

JANUARY
2020

ASPAB Magazine

The Official Newsletter of
THE AUSTRALASIAN SOCIETY FOR PHYCOLOGY
AND AQUATIC BOTANY

JOB
&
CONFERENCE
BOARD

apply now!

*'tis is
Mads Thomsen*

MEET A MEMBER

**Capacity
development in
Indonesia**

JOE ZUCARELLO

featuring

PROF MARTINA DOBLIN

&

DR JOHN HUISMAN

page 5-6

Letter from the Editors



Dear Colleagues,

We from ASPAB editorial team, in this New Year – 2020 and new decade, wish you luck in all aspects of life and filled with success stories in your research which we aim to cover in our up-coming issues for the year 2020 and beyond. Further, our sincere gratitude goes to the outgoing ASPAB committee and our heartiest congratulation to the new ASPAB committee for the year 2020.

As the new editors of the first issue for the year 2020 we thank all the editors of the past who have maintained this publication with quality and carried forward from its inception to date.

One of the highlights in this issue is the awards received by members including Dr John Huisman who has won 2019 Prescott Award for his book “Algae of Australia, Marine benthic algae of northwestern Australia, 2. Red algae”. Dr Huisman’s revised book “Marine Plants of Australia” now describes 600 species and some includes reproductions from historic plates of Harvey’s Phycologia Australia.

In order to make the newsletter more exciting and inspiring for researchers and readers, in this issue we have introduced two new sections called “Member Profile” and “Research Round-Up”.

“Member Profile” features one of the senior members of ASPAB or members having remarkable contribution to Australasian Phycology and Aquatic Botany. It is intriguing to start with “Mads Thomsen” from University of Canterbury, New Zealand. Dr Thomsen has travelled many corners of conventional and modern research techniques from seaweed biology to 3D printing through his opportunistic style of carrying out research which is more interesting and yielding.

“Research Round-Up” sums-up global phycological and aquatic botany research findings directions and trends in simple paragraphs.

I wish to make a note that articles for ASPAB newsletter is being accepted throughout the year from members and published in a following issue.

It has been a painful start after break for our colleagues living in Australia and New Zealand having experienced losses due to bush fire and volcanic eruption. We wish to remind them that they are not alone and we kindly share their griefs together.

I thank co-editors for helping me to get this issue out on time with quality and together we thank our readers and all the contributors who sent reports, photographs, publication lists, awards reception details, profile and job and conference notifications.

Sincerely
THIRU SOMASUNDARAM
Editor

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WELLINGTON, NOVEMBER 2019

ANNUAL ASPAB CONFERENCE

What a delight it was!

The 2019 ASPAB Conference hosted by NIWA Wellington brought together over 30 aquatic phycologists from New Zealand and Australia to exchange ideas, report on findings and projects and to nourish old, and form new collaborations.

A well received icebreaker and welcome at Greta Point were followed by two days of exciting presentations by students and senior researchers from the two countries. Highlights of the conference were the two awarded student talks of Zoë Brittain (Deakin Seaweed Research Group, bottom centre image: on the left)

and Maureen Ho (Coral Reef Algae Lab Griffith University, top image: first row, third from the left) giving us an insight into their reasearch on historical indigenous use of seaweeds in Australia and coral-algal competitive interactions at the Great Barrier Reef.

The conference was completed with a fantastic dinner in central Wellington at which discussions were continued accompanied by a glass of wine, beer or cider. We are looking forward to the next conference hosted by our friends in Australia!

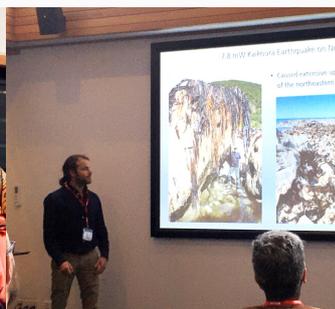
Mareike Babuder



© Holly D'Souza



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In the Spotlight

MEHRNOUSH TANGESTANI Chemical and Process Engineering, University of Canterbury,



© University of Canterbury

The University of Canterbury Highly Commended Student Research Award for outstanding contribution to sustainability. Mehrnoush received this award for her PhD work. The research was interdisciplinary research focused on the production of omega-3 polyunsaturated fatty acids (EPA) from a new species of a New Zealand freshwater microalga. The project was funded by the National Science Challenge, jointly supervised between University of Canterbury and Landcare Research. EPA is a food supplement and a pharmaceutical with beneficial health importance for better functionality of cardiovascular, nerves and immune system. The research demanded multiple skills in biology, physics and engineering. You can get more about this work through this link: <https://www.landcareresearch.co.nz/about/news/events/techweek-2019/omega-3>

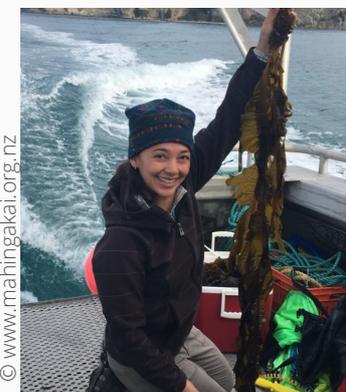
CHRISTOPHER CORNWALL Rutherford Discovery Fellow at the Victoria University of Wellington



© Victoria University of Wellington

The Wellington Botanical Society awarded Chris with \$2700 NZ for a project on the baseline abundance of seaweeds in the Wellington region together with Roberta D'Archino from NIWA.

GABY KEELER-MAY PhD student at the University of Otago, New Zealand



© www.mahingakai.org.nz

Congratulations to Marine Science PhD student Gaby who has been awarded a first place award of \$3000 USD by the American Academy of Underwater Scientists to support her research into *Undaria*.

Read more about her project here:

https://aausfoundation.org/AAUSFoundation/Scholarships/Research_Funding/AAUSFoundation/Research_Funding.aspx?hkey=32a9d4bb-43e2-4dd1-be41-21ca0b9017dc

Also check out the [stuff.co.nz](https://www.stuff.co.nz) article on her and Chris Hepburns work ->

<https://www.stuff.co.nz/business/farming/discovery/117609572/ngi-tahu-hopes-to-raise-funds-for-undaria-management-by-selling-the-seaweed>

Congrats!

In the Spotlight

THIRUCHENDURAN (THIRU) SOMASUNDARAM

PhD student at the the Deakin Lab

Scholarship to help research potential of seaweed for livestock

DemoDAIRY Foundation is proud to be contributing to Deakin University's current project to assess the potential for seaweed supplementation of livestock to simultaneously drought-proof the Australian dairy industry and address carbon emissions. The Foundation has provided a \$5000 scholarship to Thiru who is contributing to the project which is being led by Dr Alecia Bellgrove and Dr Damien Callahan.



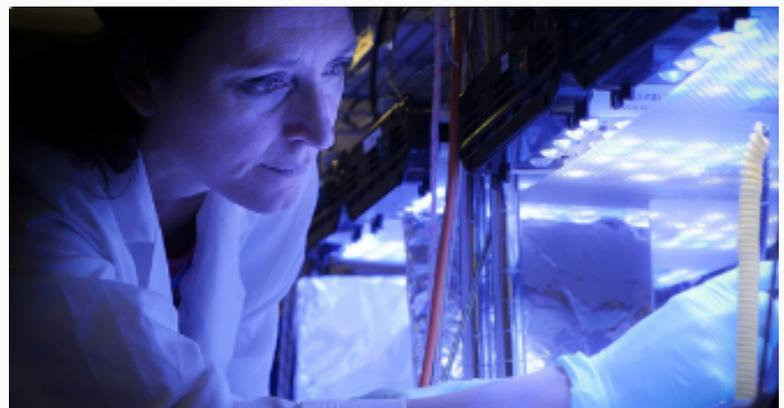
www.demodairy.com.au/scholarship-to-help-research-potential-of-seaweed-for-livestock

PROFESSOR MARTINA DOBLIN

University of Technology Sydney

Oceanographer and ASPAB member Doblin has been announced as one of two Fulbright scholars for 2020.

Martina leads the Productive Coasts research program within the Climate Change Cluster in the UTS Faculty of Science.



www.uts.edu.au/news/education/fulbright-turns-focus-oceans-architecture

Congrats!

"I plan to learn a lot about ocean simulation models and use them to understand the biological implications of global change,"

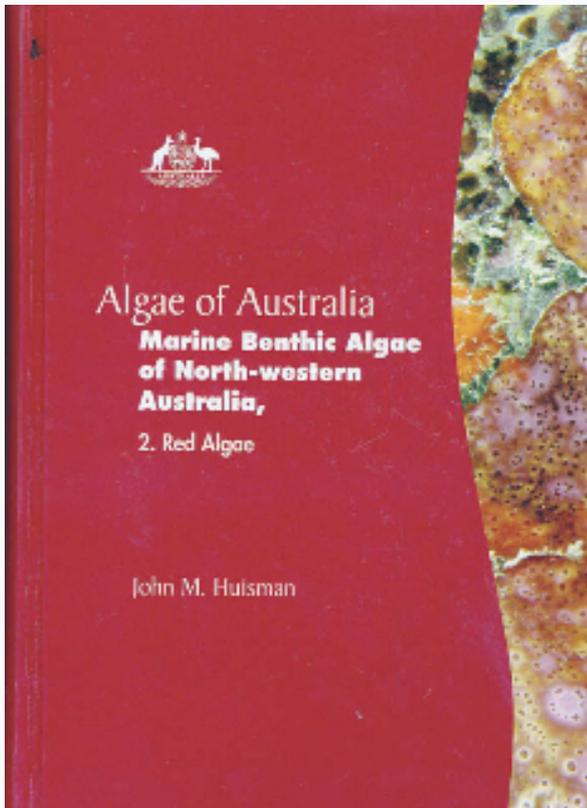


Congrats!

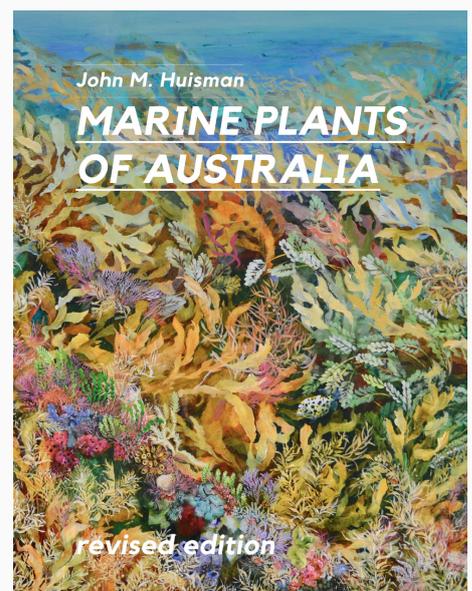
to

Dr John Huisman

for winning the very prestigious **2019 Prescott Award** from the Phycological Society of America for his book “Algae of Australia: Marine benthic algae of North-western Australia, 2. Red algae”



ALSO: The revised Marine Plants of Australia by John Huisman is now available. This new version includes over 600 species (up from the original 300) illustrated with glorious in-situ photographs (mostly new), plus line drawings and reproductions of historic plates from Harvey’s Phycologia Australica. The book is available from UWA Publishing for the very reasonable price of AU\$49.99. Note, the website says 350 p., but it’s actually 453 p.



https://uwap.uwa.edu.au/collections/new-releases/products/marine-plants-of-australia?fbclid=IwAR172nfyaWkGIKNeFFsN_UKDK-7RobW6MrgaLRtjx1YywBK03PV_VJFXsZ8

Latest Publications

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Albert, G., **Hepburn, C.D.**, Pajusalu, L., Paalme, T., **Pritchard, D. W.**, Martin G., J (2019) **Could ocean acidification influence epiphytism? A comparison of carbon-use strategies between *Fucus vesiculosus* and its epiphytes in the Baltic Sea.** J Appl Phycol. <https://doi.org/10.1007/s10811-019-01953-z>

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© DeakinSeaweed Research Group



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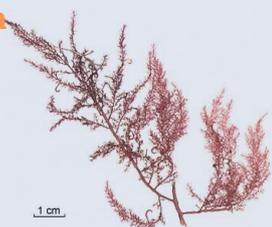
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Twist, B. A., Neill, K. F., Bilewitch, J., Jeong, S. Y., **Sutherland, J. E., & Nelson, W. A.** (2019). **High diversity of coralline algae in New Zealand revealed: Knowledge gaps and implications for future research.** *PLoS One*, 14(12), e0225645–21. <http://doi.org/10.1371/journal.pone.0225645>

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Nelson, W. A., Sutherland, J. E., Ringham, S., & Murupaenga, H. (2019). ***Dictyota korowai* sp. nov. (Dictyotales, Phaeophyceae) from Manawatāwhi/ Three Kings Islands, northern New Zealand, previously confused with *Dictyota intermedia*.** *Phycologia*, 58(4), 433–442. <http://doi.org/10.1080/00318884.2019.1625256>



'*Bonnemaisonia hamifera*'

Don't find your paper mentioned but want to be part of the next issues highlighted publications?
Send us your list of papers published between January–June 2020 until the **31st of June!**

Joe has have been involved in an ACIAR (Australian Centre for International Agricultural Research) project (coordinated by Nicholas Paul, University of the Sunshine Coast, Queensland) to improve and further develop macroalgal aquaculture in Indonesia, which is the largest producer of *Kappaphycus alvarezii*, for carrageenan extraction, in the world.



CAPACITY BUILDING IN INDONESIA: WHERE ALGAE ARE BIG

by Joe Zuccarello

Indonesia is now increasing seaweed production by growing *Gracilaria* for agar, and *Caulerpa lentillifera* (lawi-lawi) for direct consumption, mostly. They are also trying to find other uses and 'value-added' products to make with this immense algal production.

My role was to train technicians and students in using molecular techniques to identify the species and strains of algae in cultivation for improving stock selection as well as to identify, molecularly, new species with agricultural potential. I did two hands-on workshops, teaching basic molecular biology techniques and all the challenges of trying to get DNA out of *Kappaphycus* (Fig. 1), this is not trivial in an alga that is probably 90% carbohydrates. These workshops led to a how-to paper (Zuccarello G.C. & Paul N.A. 2019. A beginner's guide to the molecular identification of seaweed. *Squalen* 14: 43-53), that hopefully will make the task less doubting for beginners.

While Indonesia is growing a large, and increasingly larger amount, of *Gracilaria*, the species in cultivation is not known. The commercial name used is *Gracilaria verrucosa*, this is clearly wrong. Firstly, *Gracilaria verrucosa* was identified from England, is it really likely to grow in the tropics! Secondly, the name is not valid, it has a complicated history of mixed types etc. The problem with this alga and many algae is morphology is not a good indicator of species (*Ulva lactuca* is another great example of a misapplied name to algae that are 'simple').

I call these *Gracilaria* morphotypes ("Spaghetti-gracilaria", you can imagine what they look like). Algae change morphology based on environmental conditions (plasticity); the diagnostic characters, if they exist, as cryptic or only found in reproductive plants (so, adequate training and a bit of luck are needed). Molecular identification facilitates some aspects of algal identification.

Cultivated *Gracilaria* in Indonesia is from an Indo-Pacific species, that is variously called *Gracilaria changii*, *G. fisherii*, *G. firma* and *G. blodgettii* and sequences from the area around Indonesia group with these species, which species is confusing as Genbank sequences with very similar cytochrome oxidase subunit 1 sequences are given one of these names based on identification made by the people that submitted the sequence, one of the drawbacks of Genbank-names are not necessarily reliable. Of course, it could be that all these species are just one morphologically variable species. Further research is needed.

While there I also went to a research facility and *Gracilaria* farm (Figs 2,3). At this research facility, they are studying several algal species to produce new strains that will benefit agriculture (improved growth rates mostly). The facility I went to is also near large *Gracilaria* farms (see pictures), and ponds for *Caulerpa* growing, facilitating collecting, research and deployment of new strains. It was a very informative experience; the team is dedicated to making algae a commercially viable and socially useful product for Indonesia (Fig 4). It is also nice to see such commitment to algal aquaculture, hopefully, something that will come to New Zealand and Australia one day.



"Thanks for awarding me!"

From Tasmania to Wellington: The 2019 ASPAB Travel Scholarship awardee

I am a PhD student researching the role of environmental variables in modifying the responses of temperate seaweeds to ocean acidification working under Prof. Catriona Hurd, Prof. Philip Boyd and Dr Matthias Schmid at IMAS in Hobart, Tasmania. This year I was awarded the Joanna Jones's Student Travel Grant by ASPAB to attend the annual conference in Wellington, New Zealand.



Ellie Paine

**IMAS Research Assistant | PhD Candidate
Institute for Marine and
Antarctic Studies**



Lessonia corrugata growing on a rocky reef in Tasmania, Australia. Photo: Olivia Johnson

The opening night ice breaker was the perfect opportunity to meet new like-minded algal enthusiasts as well as catch up with familiar faces. I gave a presentation on the first full day of the conference on research I conducted last year as a research assistant in conjunction with a larger CRC-P Project, developing a seaweed industry in Tasmania. This research was looking at optimal light and temperature conditions for *Lessonia corrugata* gametophyte development. *Lessonia corrugata* is a Tasmanian endemic kelp species (Order Laminariales) and we found that it had a very limited temperature and light range with implications for the species under predicted future climate change. The results from the experiment will be published in a peer reviewed journal early next year, so keep an eye out!

ASPAB 2019 was the largest group of people I have presented to and the support in the room made it much easier than I imagined. The quality of talks presented at the conference were outstanding; I learnt so much from watching and extensive note taking. Everyone spoke so passionately about their topics whether it was taxonomy of coralline algae in the Great Barrier Reef, physiology of macroalgae with varying inorganic carbon affinities, succession ecology of subtidal habitats along the Kaikōura coastline or microcystins in freshwater cyanobacteria - I was honestly fascinated by every talk.

Considering we are only neighbours, this was surprisingly my first trip to New Zealand, so I took time after the ASPAB conference to travel from Wellington down through wine country to Christchurch to see a bit more of the country. This conference trip was such a wonderful opportunity and I would sincerely like to thank the ASPAB committee for awarding me the 2019 Joanna Jones's Student Travel Grant. I'm looking forward to seeing you all next year at the next annual conference! **Ellie Paine**

Member Profile

MADS THOMSEN

Marine Phycologist at the University of Canterbury, New Zealand

I am an ecologist at University of Canterbury, who studies how human activities affect biodiversity and ecosystem functioning change across habitats and in space and time. However, underlying this funding-oriented statement, is a long-term passion for seaweeds. Indeed, seaweed biology has inspired my research since I was an undergraduate when I did a diving project mapping seaweed communities around Bornholm (in Denmark) together with my long-term collaborator, the kelp-enthusiast-to-be, Thomas Wernberg. Here I learned – in a context of depauperate brackish water seaweed communities – the value of taxonomy, ecology, biogeography, field work, collaborations, and applied statistics.

Armed with this understanding I have since documented new seaweed invasions and their invasion impacts on biodiversity, the detrimental impacts of nutrient-fuelled seaweed blooms on seagrass beds and their ecology, the decimation of kelp by the ever-increasing number and intensity of marine heatwaves, and the fundamental importance of seaweeds that can control biodiversity through cascading habitat formation and facilitation.

Today, my students and I use a variety of techniques to better understand what drives the success and impacts of seaweeds and their cascading impacts on biodiversity and ecosystem functioning. For example, in addition to estimating seaweed coverage (like I did as an undergraduate student), we also do long-term pulse and press-removals to reveal patterns of succession and competitive hierarchies, use drones to identify landscape patterns and spatial relationships, apply pulse-amplified fluorometry to quantify stress responses, 3D printed mimics to identify mechanisms that facilitate the animals that live around seaweeds, and meta-analyses to test for generalities emerging from the ecological literature. Perhaps somewhat unusual, much of my research has been opportunistic, following unpredictable ‘freak’ events.



Mads with MSc student Sophie and collaborator Paul South (Cawthron) surveying the intertidal of Lyttelton Harbour, NZ. (Helicopter photoshopped)



For example, my PhD was a baseline study about estuarine seaweed communities. However, these communities were dominated by a single species that I discovered was actually an invasive species (after I had completed the PhD). Furthermore, my first postdoc was funded because I discovered the same invasive seaweed in a new biogeographical region when visiting my family in Denmark. Similarly, my long-term interest in facilitation processes started ‘by accident’ because a tubeworm (*Diopatra*) annoyingly kept destroying my well-planned seaweed growth experiments (by incorporating and fragmenting my out-transplanted seaweeds into its tube). Finally, an extensive sampling program done with T. Wernberg and F. Tuya in Western Australia in 2004-2006 became of immense importance following the Ningaloo marine heatwave that covered this region in 2010/11.

I have also had to adapt to earthquake ecology, a phenomenon I did not anticipate growing up on the stable Eurasian plate. Over the last 10 years, seismic uplifts, extreme intertidal desiccation stress, liquefaction and sediment burials have destroyed many of my long-term seaweed experiments in both estuarine and rocky shore systems and dramatically altered the coastal landscape.



Former PhD student Travis Foster surveying one of his sites in the Avon-Heathcote Estuary, Christchurch, New Zealand.

Eventually these freak events followed me to New Zealand, where I, with David Schiel and University of Canterbury’s Marine Ecology Research Group and collaborators from Cawthron Institute recently documented heatwave-induced local extinctions of the iconic southern bull kelp, *Durvillaea poha*, and associated shifts in intertidal community structure.

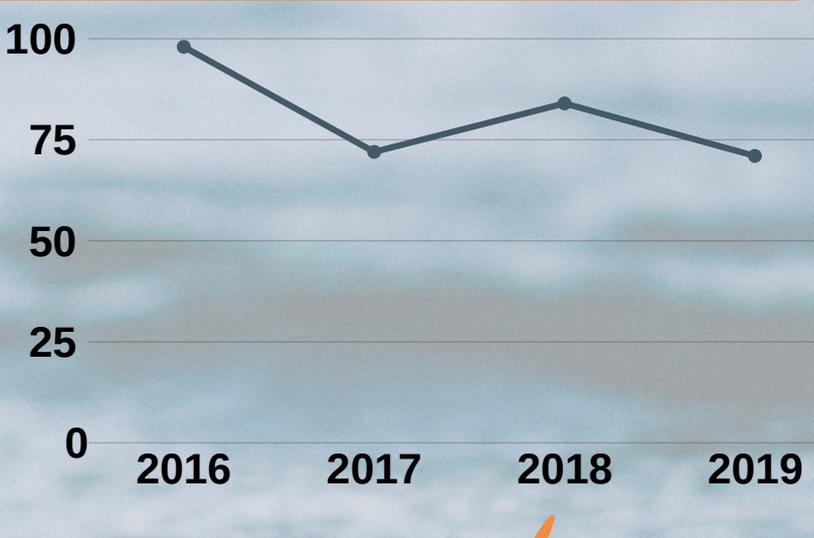
Nevertheless, these destructive freak events now provide new research opportunities to better understand, predict (and yes – manage) seaweed succession, competitive hierarchies, dispersal limitations, priority effects, and genetic bottlenecks – that in concert with heatwaves, invasions, and eutrophication, will keep me and my students and collaborators busy for years to come. And, by the way, I still work on the impacts and ecology of invasive seaweed in New Zealand.

For more information about my past and ongoing research, see my webpage or email me....

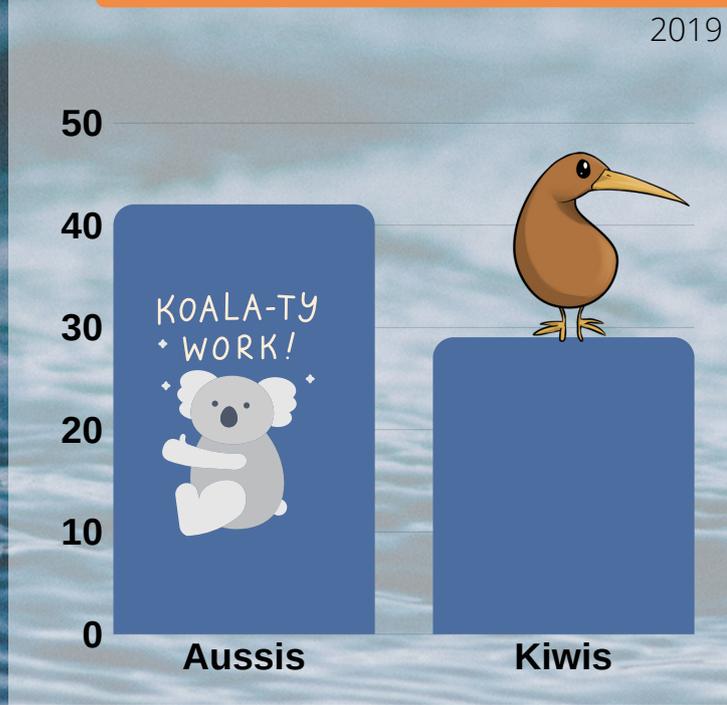
Mads Thomsen

ASPAB IN NUMBERS

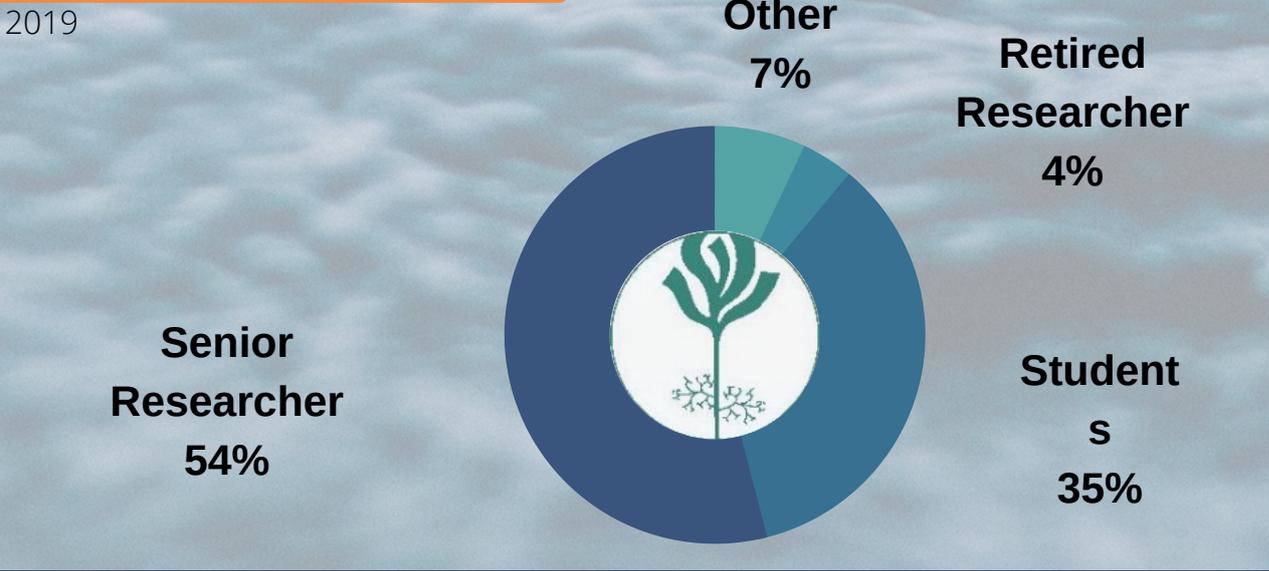
ASPAB MEMBERS OVER THE YEARS



WHERE ARE THEY FROM ?



WHO FORMS ASPAB?



Research Round-Up

Thiru Somasundaram

An algorithm capable of detecting of *Sargassum spp* from Landsat-8 OLI images has been issued by NASA at the end of 2019. This method and software is capable of detecting floating *Sargassum spp* on 30m Landsat imagery. The basic detection mechanism is derived from Hus approach to determine floating algal index (FAI), which calculates the difference between near infrared regions (NIR, 895nm) and the linear baseline between the red band (645nm) and shortwave infra-red band (SWIR, 1240 or 1640 nm). In contrast to the basic FAI, in Hus algorithm which analyses Moderate Resolution Imaging Spectroradiometer (MODIS) this new algorithm employs Operational land image (OLI) imagery bands to flag the presence of *Sargassum spp* in an OLI pixel if the FAI >0. This software is applicable worldwide by applying minor changes in the geolocation of the area of interest which is the Gulf of Mexico by default. (NASA Software details, 2020)

A new article collection for the algal research community has been initiated through a partnership by Elsevier journals; “Data in Brief” “Algal Research” and “Harmful Algae” to make announcements on ‘Harmful Algae Blooms’ (HABs) and new algal strains. As stated by their website, this collection will provide freely available information that will benefit researchers, policymakers, entrepreneurs, water managers, engineers and other readers. (Data in Brief, 2020)

Oligomannate (GV-971) a seaweed sugar developed by Shanghai Green Valley Pharmaceuticals, has been conditionally approved for the treatment of mild to moderate Alzheimer’s disease by China’s National Medical Product Administration (NMPA). GV-971 is a mixture of oligosaccharides derived from brown algae, as restoring balance to the gut microbiota. A single Phase 3 study found that GV-971, significantly changed the gut-microbiome, slowed cognitive decline in patients. A global Phase 3 trial, slated to begin in 2020, will test if GV-971 passes muster in the United States, Europe, and China. (China Approves Seaweed Sugar as First New Alzheimer’s Drug in 17 Years | ALZFORUM, 2020)

Gloiopeltis (known as ‘funori’ in Japanese) a red seaweed genus previously assumed to contain only five species worldwide. However recent genetic analyses of historic and modern specimens revealed that there are more than ten species in Japan alone. From this study carried out by Japanese researchers at Kobe University, a new species *Gloiopeltis compressa* (Japanese name: Ryukyu-funori) has been proposed. (Takeaki Hanyuda *et al.*, 2020)

A Phylogenomic studies revealed that a group of streptophyte algae, the Zygnematophyceae, proves to be the likely sister group to land plants (embryophytes). Genome sequences and analyses of two early diverging Zygnematophyceae (*Spirogloea muscicola* gen. nov. and *Mesotaenium endlicherianum*) that share the same subaerial/terrestrial habitat with the earliest-diverging embryophytes, the bryophytes has been reported by Cheng *et al.* (2019)

References

Cheng *et al.*, (2019) Genomes of Subaerial Zygnematophyceae Provide Insights into Land Plant Evolution. *Cell*, 179(5),1057 - 1067.e1014. doi: <https://doi.org/10.1016/j.cell.2019.10.019>

China Approves Seaweed Sugar as First New Alzheimer’s Drug in 17 Years | ALZFORUM. (2020). from <https://www.alzforum.org/news/research-news/china-approves-seaweed-sugar-first-new-alzheimers-drug-17-years>

Data in Brief. (2020). from <https://www.journals.elsevier.com/data-in-brief/algal-announcements-article-collection/algal-research-and-harmful-algae>

NASA Software Details. (2020). from <https://software.nasa.gov/software/SSC-00505>

Takeaki Hanyuda and Kensho Yamamura and Hiroshi, K. (2019). Molecular studies of *Gloiopeltis* (Endocladaceae, Gigartinales), with recognition of *G. compressus* comb. nov. from Japan. *Phycologia*, 0(0), 1-5. doi: 10.1080/00318884.2019.1663476

JOB BOARD



THE UNIVERSITY of
MISSISSIPPI

Research Associate - Hom Lab University of Mississippi, United States

Apply by: Early 2020 (not indicated)

The Hom Lab

Our lab is interested in understanding how biotic and abiotic factors dovetail to facilitate the formation, persistence, and evolution of species interactions, notably those that are symbiotic. We are particularly fond of studying associations involving fungi, algae, and cyanobacteria, and take a two-pronged approach towards understanding how microbes interact to form stable, functioning communities. In one approach, we create new ecosystems of interacting microbes (synthetic ecology) to test our predictive understanding of basic design principles in microbial ecology. In a complementary approach, we focus on dissecting, manipulating, and observing reduced microbial communities (polycultures) isolated from nature to infer fundamental rules. Our lab is passionate about STEM education and outreach to individuals and communities in underserved/disadvantaged contexts, while pushing forward an innovative and world-class research program.

Candidature Profile

The successful candidate must be self-motivated and a self-starter, growth-minded, highly disciplined and organized, able to effectively multitask, and have an attestable record of productivity and working well with others. The candidate should have demonstrated experience working with microbes (fungi and algae are a plus) and be enthusiastic about learning/developing new techniques, approaches, and research areas. Experience in molecular genetics, next-gen sequencing/bioinformatics, and/or 3D-printing/device-tinkering are pluses. We envision strong candidates having a Ph.D. in biology (or related field) but welcome applications from candidates with a B.A./B.S./M.S. degree who have a substantial laboratory/research background. The expected commitment is for at least two years, with an initial one-year term with review, and the potential to renew for up to five years depending on annual performance.

Application Procedure

submit application materials here: <https://is.gd/HomRA2020>. Candidates should be prepared to upload: (1) a cover letter explaining specific interest in and fit for the position, (2) a detailed CV, (3) names and contact information for at least 3 references, and (4) optional files to support their application (e.g., publication reprints). Compensation will depend on experience and will include health and retirement benefits. For informal questions/inquiries only, contact Erik Hom at: HomRA2020@gmail.com

Link: <https://careers.olemiss.edu/job/University-Research-Associate-Hom-Lab-%28Biology%29-MS-38677/611571700/>

JOB BOARD

Postdoc Positions University of Gothenburg Sweden



Apply by: 2020-01-31

Alyssa Joyce, Associate Professor at the University of Gothenburg has been working in conjunction with the South Australian Research and Development Institute (SARDI) Division of Primary Industries in Adelaide for the past few years on collaborative projects related to algal and larval production in hatcheries. Her research group, who will be spending part of each year in Australia, are looking for two new postdocs to join the group.

Advertisement links:

Postdoc position 1

https://www.gu.se/english/about_the_university/job-opportunities/vacancies-details/?id=4943

Postdoc position 2

https://www.gu.se/english/about_the_university/job-opportunities/vacancies-details/?id=4942

Details

Both positions.

Location: Department of Marine Sciences at the University of Gothenburg

Subject area :Bioengineering / Microbiology / Molecular Biology / Metagenomics / Analytical Chemistry

Employment level: Fixed-term

Keywords:

recirculating aquaculture systems, hydroponics, aquaponics, microbial, bacterial rhizosphere, plant rooting, probiotics

JOB BOARD



Great Western Four+ Doctoral Training Partnership (NERC)

Ph.D.

University of Bristol, United kingdom

Algal life in the cryosphere - PhD opportunity

Apply by: 2020-01-06

NERC GW4+ DTP CASE-partnership PhD studentship based within the Bristol Glaciology Centre, University of Bristol, that aims to advance our understanding of cryospheric microalgae (snow and ice inhabiting species) and their role in the global biosphere, carbon and nutrient cycles.

Details

This studentship will include i) culturing of cryospheric algal species within the low temperature experimental facility (LOWTEX) of the School of Geographical Sciences, ii) working with our industrial partner, Chelsea Technologies Group Ltd, to optimize existing fluorometer technologies to constrain algal physiology within icy environments, and iii) deployment of equipment during field work in remote cryospheric environments to constrain algal responses and interactions with the abiotic environment. The successful candidate will receive training in algal culturing, variable chlorophyll fluorescence, design and construction of bespoke fluorometers, and remote field work in cryo-environments. The student will emerge with a strong background in interdisciplinary sciences including advanced field and laboratory skills and engagement with industrial partners. The student will have several opportunities for overseas travel for both networking (conferences) and fieldwork purposes.

Email enquiries: c.williamson@bristol.ac.uk

Link: <http://www.bristol.ac.uk/study/postgraduate/2020/doctoral/phd-great-western-four-dtp/>

JOB BOARD

Research Position - Phycologist Macroalgae - Kona, Hawaii



Apply by - End of January 2020

Primary Purpose: Develop offshore and onshore culture systems for Gracilaria, Sargassum, Caulerpa, Halymenia and other macroalgae. Maintenance and expansion of current land-based tank facilities, offshore array and hatchery production. Supported by a 3-year ARPA-E (U.S. Dept of Energy) MARINER grant.

Required Qualifications:

- Experience with culturing and sporulating macroalgae
- Able to guide a small team of researchers
- Able to appropriately apply scientific principles and statistical analyses
- SCUBA certification (Scientific Diver, or similar) and comfort diving in blue water
- Fluency in English
- Current legal authority to work in the US

Desired qualifications:

- Familiarity with Hawaiian seaweeds
- Small boat handling ability
- Data processing
- Report-writing and grant-writing

Working Conditions:

- Outdoors in a hot, humid environment with at least 50% exposure to direct sunlight.
- Offshore in small boats.

Contact: In the first instance, please contact [Lisa Vollbrecht](mailto:lisa@kampachifarm.com), at lisa@kampachifarm.com



JOB BOARD

PhD student position on algal bloom dynamics at Lund University - Sweden



Apply by - 15th February, 2020

Description - Aquatic environments are of enormous importance as natural resources of drinking water, fish production and recreation. However, surface waters worldwide are threatened by toxic cyanobacterial harmful algal blooms. The ruling paradigm (blooms like it hot) is that there will be more frequent and intense cyanobacterial blooms in the due to higher temperatures and higher nutrient input. However, during the recent extreme hot summer in Sweden, we observed inconsistencies in this prediction. The event 2018 led to a complete shift in the algal community of a drinking water supply. Instead a non-cyanobacterium, a potentially toxic dinoflagellate bloomed. This leads to new issues and challenges for management and drinking water plants.

Primary Purpose: The overall goal of the project is to investigate and include the effect of extreme weather events in conceptual models for future algal blooms, thereby filling an important knowledge gap. The specific aims include determining how widespread community shifts were in 2018, to which extent spring temperatures determine bloom composition, and if the drought reduced nutrient inputs thereby allowing cyanobacteria to be outcompeted. In addition, algal toxins will be investigated in the various stages of drinking water treatment. The PhD student will thus organize and perform field studies and laboratory experiments, as well as analyze data from the national phytoplankton monitoring program. The PhD student will also be involved in a citizen science program to enhance public engagement and provide high-intensity sampling.

Required Qualifications:

- Basic knowledge on aquatic ecosystems
- Practical experience with microscopy
- Practical experience of laboratory work
- Experience of working with microalgae or other microorganism
- Very good knowledge in English
- Drivers license

Additional valuable merits are: Algal culturing skills, experience of field work, experience of basic molecular biological techniques and experience of analyzing large datasets

Contact for more information - Karin Rengefors: Karin.rengefors@biol.lu.se



ISAP 2020

The 7th Conference of the International Society For Applied Phycology

April 19 (Sun.) – 24 (Fri.), 2020
Makuhari Messe, Chiba, Japan

The 7th International Conference of the International Society for Applied Phycology (ISAP 2020) is to be held 19th to 24th of April, 2020 at Makuhari-messe, Chiba, Japan, chaired by Prof Watanabe from University of Tsukuba and Mitsuru Izumo from Euglena Co, Ltd, with 500 expected participants from all over the world. from both academic and industry parties of applied phycology.

Themes - Benefit of Algae for All Humankind: the congress is to gather and to expanding the knowledge, visions, and networks in the field of applied phycology to increase human health, and to solve environmental issues.

Highlighted activities

- **Special Sessions:** In addition to oral/poster presentation which is categorized into 5 basic sessions, we are calling for special sessions proposals in order to discuss specific and pressing matter in applied phycology.
- **Student Night :** What is career of Phycologist like, and how to become one? 5 phycologist from macro/micro and industry/academics are invited as a lecture to introduce their career path.
- **Mid-congress tour :** option of 3 destinations : Chiba: seaweed tour, Yokohama: biofuel tour, and Tsukuba: biodiversity tour

January 17th 2020:

Abstract submission deadline

Early bird registration closes

Special session proposal submission deadline

Exhibition booth application deadline

March 16th 2020:

Standard registration closes

Seaweed for Health

21-24 JUNE 2020 | GALICIA | SPAIN

Timeline

Abstract submission : 9 March, 2020 at midnight CET
Author notifications : 16 April, 2020
Early bird registration ends : 30 April, 2020

Guidelines

- The abstracts and all corresponding information must be submitted electronically (do not accept abstract forwarded by e-mail)
- The abstracts must be written in English
- Oral and poster presentations are counted for equally according to the conference policies each abstract must be presented by at least one registered and paid author
- Each author can present maximum 2 accepted abstracts Accepted abstracts will be removed from the program if no presenting author is registered and paid by 30 April, 2020 (Early bird deadline)

Registration : <http://www.seaweed4health.org/registration.html>



12th INTERNATIONAL PSYCHOLOGICAL CONGRESS

21-26 March 2021. Puerto Varas, Chile

Early registration

From March 15th, 2020
until August 31st, 2020

Registration

From September 1st, 2020
until January 1th, 2021

Submission of Abstracts

Deadline for abstract submission is November 28th, 2020.



"Central theme for ICHA 2020 is "From Basic Studies to Future Applications"

The 19th ICHA will include all topics related to understanding the causes, evolution and impacts of harmful microalgae and cyanobacteria. We are planning an enjoyable meeting where scientists can present their research, share new ideas, and establish new collaborations and friendships.

Key dates

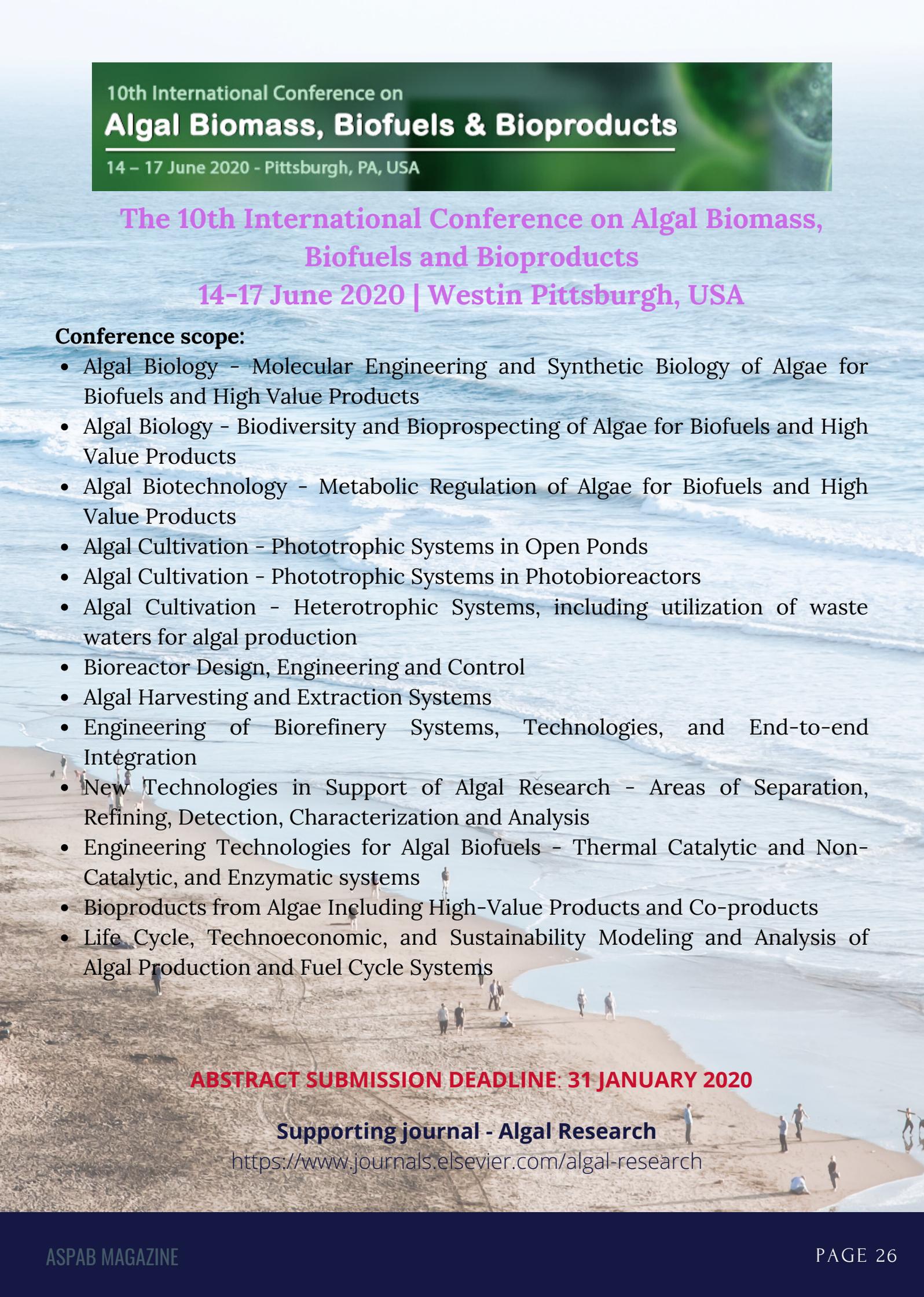
Opening of abstract submission - **December 3, 2019**

Opening of registration and hotel booking - **December 3, 2019**

Deadline of abstract submission - **April 12, 2020**

Deadline of early bird registration fee - **July 12, 2020**

ICHA 2020 October 11-16, 2020



10th International Conference on
Algal Biomass, Biofuels & Bioproducts

14 – 17 June 2020 - Pittsburgh, PA, USA

**The 10th International Conference on Algal Biomass,
Biofuels and Bioproducts
14-17 June 2020 | Westin Pittsburgh, USA**

Conference scope:

- Algal Biology - Molecular Engineering and Synthetic Biology of Algae for Biofuels and High Value Products
- Algal Biology - Biodiversity and Bioprospecting of Algae for Biofuels and High Value Products
- Algal Biotechnology - Metabolic Regulation of Algae for Biofuels and High Value Products
- Algal Cultivation - Phototrophic Systems in Open Ponds
- Algal Cultivation - Phototrophic Systems in Photobioreactors
- Algal Cultivation - Heterotrophic Systems, including utilization of waste waters for algal production
- Bioreactor Design, Engineering and Control
- Algal Harvesting and Extraction Systems
- Engineering of Biorefinery Systems, Technologies, and End-to-end Integration
- New Technologies in Support of Algal Research - Areas of Separation, Refining, Detection, Characterization and Analysis
- Engineering Technologies for Algal Biofuels - Thermal Catalytic and Non-Catalytic, and Enzymatic systems
- Bioproducts from Algae Including High-Value Products and Co-products
- Life Cycle, Technoeconomic, and Sustainability Modeling and Analysis of Algal Production and Fuel Cycle Systems

ABSTRACT SUBMISSION DEADLINE: 31 JANUARY 2020

Supporting journal - Algal Research

<https://www.journals.elsevier.com/algal-research>

Meet the editors

Mareike Babuder

mareike.babuder@pg.canterbury.ac.nz



PhD student in the Marine Ecology Reserach Group at the University of Canterbury, NZ. Studying tipping points and resilience of low light adapted canopy forming seaweeds around NZ. Outdoor enthusiast & travel addicted.

Thiru Somasundaram

tsomasundaram@deakin.edu.au



PhD student to assess potential for seaweed supplementation of livestock to simultaneously drought-proof the Australian dairy industry and address carbon emissions at Deakin Lab.

Ellyn Erlania

eerlania@deakin.edu.au



PhD student in the Deakin Seaweed Group & Blue Carbon Lab at Deakin University. Studying the contribution of seaweed to carbon sequestration by developing biomarkers using eDNA and compound-specific isotopes. "A Melophile"

Meet the Committee

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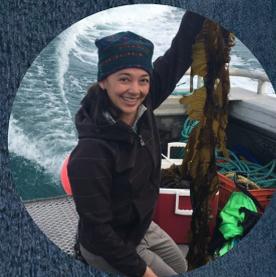
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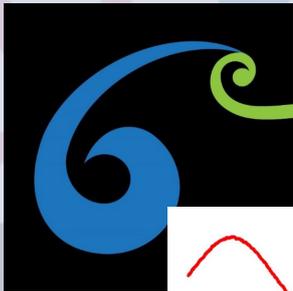
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