

Editorial

The South Pacific Journal of Natural and Applied Sciences (SPJNAS) is an international journal dedicated to the latest advancement of natural and applied sciences and provides a platform for scientists and academics in diverse areas of research.

The University of the South Pacific (USP) is the premier provider of tertiary education in the Pacific region and an international centre of excellence for teaching, research consulting and training on all aspects of Pacific culture, environment and human resource development needs. **The SPJNAS** is USP's open access, peer-reviewed, multidisciplinary, scientific journal that publishes original research findings, review articles and short communications. The journal focusses on academic excellence, research rigidity, knowledge distribution, and reciprocated scholarly efforts in order to endorse theoretical, experimental and applied research at national and international levels, especially in the South Pacific region.

The present issue of **SPJNAS** contains three authoritative research papers on topics of both fundamental and applied interest and they are summarized below.

1. There has always been ongoing research and interest to grow potatoes in Fiji, primarily as a substitute for imports to save foreign exchange. Fiji imports its potatoes from New Zealand and Australia at a cost of \$22 million annually. This created the need to look at specific tools, such as crop simulation models to assist the optimization of crop management to increase and sustain production. Nand *et al.* have evaluated the performance of a Decision Support System for Agrotechnology Transfer SUBSTOR Potato Model (v4.5) under tropical conditions.
2. The return strokes of lightning discharges generate enormous amounts of energy spread over a wideband in the electromagnetic spectrum with peak power density around 10 kHz. A major part of the radiation in the Extremely Low Frequency (ELF) and the Very Low Frequency (VLF) bands propagates through the Earth-ionosphere waveguide (EIWG) by multiple reflections and is received as sferic at the receiver. Kishore *et al.* have investigated upper atmospheric remote sensing using ELF – VLF lightning generated tweek and whistler sferics.
3. The problem of increased solid-waste dumping due to urbanization has become an important policy issue in developing countries as it contains heavy metals. In the past few decades, extensive attention has been devoted globally to the incidences of heavy metal pollution. Thus, to be able to assess the risk of heavy metals toxicity, Chandra *et al.* have studied the heavy metals fractionation in the Lami Municipal Disposal Facility, Fiji.

I hope that readers of **SPJNAS** will find these articles of great value. I would like to thank all the authors who have contributed their research papers to this volume of **SPJNAS**, and to acknowledge the associate editors and the reviewers for their time, and kind cooperation in maintaining the high standard of the journal. I wish to acknowledge the continuing support of the Dean of the Faculty of the Science, Technology and Environment, Assoc. Prof. Anjeela Jokhan, Assoc. Dean, Research & Graduate Affairs, Assoc. Prof. Sushil Kumar; and I thank Ms. Prayna Maharaj for her expertise in formatting all the papers, inserting corrections and preparing the table of contents, and also to Ms. Helen Malin (CSIRO Publishing) for her help in various ways. Finally, my deepest gratitude to the Vice Chancellor & President of USP, Professor Rajesh Chandra for signing the MoU with CSIRO Publishing to integrate **SPJNAS** into its portal and

make it an open access journal whereby the research findings of the contributing scientists are readily accessible.

Surendra Prasad

Editor-in-Chief, **SPJNAS** Volume 34, Issue 1.

Professor of Chemistry & the Head of School of Biological & Chemical Sciences, USP.