FIJI NATIONAL UNIVERSITY
CELEBRATING 10 YEARS ANNIVERSARY 2010-2020

Office of the Pro Vice-Chancellor Research

RESEARCH newsletter

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HDR Programs

The Fiji National University (FNU) will offer new higher degrees by research (PhD and Masters) from next year in key disciplines and also give ten PhD scholarships worth more than two hundred thousand dollars.

FNU Pro Vice Chancellor Research, Professor Mohini Singh while making the announcement said Research projects undertaken by Higher Degrees by Research students strengthen our capacity to generate value from new ideas and inventiveness. They are required in Fiji for innovation and for developing a knowledge economy.

According to Professor Singh, FNU is fast gaining recognition as the University in Fiji with the capacity to supervise Higher Degrees by Research students. This is evident with a sharp rise in the number of Higher Degrees by Research student enrollments in 2018 and this new initiative will provide students to undertake studies in a wide range of disciplines.

"The new higher degrees by research (PhD and Masters by Research) programmes at FNU are of international standards, meeting the requirements of Quality Assurance Agency, UK; Australian Qualification Framework 10 and Fiji Higher Education Commission Framework 10," said Professor Singh.

The FNU doctoral programmes are designed to support research candidates with research preparatory courses, and monitoring of research project progression with three milestones – a candidature confirmation within 10 months of enrolment; a mid-candidature review within 20 months and a completion seminar at the end of 30 months. Duration of the programme is 3 years full time and 6 years part time.

The PhD programme is a level 10 program, comprising a 60,000 to 100,000 word thesis, to be examined by two external examiners, followed by an oral examination (viva voce). The research preparatory courses and monitoring of project progression promote excellence and ensure timely completions.

Disciplines of study include:

- Doctor of Philosophy (Medicine, Nursing and Health Science)
- Doctor of Philosophy (Agriculture, Forestry and Fisheries)
- Doctor of Philosophy (Business, Hospitality and Tourism Studies)
- Doctor of Philosophy (Science, Engineering and Technology)
- Doctor of Philosophy (Education and Humanities)
- Masters by Research Programme

The FNU Masters by Research programmes are designed to support research candidates with research preparatory courses, and monitoring of research project progression with two milestones – a candidature confirmation within 8 months of enrolment; and a completion seminar at the end of 18 months. Duration of the programme is 2 years full time and 4 years part time. At the end of their completion seminar, the candidate can apply to upgrade from the masters to PhD studies.

Masters by Research programmes are level 9 programmes comprising a 40,000 to 60,000 word thesis which must be the student's own work, embody the results of the work undertaken by the student guided by two supervisors.

These programmes meet the requirements of Quality Assurance Agency, UK; Australian Qualification Framework 9; and Fiji Higher Education Commission Framework 9. Duration of the Programme is 2 years full time, and 4 years part time.

FNU is offering ten scholarships for PhD studies in any of the five disciplines mentioned above. The university is keen to fund PhD studies in any of the five disciplines for a period of three years for full time study. Fiji TV: https://www.fijione.tv/news-posts/fnu-launches-new-higher-degrees-by-research-programs/

In this ISSUE

HDR Policies

The Office of the Pro-Vice-Chancellor Research (OPVCR) has been working hard to benchmark the research degree regulations on international best practice, with generous support from partner universities in the UK. These regulations have also been robustly tested against Australian standards as well as the requirements of the Fiji Higher Education Commission.

List of policies that have been approved by Senate are listed below:

1. **Research Policy**
   a. FNU Research Policy

2. **Higher Degrees by Research Policy & Procedure**
   a. FNU Higher Degrees by Research Policy and procedure
   b. FNU Higher Degrees by Research Supervision Policy

3. **FNU Thesis Structure Guideline**

4. **FNU Higher Degrees by Research Forms**
   a. Current HDR Candidate Transfer to New HDR Programme Form
   b. HDR application form
   c. HDR scholarship application form
   d. HDR supervisor & Candidate Meeting Log
   e. Change of Supervisor Form
   f. Notification of Intention to Submit Form
   g. Thesis Consent Form
   h. Release of Thesis Form

5. **Research Data Management Policy & Procedure**
   a. FNU Research Data Management Policy
   b. FNU Research Data Management Procedure for HDR Candidates
   c. FNU Research Data Management Procedure for Staff, Adjunct and Visitors
   d. FNU Research Outputs (Publications, Patents, Others) Data Collection Policy & Procedure

6. **HDR Examination Policy, guidelines and forms**
   a. HDR Examination Policy
   b. Nomination of Examiners Guidelines
   c. Nomination of Examiners Form
   d. External Examiner Declaration Form
   e. External Examiner Guideline for Research Degrees
   f. Examiners' Report on Doctoral Thesis
   g. Examiners Report on Masters Thesis
   h. Doctoral Oral Examination Report
   i. Masters Oral Examination Report

7. **FNU Conference Policy & Form**
   a. FNU Conference Policy
   b. FNU Conference Funding Procedure and Form
   c. FNU HDR Candidate Supervisor Support Form

8. **FNU Human Research Ethics Policy & Forms**
   a. FNU Human Research Ethics Policy
   b. Human Research Ethics Application Form
   c. Participant Information Sheet
   d. Consent form
   e. Confidentiality agreement
   f. FNU Human Research Ethics Committee TOR
   g. FNU Human Research Ethics Committee members

Dr Shiu Kumar wins Vice Chancellor's Research Excellence Award 2019 in the category Higher Degree by Research

It was a rewarding moment for Dr Shiu Kumar when accorded with the Fiji National University (FNU) Vice-Chancellor's Award for Research Excellence 2019, in recognition of outstanding achievement in Research in the category of Higher Degree by Research.

The prestigious award is given to an individual researcher whose research activity has achieved considerable impact and recognition outside the University.

Dr Kumar, an academic in the College of Engineering, Science and Technology (CEST) completed his PhD this year with three Q1 journal publications, three Q2 journal publications, and five papers in conference proceedings.

To this date, he has published over 20 international journal and conference papers, six of which were published in highly ranked journals and has a citation H-Index of 10 and i10-Index of 10. Dr Kumar's contribution to knowledge is in the discipline of Electrical and Electronics Engineering, Artificial Intelligence, Machine Learning and Pattern Recognition.

Dr Kumar's PhD research is based on electroencephalography (EEG) Signal Classification and its Application to Brain-Computer Interface Systems using Computational Intelligence Techniques. He has applied feature engineering and pattern recognition to biomedical signals and has developed several state-of-the-art computational models for the prediction of motor imagery (MI) signals.

Dr Ronesh Sharma wins Research Excellence Award in the category of Early Career Researcher

Four years of perseverance, dedication and sacrifice not only led to a Fiji National University (FNU) academic to attain a PhD degree, but it also made him a proud recipient of the Vice Chancellor's Award for Research Excellence 2019, in the category of Early Career Researcher.

Dr Ronesh Sharma, an academic in the College of Engineering, Science and Technology (CEST), received the award in recognition of outstanding research achievements. Dr Sharma has to date published seven Q1 journal papers, one Q2 journal paper, and one paper in a conference proceeding. He has a citation H-Index of 7 and i10-Index of 5. His contribution to knowledge is in the discipline of Electrical and Electronics Engineering Bioinformatics and Artificial Intelligence.

His PhD was based on Protein Fold Recognition and Structure Class Prediction and MoRF Detection using Computational Intelligence Methodologies, which he accomplished from the University of the South Pacific (USP). He started in 2014 and graduated in September, 2019. In his PhD research, Dr Sharma applied feature engineering to bioinformatics data to build several state-of-the-art computational models.

Pro Vice Chancellor Research Professor Mohini Singh said that FNU is very proud of Dr Ronesh Sharma's achievements. She also mentioned that his achievements as an early career researcher is outstanding by world standards. FNU are very pleased to have researchers of his caliber, and are putting in place support systems to help Early Career Researchers progress to the next level.

Revitalising Informal Settlements and their Environments (RISE)

RISE is an action-research program working at the intersections of health, environment, and water and sanitation. RISE is trialling a new water sensitive approach to water and sanitation management in 24 informal settlements across Makassar, Indonesia and Suva, Fiji. Working with communities, governments, local leaders and partner institutions, RISE is co-designing location-specific solutions that integrate green infrastructure, such as constructed wetlands, to strengthen the whole-of-life water and sanitation cycle.

RISE research project is headed by Professor Rebekah Brown, Provost Research at Monash University, and made up of a large, multidisciplinary research team and scientific advisory panel, as well as PhD research candidates. In Fiji, Fiji National University is a partner on this project led by Dr Amelia Turagabeci, Head of Epidemiology and Environmental Health at the College of Medicine, Nursing and Health Sciences.

This project is now in its second phase - randomisation where a random sample of informal settlements will be upgraded by the project team to provide better sanitation, walkways and water facilities. Professor Mohini Singh, Pro Vice Chancellor Research welcomed the research team from Monash and from around the world to Suva and thanked Monash University for their collaboration with Fiji National University. She acknowledged the community members for their participation in the project. as well as the project sponsors for their support to the project.

For the management of the data collected in Fiji, RISE project has funded a multimillion dollar first of its kind laboratory in Fiji based at the FNU School of Public Health in Tamavua, Suva. This lab was officially opened on 27th November 2019 by Professor Rebekah Brown, Provost Research at Monash University and Professor Mohini Singh, Pro Vice Chancellor Research at FNU. Professor Singh thanked all RISE partners who supported this establishment.

Professor Singh said that this collaborative research opportunity with Monash University adds tremendous value to FNU, and the project outcomes of upgrading informal settlements in Suva is supporting improvements to human health by upgrading environmental health.

Pacific Islands Health Research Symposium 2019

The Fiji National University's College of Medicine, Nursing and Health Sciences (CMNHS) held its seventh Pacific Islands Health Research Symposium (PIHRS) at the Pearl Resort in Pacific Harbour on 29th & 30th August, 2019. This year's theme 'Aligning Research to Pacific Islands National Health Priorities' responded to the region's call for more relevant and impactful health research.

At this year's PIHRS, over 67 speakers from across the region and 170 registered participants joined the program which was opened by Honourable Minister Ifereimi Waqainabete. Pro Vice Chancellor Research, Professor Mohini Singh mentioned in her speech that, on behalf of the Vice Chancellor, she expressed gratitude to the Dean, College of Medicine,Nursing and Health Sciences (CMNHS), Dr William May, and the Associate Dean Research, Dr Donald Wilson, for their leadership in increasing the CMNHS capacity for undertaking noteworthy relevant research in the discipline.

FIPHR

The newly established Fiji Institute for Pacific Health Research (FIPHR) of the College of Medicine, Nursing & Health Sciences met with its collaborators at the Tanoa Plaza in Suva on Friday, the 26th of July, 2019. The stakeholders included technical agencies from the United Nations including World Health Organisation (WHO), UNICEF, a CROP agency The Pacific Community (SPC), International agencies including World Bank and its sister organisation, International Finance Corporation(IFC), Department of Foreign Affairs and Trade, Australia including the Ministry of Foreign Affairs and Trade of New Zealand, Korea International Cooperation Agency (KOICA), and the Japan International Cooperation Agency (JICA) and a regional Non-Government Organisation, the Pacific Disabilities Forum (PDF). Also represented were officials from the various government ministries including the Ministry of Health & Medical Services, Ministry of Women, Ministry of Labour, and the Ministry of I-Taukei Affairs. The three academic institutions represented at the stakeholder's meeting included the University of Otago, University of New South Wales and the Fiji National University (College of Medicine, Nursing & Health Sciences).

Invited Talks

Figure 1: Dr Lako presenting to the US Senior Military Officers

Dr Jimaima Lako was an invited speaker at the Focus In 2019 Symposium organsied and sponsored by the Centre for Excellence in Disaster Management and Humanitarian Assistance; 24-26th July 2019, Pearl Habour, Honolulu, Hawaii. The aim of the symposium was to share and gather information on regional coordination for the Indo-Asia-Pacific region's top-five "mega-disaster" situations that resulted in the most detrimental human outcomes. Dr Lako, in her capacity as the co-leader of the Academia Constituent of the Pacific Resilient Partnership Taskforce, Pacific Island Forum Secretariat, presented the roles of the Pacific Resilient Partnership (PRP) and the progress of the Framework for Resilient Development in the Pacific (FRDP). Dr Lako also contributed to the discussions on challenges and opportunities related to humanitarian assistance and disaster response, providing examples from the 2016 Tropical Cyclone Winston. Her presentations provided insights for future humanitarian assistance and disaster response for the US Military and research collaborations and opportunities for the University. Various international humanitarian assistance organizations were present at the symposium that provided further networking opportunities and research collaborations.

Research Seminars

OPVCR organised the following seminars for the university audience in 2019:

1. Writing Winning Proposals for External Funds – A Panel Discussion
2. Supervising PhD Students – Professor Mohini Singh and Professor Eileen Honan
3. Machine Intelligence: A way towards a better future, by Professor Alok Sharma

Publications (Q1 Journal Papers)

1. Pala, N. A., Sarkar, B. C., Shukla, G., Chettri, N., Deb, S., Bhat, J. A., Chakravarty, S. (2019). Floristic composition and utilization of ethnomedicinal plant species in home gardens of the Eastern Himalaya. Journal of Ethnobiology and Ethnomedicine. 15(14).

2. Kumar, Shiu & Sharma, Alok & Tsunoda, Tatsuhiko. (2019). Brain wave classification using long short-term memory network based OPTICAL predictor. Scientific Reports, 9.

3. Prasad, R.D. and Raturi, A., 2019. Fuel demand and emissions for maritime sector in Fiji: Current status and low-carbon strategies. Marine Policy, 102, pp.40-50.

4. Seedevi, P., Ganesan, A.R., Mohan, K., Raguraman, V., Sivakumar, M., Sivasankar, P., Loganathan, S., Rajamalar, P., Vairamani, S. and Shanmugam, A., 2019. Chemical structure and biological properties of a polysaccharide isolated from Pleurotus sajor-caju. RSC Advances, 9(35), pp.20472-20482.

5. Ganesan, A.R. and Bhat, R., 2019. Composite film for edible oil packaging from carrageenan derivative and konjac glucomannan: Application and quality evaluation. Polymer Testing, p.105936.

6. Sharma, A., Lysenko, A., López, Y., Dehzangi, A., Sharma, R., Reddy, H., Sattar, A. and Tsunoda, T., 2019. HseSUMO: Sumoylation site prediction using half-sphere exposures of amino acids residues. BMC genomics, 19(9), p.982.

7. Sharma, A., Vans, E., Shigemizu, D., Boroevich, K. A., & Tsunoda, T. (2019). DeepInsight: A methodology to transform a non-image data to an image for convolution neural network architecture. Scientific reports, 9(1), pp. 1-7.

8. Ahiwe, E. U., Abdallh, M. E., Chang'a, E. P., Omede, A. A., Al-Qahtani, M., Gausi, H., ... & Iji, P. A. (2019). Influence of dietary supplementation of autolyzed whole yeast and yeast cell wall products on broiler chickens. Asian-Australasian journal of animal sciences.

9. Chang'a, E. P., Abdallh, M. E., Ahiwe, E. U., Mbaga, S., Zhu, Z. Y., Nji, F. F., & Iji, P. A. (2019). Replacement value of cassava for maize in broiler chicken diets supplemented with enzymes. Asian-Australasian journal of animal sciences.

10. Ahiwe, E. U., Abdallh, M. E., Chang'a, E. P., Al-Qahtani, M., Omede, A. A., Graham, H., & Iji, P. A. (2019). Influence of autolyzed whole yeast and yeast components on broiler chickens challenged with salmonella lipopolysaccharide. Poultry Science.

11. Vera, N., Young, L., & Sweet, L. (2019). Assessing the Alignment of Pharmacotherapeutics Course Outcomes With Topic Outcomes. American journal of pharmaceutical education, 83(3), 6545.

12. Sharma, R., Sharma, A., Patil, A., & Tsunoda, T. (2019). Discovering MoRFs by trisecting intrinsically disordered protein sequence into terminals and middle regions. BMC bioinformatics, 19(13), 378.

13. Maity, A., Chakarbarty, S. K., Pramanik, P., Gupta, R., Parmar, S. S., & Sharma, D. K. (2019). Response of stigma receptivity in CMS and male fertile line of Indian mustard (B. juncea) under variable thermal conditions. International journal of biometeorology, 63(2), 143-152.

14. Krull, C. R., McMillan, L. F., Fewster, R. M., van der Ree, R., Pech, R., Dennis, T., & Stanley, M. C. (2019). Testing the feasibility of wireless sensor networks and the use of radio signal strength indicator to track the movements of wild animals. Wildlife Research, 45(8), 659-667.

15. Atkins, J. L., Perry, G. L., & Dennis, T. E. (2019). Effects of mis-alignment between dispersal traits and landscape structure on dispersal success in fragmented landscapes. Royal Society open science, 6(1), 181702.

16. Prasad, R. D., & Raturi, A. (2019). Low carbon alternatives and their implications for Fiji's electricity sector. Utilities Policy, 56, 1-19.

17. Mohan, K., Ravichandran, S., Muralisankar, T., Uthayakumar, V., Chandirasekar, R., Seedevi, P., ... & Rajan, D. K. (2018). Application of marine-derived polysaccharides as immunostimulants in aquaculture: A review of current knowledge and further perspectives. Fish & shellfish immunology.

18. Gupta, R. (2019). Tissue specific disruption of photosynthetic electron transport rate in pigeonpea (Cajanus cajan L.) under elevated temperature. Plant signaling & behavior, 1-11.

19. Shah, C., Gibson, D., Shah, S., & Pratt, S. (2019). Exploring a market for agritourism in Fiji: tourists' perspective. Tourism Recreation Research, 1-14.

20. Lal, R., Fifield, L. K., Tims, S. G., Wasson, R. J., & Howe, D. (2020). A study of soil erosion rates using 239Pu, in the wet-dry tropics of Northern Australia. Journal of environmental radioactivity, 211, 106085.

21. Ganesan, A. R., Subramanium, K., Shanmugam, M., Seedevi, P., Park, S., Alfarhan, A. H., ... & Balasubramanian, B. (2019). A comparison of nutritional value of underexploited edible seaweeds with recommended dietary allowances. Journal of King Saud University-Science.

22. Ganesan, A. R., Subramani, K., Balasubramanian, B., Liu, W. C., Arasu, M. V., Al-Dhabi, N. A., & Duraipandiyan, V. (2019). Evaluation of in vivo sub-chronic and heavy metal toxicity of under-exploited seaweeds for food application. Journal of King Saud University-Science.pp. 1-8.

23. Pasinszki, T., Krebsz, M., Chand, D., Kótai, L., Homonnay, Z., Sajó, I. E., & Váczi, T. (2020). Carbon microspheres decorated with iron sulfide nanoparticles for mercury (II) removal from water. Journal of Materials Science, 55(4), 1425-1435.

The Office of the Pro-Vice-Chancellor Research

wishes everyone a successful new year.