

FNU academic wins prestigious Deans Award for Research Higher Degree Excellence at James Cook University

Dr Alvin Lal, Assistant Professor with the Department of Physics at Fiji National University's (FNU) College of Engineering, Science and Technology (CEST) was one of the eleven recipients who were recognised amongst the 133 higher research candidates competing for the prestigious Deans Award for Research Higher Degree Excellence at James Cook University (JCU) in Australia.

Dr Lal's thesis topic is "Groundwater modelling and management".

"I was nominated for this Award by the Advisory Panel and College Dean at JCU. The nomination was based on the examiners' reports for my thesis, the international recognition of my work, via my publications arising from this study and the impact of my research."

Dr Lal, who joined FNU in 2016, completed his Bachelor of Science in Mathematics and Physics and Master of Science in Physics programmes from the University of the South Pacific before taking up his doctoral studies at James Cook University.

Having dealt with water security issues in Fiji, Dr Lal said he was adamant to find solutions to the groundwater resource management problems in the Pacific.

"Specifically, my PhD focused on the development and evaluation of novel groundwater monitoring tools, 3D groundwater models and management of groundwater resources in Small Island Developing States (SIDS). Water security in SIDS is a key issue. Changing climate, urbanisation, booming tourism and industrial activities in SIDS are putting more stress on the already depleted groundwater resources. There was an urgent need for effective and reliable groundwater monitoring and management methodologies. Learning different groundwater modelling algorithms, different programming languages and computer codes were the most challenging part of my PhD. I am not from a computing background and overcoming this challenge was not easy. However, with the zeal and enthusiasm, I managed to learn and perform to the best of my ability," highlighted Dr Lal.

"In my PhD, I developed various novel groundwater monitoring, modelling and management tools, which are currently being used by several SIDS in the Pacific."

Dr Lal published in Q1 and Q2 journals and secured several travel grants which allowed him to participate in various conferences in Australia, Japan, United States of America and Spain.

Speaking of his achievement, Dr Lal said that his research thesis being recognised with a Dean's Award is a very rewarding achievement for him.



Dr Alvin Lal

"Completing a PhD in a time-frame of 3 years and 4 months and with these many research outputs was a demanding task. However, I am glad that my efforts have been rewarded," he mentioned.

Originally from Rakiraki, Dr Lal said studying in a foreign country presented many challenges however the support from his family and fiancée was his motivation.

"Staying away from my loved one's was not easy. Sometimes, I just felt like leaving everything and coming back to Fiji. However, I am grateful to technology that permitted me to stay connected to my loved one's at all times," he commented.

Dr Lal is currently working on several groundwater modelling projects in collaboration with researchers from Poland, Australia, Indonesia and Fiji.

The Assistant Professor further added that in the long run, he plans to establish a Pacific Island Groundwater Research and Training Centre (PIGRTC) in Fiji with the support of the Government and other stakeholders.

"If established, the centre could be instrumental in solving various water-related problems currently prominent in almost all SIDS in the Pacific," he mentioned.