

### 2022 WINTER ISSUE

# THE OFFICIAL NEWSLETTER OF THE AUSTRALASIAN SOCIETY FOR PHYCOLOGY AND AQUATIC BOTANY

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### Contribution

Thanks Joseph, Tom,

**Contact editor** for questions or if you want to contribute content:

The editors (Newsletter)

Australasian Society for Phycology and Aquatic Botany

1. Thiruchenduran (Thiru) Somasundaram 🕥 tsomasundaram@deakin.edu.au 🖂

2. joseph.kihika@vuw.ac.nz

Cover image credits: Dr. Tom Wheeler more on The ASPAB Cover Story

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Letter from the editors

Dear ASPAB members,

Hi there, the cold winter season is here with us!. From the editorial board, we hope everyone is having a wonderful 2022 as we plan to meet again in person for wonderful scientific engagements later this year. Even as we plan this year's activities, conduct research and look ahead for more overseas travel, the return of face-to-face conferences is great news to what had seemed as a sad phase of scientists trying to keep up with online conferences with unbearable time differences in most cases. We are highly optimistic that the 36th ASPAB conference from 28-29 November 2022 would be very exciting, allowing scientists and researchers to exchange ideas and for the students to travel and share their amazing research findings to the world.

This newsletter highly appreciates the work done by the ASPAB committee members especially Maren Preuss and everyone else in trying to plan this year's ASPAB conference. We would also like to appreciate the host -The Department of Biodiversity, Conservation and Attractions (DBCA) and many thanks goes to all the members and non-members who took part in the voting for a face-to-face conference in 2022.

We are all delighted to feature one experienced scientist from Cawthron Institute, New Zealand; Dr. Tom Wheeler who is the section head in Research & Development (Analytical Science) in our special member profile segment. Last but not least, I would like to welcome all the new members from Australia, New Zealand and other neighbouring regions in joining this wonderful society and there is always room for more!. The editorial team welcomes every researcher, scientist or student to share their research backgrounds and stories through the ASPAB Newsletter which play a major part in moving our society forward and encouraging many non-members to become a part of this wonderful group.

Keep warm during the winter and hoping to see you all once again in Perth!.

Joseph

# The President's report



Greetings Phycologists and Aquatic Botanists!

The COVID pandemic has been challenging for all of us. When the new omicron variants still keep on shifting the pandemic's goalposts, it is great to see a shift towards returning to normal life slowly. Thanks for safe and effective vaccine developments. Finally, 36th ASPAB conference is happening F2F in November 2022!!

In this challenging time, our editorial team and other committee members have remained active and done a fabulous job (especial thanks to Thiru and Joseph) in bringing up this 1st issue of the ASPAB Newsletter 2022 with the latest updates on exciting research, projects, stories, jobs board, upcoming conferences, announcements and many more. Thanks to all contributors for making this ASPAB Newsletter exciting and informative.

When most of the countries have started re-opening their borders for international travel, the Joanna Jones Student Travel Awards are also open now for the 1st round of 2022 (students must have an active 12 months of financial membership before application). Unfortunately, this call was not open for two years (2020-2021). Therefore, grab this excellent opportunity to build a scientific network, meet influencers and algal industry experts, and learn novel algal innovations and insights.

ASPAB organization being an active Science and Technology Australia (STA) member contributed to the Aquatic Science Cluster report for the year 2022 on "Indigenous community engagement". Thanks to Zoe Brittain (Ph.D. student, Deakin University) for her kind contribution to this report. She actively engages and explores Aboriginal oral histories as they relate to the traditional and contemporary use of Australian seaweed species.

I was also delighted to know that one of our editorial team members Mr. Thiruchenduran (Ph.D. Student, Deakin University) was selected as one of the twelve scholarship recipients to participate in the "Science Meets Parliament 2022". Congratulations Thiru! We hope you find this a great opportunity for networking and raising your voice supporting phycology and aquatic botany that will greatly influence the political agenda.

It will be exciting to attend a face-to-face ASPAB conference from the 27–29th of November at the Department of Biodiversity, Conservation and Attractions in Perth this year. The local organizing committee will be John Huisman, Di Walker, Kieryn Kilminster, and Frances D'Souza. Preventive measures to keep attendees safe from the spread of COVID-19 will still be in place. It is going to be a perfect time to keep abreast of the latest algal science tech and explore the southwest scenic beaches.

I would like to emphasize that ASPAB operates solely on the volunteer work of its executive members. There are always opportunities for volunteer participation in various activities of our ASPAB society. We would appreciate receiving your ideas, feedback, news, and announcements of interest for an upcoming issue of the ASPAB newsletter. For further details, please visit https://www.aspab.org/ or contact our committee members (details can be found in this newsletter).

I thank all the members for providing me with this opportunity to serve ASPAB as President. I look forward to working together in promoting ASPAB's vision, mission, and overall direction to best benefit its members.

Manoj Kumar (Ph.D. Marine Biotechnology) Research Fellow (Former ARC-DECRA and JSPS Fellow) Seaweed Tech Lead President – Australian Society for Phycology and Aquatic Botany (ASPAB) Algal Biotechnology and Bioprocessing Research Group| Climate Change Cluster (C3) Faculty of Science| University of Technology Sydney, Australia Tel: +61 02 9514-7275| Email: manoj.kumar@uts.edu.au

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## ANNOUNCEMENT 36th ANNUAL CONFERENCE OF THE AUSTRALASIAN SOCIETY FOR PHYCOLOGY AND AQUATIC BOTANY

We are pleased to announce details of the upcoming face-to-face meeting of ASPAB in Perth, now that borders are open and a semblance of normality has returned. Please join us in November and enjoy all that the west has to offer. It's a perfect time for beach visits or a post-conference trip exploring the southwest.

Where: The Keiran McNamara Conservation Science Centre, Western Australian Department of Biodiversity, Conservation and Attractions, 17 Dick Perry Ave., Kensington When: 27-29 November 2022 (presentations on the 28th and 29th).

Cost: \$250 for full members; \$150 for students, includes lunches, Icebreaker on the 27th, and Conference Dinner on the 29th.

Registrations and Abstracts: Due end of September.

Further details to come...

# CALLING APPLICATIONS FOR JOANNA JONES STUDENT TRAVEL GRANT

# AU\$1500/NZ\$1500



Grants will be paid prior to travel but only when **airfare and registration** receipts are received. We will pay up to half the sum of the airfare, plus the early-bird conference registration up to a maximum of **AU\$1500/NZ\$1500**. We will not pay accommodation costs.

The applications, plus all documentation, are due to the Secretary of ASPAB by **August 31st.** 

#### Eligibility criteria on the website 😑

(most important you need to be a paid student member for the last 12 months) Application forms can be downloaded from our website or by following this link.

Application form

Supervisory recommendation form **CE** Send your application to

#### Contact:

Prof. Joe Zuccarello (Giuseppe C. Zuccarello) 🤤 joe.zuccarello@vuw.ac.nz



# The Cover Story

This issue's cover image was contributed by Dr. Tom Wheeler a scientist from Cawthron Institute, New Zealand a new(ish) member to the society and we welcome him!. Among several images taken by Tom on the native red sea weed species, this was the very bestnatural sea weed habitat.



Red seaweeds in *Pyropia* and *Porphyra* genera



"This Image among others that Tom has taken during his long outstanding career in sea weed research clearly demonstrates how valuable this macroalgae are. Tom has been leading an international research team that has shown that the red sea weeds produce proteinenriched extracts and they have a great potential of producing highvalue food ingridients , that can play a pivotal role in the building of a Sea weed sector in New Zealand.

Read more about Tom's research at the ASPAB member profile section!......

Dr. Tom Wheele Research scientist at Cawthron Institute, New Zealand

# Cryopreservation of marine dinoflagellates (Symbiodiniaceae); their long-term storage for scientific research and use in habitat restoration



Joseph Kihika Kanyi PhD candidate, Victoria University of Wellington

Kia Ora! I am a Ph.D. Candidate at Victoria University of Wellington (VUW), but my research is based at Cawthron Institute in the beautiful town of Nelson, New Zealand. Having pursued my master's degree from the University of Szeged- Hungary, I moved to New Zealand in 2020 to join this exciting PhD project. I am highly thankful to my team of advisors: - Prof. Ken Ryan from VUW and Drs Lesley Rhodes, Susie Wood and Kirsty Smith all from Cawthron Institute for their continued support. I am very lucky to have this wonderful team around me as I study for my PhD.

#### My research....

Dinoflagellates of the family Symbiodiniaceae play a key role as endosymbionts with corals and other marine invertebrates like sea anemones, jellyfish, giant clams and flatworms, while others exist as free-living phytoplankton. The Symbiodiniaceae are genetically diverse with at least 10 distinct clades/genera (A to J) with more species being discovered using molecular techniques.

These endosymbiotic dinoflagellates support the growth, metabolic processes and survival of their hosts. Due to their high diversity, they are used in molecular studies for the identification of new species into the broad Symbiodiniaceae family. Some species produce compounds such as mycosporine-like amino acids (MAAs) that protect them by absorbing excessive UV-light. The changes in distribution of the Symbiodiniaceae species in certain ecosystems have been used as indicators of climate change. Currently, disruptive changes in marine habitats caused by increased sea surface temperatures, global warming, ocean acidification and ocean pollution have affected the nutrients exchange between the endosymbionts and their invertebrate host, leading to coral-bleaching and finally the destruction of reef habitats.

To protect the Symbiodiniaceae species, my current research focusses on the cryopreservation of several species belonging to 6 different genera in the family Symbiodiniaceae. Cryopreservation refers to the long-term storage of living biological samples at very low temperatures (–196 °C) through immersion in liquid nitrogen. This storage technique protects the microalgae from contamination, genetic drift and reduces the cost of continuous sub-culturing.

This research involves some Symbiodiniaceae species maintained at Cawthron Institute Culture Collection of Microalgae (CICCM; http://cultures.cawthron.org.nz/ciccm/) and the marine symbiosis and coral reef biology lab at Victoria University of Wellington.

Currently, I am applying two common cryopreservation techniques:- Rapid freezing and controlled-rate freezing. I am very pleased to have achieved successful cryopreservation of different several species including Symbiodinium sp. (clade A) (an endosymbiont for the endemic Sea anemone Anthopleura aureoradiata in New Zealand. This success will prepare the ground for my next experiments on molecular integrity after cryopreservation and recovery of the cultures. The findings from my PhD research will help in the expansion of the 'cryobank' of microalgal species at Cawthron Institute, which currently has more than 300 species of microalgae and cyanobacteria cryopreserved. Lastly, cryopreservation of the Symbiodiniaceae will allow easier transport of species between research facilities, protect their genetic integrity for future research and for habitat restoration after destructive coral-bleaching.



Acknowledgements: This PhD research is being supported by a student research grant from Ken Ryan's lab and funding from the New Zealand Ministry of Business, Innovation and Employment, Contract number: CAWX0902 and a Cawthron Institute Internal Capability Investment Fund scholarship.

(Image credits Joseph Kanyi Kihika)

# **ASPAB Member Profile**

#### DR TOM WHEELER CAWTHRON INSTITUTE, NEW ZEALAND



The ASPAB welcomes a new(ish) member to the Society, Dr Tom Wheeler, of Cawthron Institute in Nelson. Tom is a protein biochemist who has been working on algae as a high-value food since joining Cawthron Institute in 2016. He has broad experience in a variety of areas.

He is a graduate of Victoria University of Wellington, his PhD was awarded in 1988. Working under the supervision of Associate Professor Bill Jordan, Dept of Biochemistry and Dr Sandy Ford, University of Otago Wellington School of Medicine, he searched for biomarkers for neurological diseases using the then-novel technique of 2D gel electrophoresis. He extended his application of proteomics to medicine during his post-doctoral research under Professor Donald Young at the University of Rochester, Rochester New York, during which he investigated mechanisms of glucocorticoid hormone action using a 2D gel approach. Returning to New Zealand in 1992, he applied his skills to the molecular level understanding of bovine mammary gland biology and milk protein functionality at AgResearch's Ruakura campus in Hamilton.



In a major shift in his career, in 2016 he made a move south to sunny Nelson to join the Cawthron Institute, breaking away from his over 20-years' research in supporting the dairy industry to refocus on seaweeds and aquaculture. In his time at Cawthron he has built multidisciplinary research teams to investigate the biology, ecology and molecular composition of seaweeds, as well as their nutrition and health-promoting attributes.

His current research programmes focus on the characterisation of the food-related attributes of New Zealand native species of red seaweeds in the Pyropia and Porphyra genera (karengo). He leads an international research team investigating the nutritional and healthattributes of protein-enriched promoting extracts of Pyropia/Porphyra seaweeds and their potential as high-value food ingredients and has contributed to other seaweed programmes including Building a Seaweed Sector framework for Aotearoa/New Zealand", and "Seaweed Sun Defence" funded by the Sustainable Seas National Science Challenge. The aim of these activities is to help grow a commercial seaweed industry in New Zealand.



Tom says he is excited to be working in algal research, and he hopes to make a positive contribution to the field and being an active member of the Society.

#### Information and image credits:

1. Dr Tom Wheeler Cawthron Institute, New Zealand Phone: +64 275431288 Tom.Wheeler@cawthron.org.nz

2. Cawthron Institute https://www.cawthron.org.nz

# ASPAB shared stories

### A new red algae named after an ASPAB member



A new red alga belonging to the order Hildenbrandiales has been discovered by ASPAB New Zealand chapter scientists and named *Apophlae darchinoae.* The species name "*darchinoae*" is named after one of the ASPAB scientists involved in this discovery. Roberta D'Archino is a New Zealand marine biologist who was involved in this project. The full paper link is available here:

https://www.tandfonline.com/doi/full/10.1080/002 8825X.2022.2064758

A new red algal crust from New Zealand: Apophlaea darchinoae sp. nov. (Hildenbrandiales) 2022, New Zealand Journal of Botany.



Diversity of tropical macroalgae in the New Zealand marine aquarium trade

"Without a lot of effort, we found a plethora of tropical species entering New Zealand undetected. Obviously, most of these could not survive outside tropical tanks but still, who knows (at least one is resistant to NZ seawater temperatures, and some are known invasives around the world (*Caulerpa* species). This study I think did not even scratch the surface of what is imported with tropical marine corals, anemones... It is something to look out for. Kirill did a great job in tracking these down and identifying them." Prof. Joe Zuccarello (Giuseppe C. Zuccarello) commended their new article

"Diversity of Tropical Macroalgae in the New Zealand Marine Aquarium Trade," New Zealand Journal of Marine and Freshwater Research, 2021, https://www.tandfonline.com/doi/abs/10.1080/00288330.2021.1975778 THANKS! JOE Z., FOR INFORMATION.

Copied from LinkedIn profile

### University of Waikato Macroalgal team hits multiple headlines this year!!!



The macroalgal team at the University of Waikato is led by Dr. Marie Magnusson. Marie is the program leader for the Entrepreneurial Universities Macroalgal Biotechnology Programme and drives the focus on developing a sustainable macroalgal aquaculture industry in New Zealand.

Marie's team and their projects has been featured in several media fronts in New Zealand.

Copied from Te Waka

Firth of Thames waterway cleaning project was featured in "Te Waka" news. The bioremediation of Waihou Estuary water using *Ulva* tanks is gold for a keen eye researcher. . You can read more about this project by following this link.

https://www.waikato.com/news/article/2022/03/13/seaweed-could-hold-key-to-cleaning-upwaterways

The first award of 5 million NZ\$ grant for a regenerative seaweed farming involving local farmers was awarded to Dr Marie Mangusson and Dr Rebecca Lawton of the University of Waikato. This news and the details of this project were featured in a news item by "Sun Media".

Link: https://sunlive.co.nz/news/283054-seaweed-farming-trials-hauraki-gulf-and-bop.html





Copied from Sun Media

A comprehensive account of the research conducted by Marie and her team is available for listening as an RNZ "Our Changing World" podcast at this link.

https://www.rnz.co.nz/national/programmes/ourch angingworld/audio/2018830656/multi-talentedmacroalgae

Copied from RNZ

### "Advances in Phytoplankton Ecology -Applications of Emerging Technologies" a book edited by ASPAB members



Ecology Applications of Emerging Technologies

Advances in Phytoplankton

1st Edition - December 8, 2021

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View on ScienceDirect >

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 Authors: Lesley Clementson, Ruth Eriksen, Anusuya Willis

 Preview
 Paperback ISBN: 9780128228616

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 ::Back.IS381: 97801283300(6)

Source: Lesley Clements

This book was edited by Lesley Clementson, Ruth Eriksen, and Anusuya Wills. It is a must-read for phytoplankton researchers and should be of interest to ASPAB membership. A peep into the contents intrigues any researcher who is passionate about employing novel techniques in phytoplankton research.

*Link: https://www.elsevier.com/books/advances-in-phytoplankton-ecology/clementson/978-0-12-822861-6* 

# The Otago harbour *Adamsiella chauvinii,* a red seaweed studied by ASPAB's Namrata Chand



Namrata Chand (Nam) is a Ph.D student at University of Otago. Listen to Nam's diving experience and details of Nam's project at RNZ's "Our Changing World" podcast.

Link:

https://www.rnz.co.nz/national/pr ogrammes/ourchangingworld/aud io/2018841707/the-red-seaweedof-otago-harbour

Source: RNZ





Congratulations!!! Joe and Maren for being elected to the editorial board of Phycological Society of America

# Science meets parliament 2022, ASPAB Member participation



The perks of being an active member of several Australian and international scientific organizations are getting the opportunity to network with professionals, learn new tools of the trade and improve communications skills. As a second language English speaker, one of the skills I pursue during my spare time is English communication (Second only to statistical programming!).

English has been a major roadblock to my scientific career advancement throughout the years. I keep my SWOT (Strength, Weaknesses, Opportunities, and Threats) up to date and attend regular training sessions to improve the Ws. In the pursuit of English writing, I came across a session called "Marie Kondo your writing" conducted by STA through Deakin University. This webinar made English look very easy. I wanted more of this training and was keeping a keen eye for announcements on SmP. The email notification for SmP 2022 came through ASPAB president, Dr.Manoj Kumar, and I straight away applied for a scholarship. I was lucky to be selected as one of the twelve scholarship recipients to participate in the "Science Meets Parliament 2022". A five-day intense online event was informative and flooded me with a wealth of Australian experience and exposure.

A Five-day intense programme had so many highlights. However, my key takeaway events are "Opening keynote by Nobel Laurate Professor Peter Doherty", "Practice your pitch", "Advocacy with impact: strategy, coalitions, and clarity", "Key skills for science advocates", "Workshop: Marie Kondo your writing", "Indigenous STEM", and "Commercialisation masterclass". The cherry on the top of the cake is the gala dinner at RMIT Melbourne that was aired and connected to other gala dinner events organized concurrently across the country.





I express my humble gratitude to all the organising team members including the STA CEO Ms Misha Schubert. ASPAB president and my supervisors have been a great support in numerous ways to make my dream come true.

Thiruchenduran, Ph.D. Candidate, Deakin University

# **ASPAB Committee 2022**

### AUSTRALASIAN SOCIETY FOR PHYCOLOGY AND AQUATIC BOTANY



#### The president

Dr Manoj Kumar Climate Change Cluster, Faculty of Science University of Technology Sydney (UTS)

I'm a marine biologist and a research fellow at University of Technology Sydney (UTS). I am leading seaweed research group at UTS with primary interest in seaweeds aquaculture, ecophysiology, micropropagation, and algal biorefinery prospects. I first attended ASPAB meeting in 2010 as a PhD student and have been associated with ASPAB as a general member, newsletter editor and Vice president over the last couple of years. I am excited to be a president for ASPAB and looking forward to work with new ASPAB committee to promote ASPAB's vision, mission and overall direction.



#### Vice -president

Dr John Huisman Curator Western Australian Herbarium

I'm an algal (seaweed) taxonomist and currently the curator of the Western Australian Herbarium. My primary interest is in the red algae, but I dabble in most groups. I first joined ASPAB in 1980 (gulp!) and was president from 1994-97.



#### Secretary

Prof. Joe Zuccarello (Giuseppe C. Zuccarello) School of Biological Sciences Victoria University of Wellington

I am Joe Zuccarello, still secretary of the society. Working on seaweed diversity and teaching courses. Been a phycologist a long time and interested in aiding the society, as much as possible.



#### Treasurer & Membership Secretary (AUS Chapter)

Dr Cecilia Biancacci Post doctoral research fellow Deakin University

I am a Postdoctoral Research Fellow at Deakin, Warrnambool (Victoria). I am interested in seaweed and invertebrate aquaculture, biochemical analyses and nutritional composition of seaweeds. This is my first year as treasurer, but I have been involved in helping to organize the conference last and this year. I am excited to be part of the committee and I am looking forward to meeting (hopefully) all of you in person at the next meeting.



Treasurer (NZ Chapter)

Dr Judy Sutherland Regional Manager - Wellington National Institute of Water & Atmospheric Research Ltd (NIWA)

I'm a molecular biologist and regional manager at NIWA in Wellington. My field of interest is molecular systematics of NZ macroalgae. I've been NZ treasurer for a few years now, and am grateful Dan has taken over NZ memberships.



#### Website Manager and NZ Membership Secretary

Dr Daniel Pritchard Senior Research Fellow University of Otago

I have just started a job with the University of Otago as a senior research fellow, with a climate-change focused coastal research group (Coastal People Southern Skies). I am a seaweed ecophysiologist (and I guess hydrodynamic modeller) by training, though in recent years I have also been working more widely in coastal fisheries and environmental monitoring.



General member (AUS) and Preceding president Dr Alecia Bellgrove School of Life and Environmental Sciences Faculty of Science, Engineering and Built Environment Deakin University

Alecia leads the DeakinSeaweed Research Group at Deakin University with a focus on research that 1) Informs development of a sustainable seaweed industry for southeastern Australia: 2) Seeks to understand the ecology of seaweed-based ecosystems and how to protect them, and the ecosystem services they provide, into the future; and 3) Educates the marine science leaders of the future



**General member (NZ)** Dr. Maren Preuss Postdoctoral Research Fellow and Principal Investigator Te Kura Mātauranga Koiora | School of Biological Sciences Te Herenga Waka | Victoria University of Wellington

I am Postdoctoral Research Fellow/Principal Investigator at Victoria University of Wellington, New Zealand. I am interested in biodiversity, evolution and parasite-host interactions in red algae. This is my second year as general board member and I have helped with the last two virtual conferences. Really enjoy attending ASPAB meetings and looking forward to the next in-person one.



**Student Representative (NZ)** Namrata Chand PhD Candidate Department of Marine Science University of Otago

I am a second year PhD student with the department of Marine Science, Uni of Otago. My research focus is on soft sediment macroalgal communities and its ecophysiology. I am really excited to be the student rep for ASPAB and look forward to working with you all.

#### Committee...



Newsletter co - editor (AUS) Thiruchenduran (Thiru) Somasundaram Ph.D. Candidate <u>NuSea.Lab</u>, Deakin Marine Station Deakin University

I am currently reading my Doctor of Philosophy degree at the school of life and environmental sciences, Deakin University, Victoria, Australia. My research study employs novel processing methods to enhance the nutritive value of cray weed for industrial utilization. Deakin Marine Station and NuSea lab kindly accommodate my experiments with great support.

In addition to my full-time Ph.D., I dedicate my spare time to greater scientific forums and scientific organizations including ASPAB and RACI. I am one of the 12 SMP Australia 2022 scholarship recipients.

One of my favourinte activities as a scientist is contributing to ASPAB as an editor.



Newsletter co-editor (NZ) Joseph Kanyi Kihika PhD Candidate School of Biological Sciences University of Victoria Wellington

I am a third year PhD candidate with the School of Biological Sciences, Uni of Victoria Wellington and Cawthron institute, New Zealand. My research focus is on Cryopreservation of marine microalgae; assessment of their molecular integrity. I am really excited to be the ASPAB co-editor representing New Zealand.





# **@ASPABites Tweeps**

Python web scraper S Co





@judysuthrlandnz



@kmpmcmahon











**CayneLayton** 



@JDGaitanEspitia



<u>@marenpre</u>



<u>@beardall\_john</u>





## <u>@stacey teetee</u>



@WouterVisch



<u>@Erlania Ellyn</u>



@<u>SThiruchenduran</u>



<u>@gabykeelermay</u>



@MarisaAlgae

749 Tweets this year



@jcu macroalgae







## Publications Summary - 2022

ASPAB 2022 editors have been actively maintaining a collection of recent publications by the members of our society and populating a list of recent publications through our biannual newsletter. In the past, lists of publications have been voluntarily contributed by members through emails for this collection. However, a novel technique employed to gather ORCID IDs through the "Share my ORCID ID" link (https://share-my-id.orcid.org/V6KkWjYi) facilitated by the ORCID platform for societies and research groups helped the editors to gather lists of publications without much hassle. You can see a list of ORCID IDs belonging to our members by following this link (https://share-my-id.orcid.org/V6KkWjYi). However, accessing a list of recent publications using ORCID IDs depends on the profile updates. ORCID platform does not employ any automated system to track publications by an author. Aspecting to this reason we can call that our approach is not without a flaw. In order to automate the publication list updates, we needed a system that updates scholar profiles using AI.

'Google scholar' is a fantastic platform to keep track of authors and their publications independent of journals and scientific databases. Hazing's "Publish or Perish" (PoP) is another platform that retrieves author and paper metrics from multiple databases. GS and PoP together gave us a very wide angle to our member publications. We have tried to summarise some of the highlights below for our reader's interest.

There is limited confidence in saying that this method captured all our member publications. The availability of Google Scholar profiles of members will reduce the levels of uncertainty in the future.

#### Analytics

#### Most cited paper 2022 - 23 Citations

Bax N, Novaglio C, Maxwell K, Meyers K, McCann J, Jennings S and ... (2022) 'Ocean resource use: building the coastal blue economy', Reviews in Fish Biology and Fisheries, 32(1):189-207.

#### Most cited paper 2021 - 87 Citations

Roque BM, Venegas M, Kinley RD, de Nys R, Duarte TL, Yang X and Kebreab E (2021) 'Red seaweed (*Asparagopsis taxiformis*) supplementation reduces enteric methane by over 80 percent in beef steers', PLoS One, 16(3):e0247820,



1 Ajani, P. et al. Mapping the development of a Dinophysis bloom in a shellfish aquaculture area using a novel molecular qPCR assay. Harmful Algae 116, 102253-102253 (2022).

2 Arromrak, B., Li, Z. & Gaitán-Espitia, J. Adaptive Strategies and Evolutionary Responses of Microbial Organisms to Changing Oceans. Frontiers in Marine Science 9, 864797-864797 (2022).

Asadian, M. et al. Knockout of Cia5 gene using CRISPR/Cas9 technique in *Chlamydomonas reinhardtii* and evaluating CO2 sequestration in control and mutant isolates. Journal of Genetics 101, 1-7, doi:ARTN 610.1007/s12041-021-01350-x (2022).

4 Bax, N. et al. Ocean resource use: building the coastal blue economy. Reviews in Fish Biology and Fisheries 32, 189-207 (2022).

5 Bearham, D., Strzelecki, J., Hara, A., Hosie, A. & ... Habitats and benthic biodiversity across a tropical estuarine–marine gradient in the eastern Kimberley region of Australia. Regional Studies in ... (2022).

6 Biancacci, C., Abell, R., McDougall, G. J., Day, J. G. & Stanley, M. S. Annual compositional variation in wild *Osmundea pinnatifida* (Hudson) Stackhouse from the west coast of Scotland. Journal of Applied Phycology34, 1661-1675, doi:10.1007/s10811-022-02719-w (2022).

7 Biancacci, C. et al. Variation in biochemical composition of wild-harvested *Macrocystis pyrifera* (Ochrophyta) from sites proximal and distal to salmon farms in Tasmania, Australia. Algal Research 65, 102745-102745 (2022).

8 Biancacci, C. et al. Nutritional composition and heavy metal profiling of Australian kelps cultured in proximity to salmon and mussel farms. Algal Research-Biomass Biofuels and Bioproducts 64, 102672-102672, doi:ARTN 10267210.1016/j.algal.2022.102672 (2022).

9 Bonetti, G. et al. The combined effect of short-term hydrological and N-fertilization manipulation of wetlands on CO2, CH4, and N2O emissions. Environ Pollut294, 118637, doi:10.1016/j.envpol.2021.118637 (2022).

Bulan, J., Maneekat, S., Zuccarello, G. & Muangmai, N. Phylogeographic patterns in cryptic *Bostrychia tenella* species (Rhodomelaceae, Rhodophyta) across the Thai-Malay Peninsula. Algae 37, 123-133 (2022).

11 Cabrera, F., Huisman, J., Spalding, H. & ... Diversity of Kallymeniaceae (Gigartinales, Rhodophyta) associated with Hawaiian mesophotic reefs. European Journal of ... (2022).

12 Carnell, P. E. et al. Blue carbon drawdown by restored mangrove forests improves with age. J Environ Manage 306, 114301, doi:10.1016/j.jenvman.2021.114301 (2022).

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