

# USP RESEARCH

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Photo: South Pacific Flying Labs

## International Collaborations and Regional Impacts

Professor Derrick Armstrong

Bula Vinaka and welcome to the second issue of the 2019 Research Newsletter. We are now half way through the year with quite a few achievements and many exciting projects in the pipeline for the rest of the year. We had the opportunity to host the Crown Prince of Norway in April. USP has a long-standing relationship with Norway; particularly the University of Bergen. We are privileged to be working together in addressing the needs of the Pacific region, mainly in the critical areas of climate change, marine and oceans.

In June, the Research Office organised a roundtable discussion titled: "How can higher education prepare our youth to deal with the challenges facing the Pacific region?" The panel included Professor Pal Ahluwalia, Professor Konaihelu Thaman, Professor Nigel Healey [Vice-Chancellor of the Fiji National University] and Professor Brian Schmidt, Vice-Chancellor of the Australian National University and recipient of 2011 Nobel Prize in Physics for providing evidence that the expansion of the universe is accelerating.

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On the research front, I am very excited to announce the new Strategic Research Themes [SRTs] namely:

1. Economic Growth, and Public & Private Sector;
2. Oceans, Land & Climate;
3. Education, Culture & Health;
4. Governance, Justice and Equality.

These SRTs are derived from the UN's Sustainable Development Goals and underpinned by Innovation, Empowerment, and Sustainability. The call for research proposal is currently open and staff are encouraged to apply. As we move into the second half of the year, we are looking to fund research projects with particular focus on regional issues.

Our previous SRT projects have had great impact in the region. For instance, the creation of the Micronesian Center for Sustainable Transport, the publication of the "Colo-i-Suva Forest Park Wildlife" book, the creation of the Pacific Regional Sports Research Scholarship in partnership with Oceania National Olympic Committee, and numerous patents registered and apps created as a result of the previous SRT projects.

For more information on the Strategic Research Themes visit:  
[www.research.usp.ac.fj/SRT](http://www.research.usp.ac.fj/SRT)

## Impacts of USP Research and Innovation

**Entrepreneurship@USP:** A Pacific Entrepreneurship and Innovation Ecosystem workshop was held at the Innovation Hub at The University of the South Pacific's (USP) Laucala Campus on 7-8 May 2019. The aim of the workshop was to take advantage of the opportunity to bring key stakeholders from around the region together for a discussion about entrepreneurship-focused programmes that could be undertaken in the region. The Research Office used the opportunity to highlight USP's work so far towards strengthening innovation in the region.

**Renewable Energy:** On 10 April 2019, the UN Environment provided funding for a baseline study on "Mainstreaming Cleaner and Efficient Fuels & Vehicles in Fiji", in preparation for a larger research proposal development that would involve USP, UN Environment, the Fiji Development Bank (FDB) and other partners to access research funding from the Green Climate Fund (which accredits FDB to distribute its fund) to mainstream electric buses in Fiji. A research team based in the School of Engineering and Physics and led by Professor Atul Raturi, is currently carrying out the baseline study.

**Sustainable Transport.** USP is playing an important role in the provision of technical expertise to the Pacific delegations to the International Maritime Organization (IMO), through its Micronesian Centre for Sustainable Transport (MCST) and its Law Faculty, including delivery of online learning opportunities through its regional ICT facilities. On 29 March 2019, USP received a grant from the UK government to support Pacific IMO delegations to enable their active involvement in IMO meetings in May 2019, to progress development and implementation of the IMO GHG emissions reduction roadmap, as well as strengthening the partnership with the UK. In addition, the grant enabled USP, through MCST, to send technical support to the IMO meetings to provide backstopping to the Pacific Islands' delegations.

Professor Jito Vanualailai  
 Director Research

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# Upcoming: Regional Innovation Hubs

The Research Office has started a negotiation with UNDP and government on the University's plan to establish a Regional Innovation Network via its regional campuses. This initiative seeks to further support innovation in the Pacific region by providing direction and coordination of the University's contribution to its leadership role in the region. The initial stage of this initiative has already begun by USP and UNDP through the official establishment of the Innovation Hub on Laucala Campus (Suva) at the beginning of this year. The idea is to extend the same arrangement to USP regional campuses in a tripartite partnership agreement amongst USP, UNDP, and the government. The decision to incorporate the government has certain distinct advantages towards supporting and protecting creativity and innovative talents of its citizens. USP is interested in establishing a Regional Innovation Hub in each of its three regional campuses that have existing significant national and regional impactful projects including Emalus (Vanuatu), Tonga, and Marshall Islands Campus.

# South Pacific Flying Labs - Flying into the Future

Adiel Gounder



Amrita Lal demonstrating the use of drones.  
Photo credit: Aleen Prasad

The South Pacific Flying Labs (SPFL), established at USP in partnership with the Geographic Information Systems (GIS) Lab at the School of Geography, Earth Science and Environment, and WeRobotics, is part of a growing network of global labs tasked with utilising robotic solutions to help address social, humanitarian and developmental challenges in local communities.

Funded by the Department of Foreign Affairs and Trade, it uses robotics technologies in a myriad of applications to automate tasks and augment human capabilities in the Pacific region. Amrita Lal, the Regional Coordinator of the SPFL, emphasised that they concentrate their effort on the operational side of robotics. “We try to integrate UAVs [Unmanned Aerial Vehicles] we have together with the GIS survey equipment and we mostly focus on mapping, which is either with RGB, multispectral or thermal sensors.”

SPFL have been involved in a number of projects in Fiji to help accelerate aid, health, social and development efforts with partnering organisations. One of these engagements include the World Mosquito Programme (WMP) where they support the distribution of Wolbachia infected mosquitoes which have a reduced ability to transmit mosquito-borne viruses such as Dengue, thus reducing the risk of outbreaks. Using aerial drones has the advantage of a more rapid and homogenous dispersion of Wolbachia carrying mosquitoes while covering a larger geographical area compared to ground based release methods.

With the increasing occurrences of natural disasters in the Pacific, SPFL have also been involved with the Fiji Red Cross Society in supporting post recovery efforts. “The first project we did was in Kadavu, straight after tropical cyclone Keni in 2018; we surveyed villages with the Fiji Red Cross Society.” explained Amrita.

With the availability of local expertise, the Flying Labs initiative has allowed a more rapid and cost effective response during natural disasters. One of the significant accomplishments of the Lab has been capacity building at a local level which they have achieved by getting 5 local UAV pilots trained and certified under Australian Civil Aviation Safety Authority (CASA) certification laws.

Their most recent undertaking is the Serua Mapping Project in the Serua Highlands together with the Serua Provincial Council and the Ministry of Women, Children and Poverty Alleviation. The project is focused on finding simpler and effective ways of village level reportings to the Ministry with the help of drones. "At the moment, data is captured on foot and relayed back with the help of tablets. This gets the work done but it would be much better if you had aerial images of the region so you know what's happening and where it's happening", explained Amrita. These aerial images taken by SPFL provide data such as hazard and resource maps at village level. They can also record the areas topography that can help identify issues such as drainage problems "With the models that we create and the survey data that we collect in terms of point data you can generate fairly good flood simulation models which help in the decision making process" added Amrita.

A further objective for SPFL is to ensure that the landowners benefit and get equitable returns for drone activities in their area. They make sure to follow protocols set by the ministry, performing the sevusevu, obtaining all the necessary permissions and providing a monetary contribution to the villagers.

However, feedback from villagers thus far has revealed that people have come from outside of the country and taken pictures or videos of the scenery to promote their own website, without permission and with little or no benefit to those who own the resource. "We are trying investigate whether operations has or has not been happening and if has been happening then are the people aware".



Consultation with villagers in the Serua Highlands. Ministry staff showing aerial images of Muanivatu Settlement to get their thoughts on whether they would allow such information being collected and stored with the ministry.  
Photo credit: Aleen Prasad

Besides building local capacity, SPFL are also helping to inspire the next generation of STEM students by hosting youth centered projects during school breaks such as Aerial Adventure and Fly like a Girl for boys and girls, respectively. These initiatives introduce drone technology to students and give them the opportunity to apply these technologies to conservation problems, data processing and analysis. According to Amrita, these programmes have in the past been run at USP's Lower Campus however; with some schools showing interest, they plan to take these initiatives to selected schools around the country.

## Research Profile: Matthew Allen

### Professor of Development Studies FBE

Adiel Gounder

Professor Allen's interest in the Pacific and human geography started when he seized the opportunity to work on a research masters project in Vanuatu at the age of 24. He has since undertaken a number of research projects focused on the Pacific. He is largely interested in human-environment interactions and the Nature-Society nexus, and in political ecology. Over the past decade, he has utilised these lenses to explore the relationships between extractive resource industries, social change and violent conflict in the Melanesian Pacific.

More recently, Professor Allen is working to develop his research interests in oceans governance. He is currently involved in the Rush for Oceania project and is also a part of USP's One Ocean Hub research team. He believes that lessons from the governance of terrestrial resources in many cases are directly relevant to the challenges of oceans governance in the Pacific. Furthermore, he adds that "oceans are very rich contexts for thinking spatially: indeed, oceans challenge us to fundamentally rethink the relationships between space and society. We have only really just begun to work out how to engage with the fluid, vertical and ever-moving materiality of the ocean and much work remains to be done. Again, when it comes to the ocean, the world has much to learn from Pacific experience and worldviews".

In addition to ongoing research projects, Professor Allen has also recently authored a book titled "Resource extraction and contentious states: mining and the politics of scale in the Pacific Islands". The book is a result of his three-year Australian Research Council fellowship during which he looked at how large-scale extractive resource projects (in this case large-scale mines) can engender profound, and often violent, social and political contestation;



and how this plays out in particular ways on large Melanesian islands such as Bougainville and Guadalcanal. Professor Allen mentions that "in writing the book I was keen to bring experience from the Pacific into closer conversation with global debates in geography, island studies and political science".

While Professor Allen spoke passionately about a number of research and teaching experiences, there are a few that stand out. He worked with Associate Professor Katerina Teaiwa on the establishment of the Bachelor of Pacific Studies at the Australian National University, the first degree of its type in Australia. He has been involved in a number of research projects in the Solomon Islands which have had direct impact on donor and/or government policies and programs. Of late, he has been working hard on bringing research from the Pacific into the global and comparative scholarly debates as he believes that the Pacific has much to contribute to contemporary global challenges.

## Research Profile: Koini Vuili

Masters of Arts - Sociology  
FALE

Adiel Gounder

Koini Vuili is pursuing her Master of Arts in Sociology as one of the recipients of the inaugural Pacific Regional Sports Research Scholarship. This scholarship was possible through funding from the USP Research Office and the Oceania National Olympic Committee (ONOC). Koini has an impressive sporting background. She is a former rugby player, an administrator with the Suva Rugby Union, and an accredited World Rugby referee. Her many accomplishments in her remarkable sporting repertoire includes officiating at the first Women 7's Series tournament in Dubai, 2012 and at the Rugby World Cup 7's Moscow 2013.

Her involvement at all levels of rugby has been the inspiration behind pursuing research on the welfare of women in rugby. Koini has experienced first-hand the adverse aspects of participation in rugby for women. "I have been on the receiving end of public jeering, lack of financial assistance and material resources". She observed that in the pursuit of rugby, most players neglected education and work skills and during international tour breaks were left to rely financially on their leftover allowances, their families, partners or close friends. Then again, players were averse to taking up employment or education as doing so would limit their availability for international rugby commitments. "These personal observations and concerns have shaped the focus and approach of the study".

Consequently, her proposed research aims to explore the personal narratives of women in rugby from novice to elite player status, their motivation for playing, the benefits and challenges they experience, and the ways in which they respond to and negotiate these challenges. Her study will supplement emerging Pacific literature in which the predominant social-cultural perspective identify the biggest challenges to women's rugby as gender and sexual norms of society.



However, the study will also expand the scope of existing literature by examining a wider range of challenges, such as financial and physical, faced by women players. The research also aspires to make a demonstrable contribution to welfare for women in rugby. Koini states that female participation in rugby is increasing with World Rugby's focus on promoting women's rugby. "This research could provide important data that could offer policy recommendations to rugby bodies in mitigating player welfare challenges in Fiji".

The Pacific Regional Sports Research Scholarship has helped her to start training as an accredited researcher which is something she always wanted to do and encouraged her to take a step further after this. Her advice to those planning on pursuing research studies is to "find a supervisor whose main area of study is directly in line with your area of research and to work with them as a team". Koini hopes to continue higher studies and research in rugby and other sports. "I am keen to explore further some of the issues that will arise out of this topic and go from there, see how things are in Fiji as well as extend my research to the rest of the Pacific."

# RSD in the Curriculum

Shaiza Janif

The School of Law [SoL] recently consolidated its curriculum review and development work in a workshop facilitated by Dorothy Brown and Sujlesh Sharma of the Office of DVC Education. The Research Skills Development [RSD] team comprising of the RSD Coordinator, Shaiza Janif and RSD Trainer, Shazna Buksh were also part of this workshop.

Through this and the preceding workshops, the development of research skills is integrated into course learning outcomes and corresponding assessments. The curriculum review and development workshops conducted by the Office of the DVC Education in SoL and other programmes are designed to build integrated, coherent programmes and facilitate the incremental development of Programme Graduate Outcomes as well as University Graduate Outcomes.

This joint initiative of Office of the DVCE and the RSD team paves the way for future collaboration and an integrated approach to curriculum development.



Ms. Pamela Kenilorea at the School of Law Curriculum Alignment Workshop during discussions on rubric design for problem-solving and problem-based assessments.

## Research Skills Series

Shaiza Janif

The Research Office in collaboration with the University Library and the Student Learning Specialists will run a series of Research Skills Development [RSD] framework informed workshop specifically designed for postgraduate research students at the University to help in their initial stages of research.

The workshops are designed in a series of three modules:

- Module 1: Literature and Reading
- Module 2: Review and Referencing
- Module 3: Proposal and Thesis Basics

The Workshop Series will be offered for Semester II, 2019.

For more information on Research Skills Development training please visit: <https://research.usp.ac.fj/research-skills-development-unit/rsd-training/>