

SHIWANGNI RAO

Unit 1/ 62 Collins Street, Turvey Park, Wagga Wagga, NSW, 2650, **Mobile:** 0432492352,
Email:wani.rao@gmail.com / srao@csu.edu.au

EDUCATION

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

- 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

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)

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
- *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

- **Professor. Christopher Blanchard**

Director
ARC ITTC for Functional Grains
Charles Sturt University
Wagga Wagga NSW 2678, Australia
cblanchard@csu.edu.au
Tel: +614 69332364

- **Dr. Simon Cook**

Lecture Environmental Science
Faculty of Science and Technology
Federation University
Mt Helen, Ballarat, VIC
s.cook@federation.edu.au
Tel: +613 5327 9122