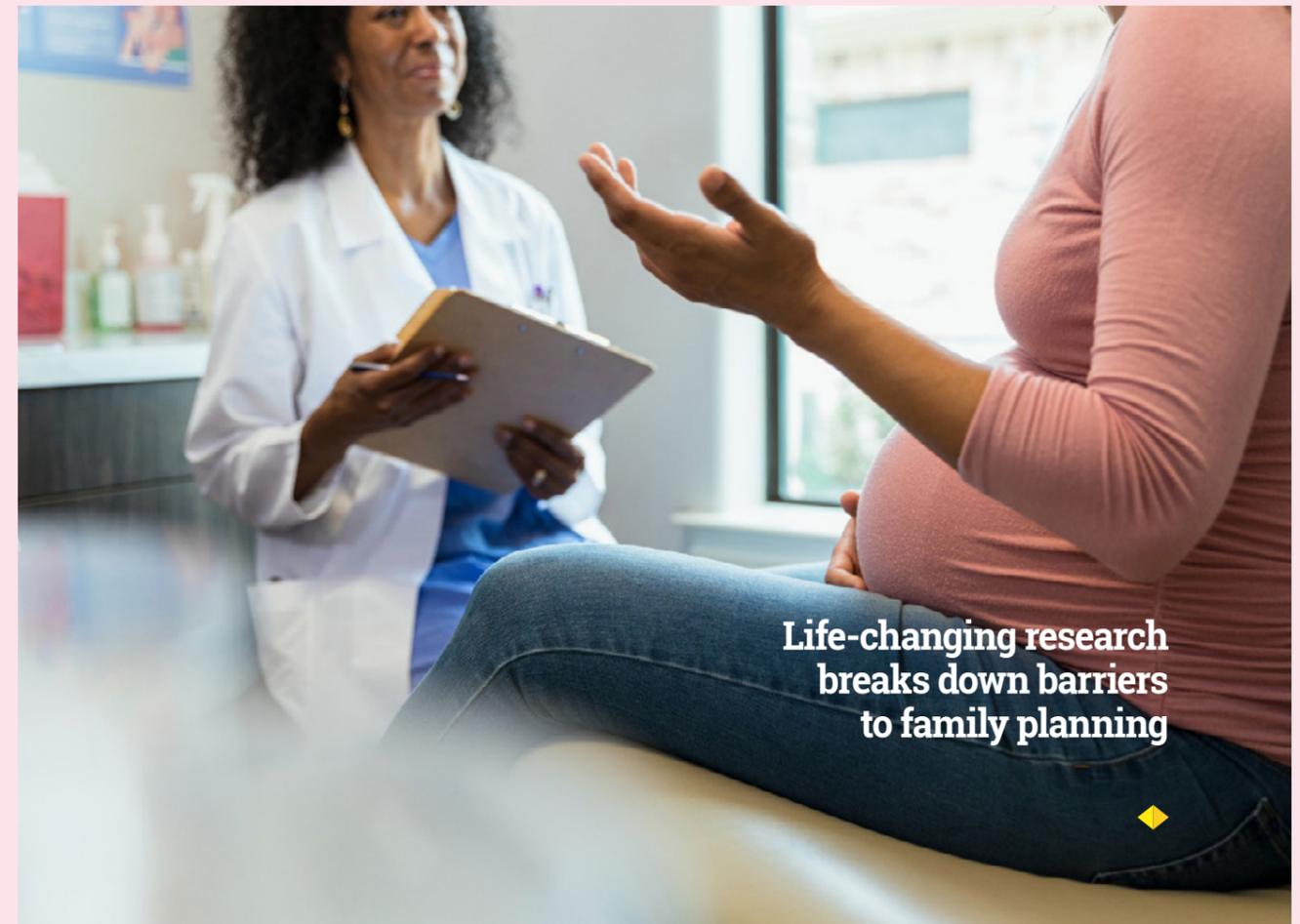
The FAO approached the research team due to their expertise and unique skill set for evaluating free software and methods for systematically gathering and analysing web and social web data. The team analysed the findings on government policies to evidence

the effect of FAO's communication on policy changes across the world aimed at reducing the risk of hunger and food shortages due to Covid-19. The research team also developed new computer programs to scan the internet for evidence and produced datasets showing the relevant government policies that had been influenced by all FAO's actions. The results were able to identify which initiatives were most and least successful, making way for improvements in future pandemics and similar situations. Mike Thelwall, Professor of Data Science at the University of Wolverhampton said: "I feel very proud to have contributed in a small

way to reducing the number of people that went hungry during the pandemic. Worldwide hunger was a childhood concern of mine as a 'Save the Children' fund member, and it is fantastic to have harnessed my mathematical and computing skills for this end."

The research team working alongside Professor Mike Thelwall at the University of Wolverhampton includes; Dr Kayvan Kousha, Dr Emma Stuart, Dr Meiko Makita, Mahshid Abdoli, and Dr Amalia Mas-Bleda.

Life-changing research breaks down barriers to family planning



Crohn's disease and Colitis often affect people in their 20s and 30s - a time when many are thinking about starting a family. Women with inactive Crohn's or Colitis usually have no more difficulty becoming pregnant than those without the conditions and can expect to have a normal pregnancy and a healthy baby. However, many women with Crohn's or Colitis and their partners delay parenthood or have fewer or no children. Professor Matthew Brookes and his team carried out a research study with an aim to benefit patients by providing a detailed account of women's needs during key reproductive stages, and intervention development that aims to support patients and their partners. Previous studies found that women with poor knowledge of pregnancy related issues were more likely to choose not to have children and those who had pre-conception counselling were more likely to choose to become parents. The research team conducted in-depth interviews with 12

women with Crohn's, 11 women with Colitis and 4 male partners, at different stages of family planning. The participants shared their experiences and worries about starting a family. The six main themes identified were:

1. How the diagnosis and symptoms of Crohn's and Colitis changed family planning
2. The importance of relationships and family planning
3. Concerns related to pregnancy in Crohn's and Colitis and how this changes family planning
4. The potential problems and challenges after the delivery
5. Using information resources to help with family planning
6. Understanding that improving care might affect family planning

Women who were not yet pregnant wanted more information about the impact of their condition on

pregnancy, the effect of medicines on the baby and the risk of passing on Crohn's or Colitis. Those who were already pregnant or had given birth wanted practical advice and support around breastfeeding and looking after the baby. Those who decided not to go down the family route also said they needed counselling and support.

Based on the findings from the previous studies and interviews, focus groups were prepared with the aim of developing an intervention to help the decision-making. In joint discussions, people with Crohn's and Colitis and health professionals shared their thoughts on the type and content of interventions needed. This study has given people with Crohn's and Colitis an opportunity to voice what they want from reproductive services, from pre-conception to pregnancy and post-delivery. The research will help develop the intervention and to ensure it addresses all the necessary concerns people with Crohn's and Colitis may have when deciding to

have children. Professor Matthew Brookes said: "It has been a privilege and remains one, to be able to work with our patients to develop and deliver the types of digestive disease research that will have a meaningful impact across our diverse population. "Collaboration across stakeholders has enabled us to undertake research in the laboratory, translational, clinical trials, qualitative and behavioural fields of research.

"We hope our research will raise awareness among healthcare professionals of the key issues around Crohn's and Colitis and family planning."





Women in leadership boosted thanks to effective research study

Researchers at the University of Wolverhampton have conducted impact-led, innovative governance and leadership research for over a decade which has led to an increase in the gender diversity in leadership positions in the UK and internationally.

The research programme is focused on addressing the widespread concern about gender imbalances in leadership positions and its success is the result of its multidisciplinary, multi-actor and multi-sector approach in close collaboration with company leaders and directors' associations regionally and internationally. Analysing board diversity and developing several approaches to change, the team conducted research on corporate governance and board effectiveness, investigating different dimensions of women on boards in UK and international companies. Their research included novel approaches such as an analysis on how board gender diversity interacts with deeper-level diversity, specifically personality trait diversity to affect different types of conflict within boards. Alongside this, the researchers investigated how coaching and mentoring can be made more effective to

support women in leadership. The research has led to a number of key findings including:

- A novel overarching feminist ethics perspective was developed, which has reconceptualised corporate governance and enabled new approaches to the roles and behaviours of those who direct organisations;

- Evidenced data on institutional contexts requiring both different and differentiated policy approaches to promoting board gender diversity, for example, quota regimes in *laissez-faire* economies are less likely to be acceptable or accepted than elsewhere;

- Gender diversity is linked to board behavioural changes, specifically positive team interactions leading to improved board effectiveness;

- Mentoring positively impacts current and future leadership roles, in terms of how the role is carried out, its efficacy and general accessibility within the organisation and beyond. Furthermore, mentoring is an effective intervention to support continuing personal and professional development towards leadership progression, especially for women.

Leading the way in raising awareness, the team were able to influence professional bodies to develop advanced training materials, best practice guidelines, and promote change of organisational practice leading to the promotion of more women onto boards in Southeast

Europe. The team also produced a handbook, designed training materials for companies and social partners, and co-designed a voluntary code of conduct that identified a series of principles to enhance gender diversity on boards.

Research findings have led to a real change in leadership and diversity practices in organisations and impacted frameworks that have historically been neglected. A variety of leading UK and international organisations have since changed practices leading to increased gender balance within boards of directors and in leadership positions, including:

- Staffordshire Police and West Midlands Counter Terrorism Unit have since created more supportive and developmentally inclusive working environments and have seen improvements in retention and progression rates. The research from these interventions was shared with the Home Office and the College of Policing (2016), which led to an introduction to share best practice insights towards shaping a nationwide women-only mentoring programme.

- National law firm Irwin Mitchell has launched an inclusive development programme with the University of Wolverhampton to enable employees to progress into leadership roles.

- The BHSF (originally established as the Birmingham Hospital Saturday Fund) now has a senior manager leading diversity in the organisation and has an active Women's Development Group that has pledged that 33% of senior management will be female by 2023 and mentoring and coaching will be implemented to progress women's careers.

- Together with the employer associations of Slovenia (ZDS), Bulgaria, Croatia and Macedonia, we reached over 60,000 people in companies and social partners, who engaged in training and development, and committed to making change.

- We worked with the West Midlands Leadership Commission, set up by the Mayor Andy Street, to tackle the lack of women on boards in the West Midlands.

Following the success of the project, the University since partnered with Midlands Engine to continue its research into women in business leadership across the region, working to break down barriers to gender equality, diversity and inclusion. The research provides a series of contextually grounded recommendations for 'what works' at an individual, organisational, and regional level to help promote women into leadership.

Smells like team spirit

Sebastian Groes, Professor in English Literature, talks about how his recent research project has put the Black Country back on the map by exploring the link between smell and memory.

"For the English Language and Literature submission to REF2021, my colleague in Creative Writing, Dr R. M. Francis and I submitted the impact case study: *Writing the Black Country: Changing perceptions and reimagining marginalised communities through cultural networking and public engagement*. "Our aim was to bring regional Black Country research to international prominence to help the public reconsider negative prejudices in their opinions of the West Midlands. Together with a network of collaborators and partners, the Centre for Transnational and Transcultural Research opens up imaginative, positive futures for the Black Country. "At the heart of our strategy is critical-creative thinking. We promote our literary research – including novels by

Dr Lisa Blower and R. M. Francis, but also place-based research by Dr Aidan Byrne – at literary festivals around the country, for instance. But we also developed a unique project that explores the role of the senses – and especially smell – in the cultural memory of the Black Country. Francis, and our colleague in psychology, Dr Tom Mercer and I organised the Snidge Scrumplin' experiments in 2018 and 2019 as well as the Making Sense of the Black Country walk for the Being Human Festival. "The research was a great hit! People loved to smell and identify (well, try to – humans are not good at naming smells) odours from a specific part of the world. There was something dangerous, exciting about sticking your nose in small tubs with carefully prepared (artificial) smells. But people also loved it because it created a new way of understanding their world – sniffing your familiar house and town out with your nose. It was a completely new way of understanding your life. "We took the experiments from the West Midlands to London, Amsterdam and then Romania – and now that the pandemic is over, we're scheduled to do more smell and identify experiments in Ireland.

"A local experiment soon gained an international reputation, which Francis and I set down in our book, *Smell, Memory, and Literature* and in the *Black Country* (2021), a collection of creative writing and critical essays. Our research impacted on the local population, which saw itself in a new, positive light. In addition, we also stimulated cultural tourism and the quality of the tourist experience of visitors of the Black Country Living Museum as we informed professionals' curation, the conceptualisation of the museum's spaces as well as programming practices. We were invited to various events to disseminate our findings and inform practice, for instance, to the UK Fragrance Forum, and an international event bringing together people from the perfume industry.

"Speaking of the pandemic, we soon realised, as people were losing their sense of smell when they got infected by the coronavirus, that our aim to promote the importance of smell had a whole new significance. Covid-19 infections (especially in the case of the first few variants) is associated with

temporary anosmia, which is the phenomenon whereby people lose their sense of smell. The impact of anosmia is associated with depression and a sense of isolation and you feel increasingly disconnected from your food and your familiar surroundings. Losing your sense of smell is extremely alienating, as many of us now know.

Therefore, together with a number of academic and industry partners, we are now developing a nationwide olfactory map that aims to promote smell awareness and help people to regain their sense of smell via a new olfactory training programme.

"It's an example of how a modest idea can start to lead its own life and suddenly turn into a major project that is of major importance to the world. I've been very proud to see Snidge Scrumplin' put University of Wolverhampton's research – as well as this increasingly vibrant, creative part of the United Kingdom – on the international map."



University researcher receives top award in India

A University of Wolverhampton researcher has been awarded the 'Hind Rattan Award 2022' for his dedication to health and education.

In January, The Non-Resident Indians (NRI) Welfare Society announced Dr Abhishek Gupta, Lecturer in Anatomy and Physiology in the School of Allied Health and Midwifery in the Faculty of Education, Health and Wellbeing (FEHW) as an award-winner for his commitment to 'keeping the flag of India high' in the field of health and education.

Dr Abhishek Gupta officially received his award at the 41st International Convention of NRIs and Hind Rattan Award 2022 ceremony on April 14th in New Delhi. The Hind Rattan, translated into English as 'Jewel of India', is one of the highest awards granted annually

to non-resident persons of Indian origin in recognition of their outstanding services, achievements, and contributions in their respective fields. This Indian diasporic award is granted annually to eminent non-resident persons of Indian origin (NRIs) by the NRI Welfare Society of India.

Dr Abhishek Gupta said: "I feel immensely privileged and humbled to have been awarded the Hind Rattan Award 2022. This award means a lot to me, and I feel proud to have kept the flag of India high with my contribution in the field of science and medicine, especially in wound management. I could not have achieved this award without the support from my parents and to my teachers along the way for inspiring me to learn and emboldening me to achieve the best of my ability. I would like to say a special thanks to my research group, especially Professor Iza Radecka and a huge thank you to the NRI Welfare Society of India for this fantastic opportunity and I look forward to continuing to make the people of India proud."



New treatment for cancer developed in Wolverhampton

Disulfican Ltd, which was created as a spin-out company from the University four years ago, has been successful in the Innovate UK 'Biomedical Catalyst Awards' competition.

Innovate UK which is the UK's innovation agency, have offered the consortium led by Disulfican a grant of more than £550k towards a £750k programme of work to develop Disulfican's drug for treatment of mesothelioma – the type of cancer caused by exposure to asbestos and for which there are currently no effective treatments. The application was selected for support

because of the medical need for new treatments for this grim disease and the company's plan for realising the commercial potential.

The planned programme includes £140k of essential supporting benchwork in the Research Institute for Healthcare Science, to be carried out in our specialist cancer research laboratory at the University's Rosalind Franklin Building. Weiguang Wang, Professor of Experimental Cancer Therapeutics said: "This grant offer is hugely important to the experimental cancer therapeutics research group here at the University of

Wolverhampton, and a real vindication of our work to re-purpose disulfiram as a treatment for cancer."

Disulfican is now an independent company and continues a close relationship with the University.

Celebrating success in biosciences

The research conducted by the biosciences team, which comprises academic staff, post doctorates and PhD students is focused on two key themes: Animal behaviour and welfare, and Evolution, ecology and conservation. Since the launch of the research centre, the team have been working on a variety of projects both nationally and internationally and been successful in bids to support new areas of research.

One of these new projects is led by Dr Simon Maddock, Lecturer in Conservation Genetics, in the Faculty of Science and Engineering who recently won a substantial Natural Environment Research Council (NERC) bid (£504k) for a very innovative project entitled Origins and expansion of endemic biodiversity in western Melanesia and their relation to tectonic evolution.

Western Melanesia, including New Guinea, sits at the crossroads of Asia and Australia and is one of the most interesting, puzzling, and understudied hyper-diverse regions on Earth. Working in collaboration with Fred Kraus at the University of Michigan, Simon aims to advance key knowledge of how Melanesia's biodiversity was generated. The project plans to elucidate how the diversity and evolutionary history of the five major geological landforms that comprise most of western Melanesia have impacted evolution of that region's biota and to identify those ancient insular landmasses critical in the origin of lineages that colonised and radiated across New Guinea, Australia, and/or insular Asia. The outcomes from this study are expected to help replace the outdated, unidirectional "out-of-New-Guinea" model for origins of Pacific biodiversity with a more dynamic and nuanced understanding that ancient, yet under-appreciated, land areas in Melanesia, which have been important in shaping evolution and diversity in the broader region.

Clarifying how tectonic movements have sundered or joined different Melanesian landforms in the past several million years is key to understanding the origins of this biotic diversity. The new, advanced framework for understanding the origin, timing and extent of diversity within western Melanesia will therefore bring a significant scientific impact to a number of academic beneficiaries within the fields of biogeography, evolutionary biology, geology, systematics, conservation and herpetology. Simon anticipates that this work will stimulate future collaborations between geologists and biologists working in other regions of the world.



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