

## SHIWANGNI RAO

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### EDUCATION

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<b>Doctor of Philosophy Biomedical Science</b> Charles Sturt University <i>Research Title: The effect of environment on cereal phenolic composition and its anti-cancer potential</i>	2016-current
<b>Master of Science in Environmental Science</b> University of the South Pacific	2011
<b>Postgraduate Certificate in Tertiary Teaching</b> University of the South Pacific	2014
<b>Bachelor of Science in Environmental Science</b> University of the South Pacific	2009
<b>Certificate IV in Training and Assessment</b> Ascet Institute of Technology Pty Ltd	2015
<b>Certificate III in Agriculture and Certificate III in Horticulture</b> Northed	

### SKILLS

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- Independent and collaborative research through publications, thesis and conference presentations.
- Design experiments and field trials in plant physiology research projects of final year degree students.
- Knowledge of advance laboratory equipment, calibration and experimental procedures such as in RVA, Micro Dough lab, Flowcytometer, UHPLC-online ABTS and LC/MS QTOF.
- Advance IT skills in Microsoft Office, Prism, Moodle and the ability to quickly learn new software programs.
- Collaborative experience in course development and conversion to online, blended and block mode delivery via Moodle learning Management System.
- Data base management in course coordination for up to 300 students per term using Moodle platform.
- Financial management in management of University and ACIAR funded postgraduate research scholarship.
- Organizational and time management displayed during an overlap in my employment as acting Graduate Assistant officer and Teaching assistant
- Managerial skills and leadership gain in management of numerous staff and students, in addition awarded the Graham center Student leadership Award 2017.
- Excellent written and oral communication skills e.g 8.5/9 overall in IELTS
- Ability to work with people from various levels of seniority, diverse cultural and linguistic backgrounds and across sites

## WORK EXPERIENCE

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2016- current **Ph.D.** Research in grain biochemistry, School of Agriculture and wine sciences, Faculty of Science, Charles Sturt University.

- Conducted independent and collaborative research cross-functional teams using high precision equipment and innovative techniques in assessing grain quality.
- Mentored students from Belgium, Federation University and Curtin University
- collaborated with farmers, breeders, NSW DPI, NVT- GRDC and other grain suppliers to obtain samples for research.
- engaged Australian grain grower's meetings and workshops such as Rice Growers Association Annual meetings, GRDC updates and Innovation Generation conference
- Community work at Mata Dei Primary, promoting science and developing critical thinking in children through "My Science Day".
- Awards; Graham Center student leadership award (2017) and RnD Topics Conference Best Presenter (2017)
- Travel awards and grants; AGSA Student Award (2016 and 2017), Graham Center Conference support (2017 and 2018), Crawford Fund Conference Scholarship (2016)
- Crawford Fund-IRRI "Rice research to production course" scholarship 2017

2017-2018 **Sessional Laboratory Demonstrator**, School of Agriculture and wine sciences, Faculty of Science, Charles Sturt University.

- Conducting lab demonstrations for undergraduate students in Chemistry.
- Guided students in lab tasks and mentored those experiencing difficulty.
- Ensured quality learning and safety in the lab by modelling and monitoring safe lab practices

07/2015-30/11/15 **Lecturer in Environmental Science**, School of Applied & Biomedical Sciences, Faculty of Science & Technology, Federation University.

- Environmental science unit development to online delivery *via* Moodle platform
- Collaborating with unit lecturers to review and renew unit curriculum
- Managed online conversion of contracted unit in 5months, in addition created template for application on other environmental science units
- Coordinating conversion process across campuses
- Assisted in teaching and facilitating field trips in two environmental science units

2012- 02/2015 **Teaching Assistant (Tutor/ trainer)**, School of Biological & Chemical Sciences, Faculty of Science, Technology & Environment, University of the South Pacific.

- Teaching environmental science units of biology, plant physiology, ecology, soil science and Biostatistics. Including teaching tutorials, setting up and conducting lab demonstrations
- Designing and supervision of final year plant physiology research projects
- Management of approximately 8 part time staff per semester
- Research and publication in plant stress physiology

2011-2012 **Graduate Assistant Officer**, Faculty of Science, Technology & Environment, University of the South Pacific.

- Facilitating AusAid-ACIAR, and other external and internal scholarships
- Liaison with stakeholders in regards to postgraduate student affairs
- Promotion and marketing of postgraduate studies in the South Pacific
- Financial management of scholarship fund, preparing forecast and allocation budget and secured funding extensions for student and assisted in extension of \$50,000 funding to University from ACIAR
- Yearly report on fund management, student performance, respective forecasts and scholarship standards.

2010-2011 **Attaché Research Technician**, Secretariat of the South Pacific Community- Center for Pacific Crops & Trees (CePaCT)

- Tissues Culture, specialized in herbaceous root crop.
- Research specialist of *Cyrtosperma merkusii* - stress physiology and Taxonomy. (Collaboration with Federated States of Micronesia, Pohnpei and Tuvalu Department of agriculture)
- Hydrology research on ground water salinity and sea water intrusion on atolls (collaboration with South Pacific Geoscience (SOPAC) and Tuvalu Department of agriculture)

2009-2010 Student Part timer **AusAid Mentor**, Regional Scholarship Team and Student learning center, University of the South Pacific

- Managing 15-20 undergraduate students and ensuring their welfare academically and socially
- Liaising and organizing meetings with students, mentors and special tutors to assist struggling students
- Organizing orientation and induction of more than 50 new scholarship holders

### **PUBLICATIONS (PEER REVIEWED)**

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**Rao. S, M.** Taylor and A. Jokhan. 2014. In *Vivo* screening of salinity tolerance in Giant Swamp Taro (*Cyrtospermamerkusii*). *Journal of Natural and Applied Sciences*, 32; 33-36. ISSN 1838-837X

- Rao. S, M. Taylor and A. Jokhan.** 2014. Giant Swamp Taro (*Cyrtospermamerkusii*) character descriptor list and cultivars. *Teloepa - Journal of Plant Systematics*, 16; 95-119. ISSN 0312-9764
- Rao. S, M. Taylor and A. Jokhan.** 2013. A rapid salt tolerance screening methodology for giant swamp taro (*Cyrtospermamerkusii*) and its diversity. ISHS series *ActaHorticulturae*. No. 979, vol2. [http://www.actahort.org/members/showpdf?booknr=979\\_33](http://www.actahort.org/members/showpdf?booknr=979_33)
- \*works on Taxonomy and groundwater hydrology survey is being utilized by Federated States of Micronesia Phonpei Department of Agriculture and Tuvalu Department of Agriculture.*
- Rao. S, E. Callcott, A. Santhakumar, K. Chinkwo, T. Vanniasinkam, J. Luo and C. Blanchard.** 2018. Profiling polyphenol composition and antioxidant activity in Australian-grown rice using UHPL-online ABTS system. *Journal of Cereal Science*, 80; 174-179, DOI10.1016/j.jcs.2018.02.01
- Rao. S, A. Santhakumar, K. Chinkwo and C. Blanchard.** 2018. Q-TOF LC/MS identification and UHPLC-online ABTS antioxidant guided mapping of barley polyphenols. *Food Chemistry*, 266; 323-328, doi.org/10.1016/j.foodchem.2018.06.011
- Rao. S, L. Schwarz, A. Santhakumar, K. Chinkwo and C. Blanchard.** 2018. Cereal phenolic contents as affected by variety and environment. *Accepted manuscript 2018, Cereal Chemistry*, 2018; 1-14. <https://doi.org/10.1002/cche.10085>
- Rao. S, K. Chinkwo, A. Santhakumar and C. Blanchard.** 2018. Inhibitory effects of pulse bioactive compounds on cancer development pathways. *Diseases* 6(3), 72; doi:10.3390/diseases6030072
- Rao. S, A. Santhakumar, K. Chinkwo, G. Wu, S. Johnson and C. Blanchard.** 2018. Characterization of phenolic compounds and antioxidant activity in sorghum grains. *Accepted manuscript, Journal of Cereal Science*. <https://doi.org/10.1016/j.jcs.2018.07.013>
- Rao. S, A. Santhakumar, K. Chinkwo, T. Vanniasinkam, J. Luo and C. Blanchard.** 2018. Chemopreventive potential of cereal polyphenols. *Accepted manuscript, Nutrition and Cancer*.

## REFEREES

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- **Professor. Christopher Blanchard**

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- **Dr. Simon Cook**

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