



Christopher Brunner

**July 2018**

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## Important AIMS@JCU Dates

There are a few exciting dates for your diaries coming up:

- **3rd August:** Pilot Research Awards application deadline - <http://staging-aims.jcu.edu.au/pilot-research-awards/>
- **11th August:** Mindfulworks Mindfulness Course - [info@mindfulworks.com.au](mailto:info@mindfulworks.com.au) or call Sharn: 0458 111 373
- **20th-23rd August** and **3rd-7th September:** Murray Logan's R-course - at the JCU City Campus, [aims@jcu.edu.au](mailto:aims@jcu.edu.au)
- **14th September:** AIMS@JCU Student Seminar day - details will be advertised closer to the time
- **30th September:** Deadline for AIMS@JCU PhD scholarship applications <https://www.jcu.edu.au/graduate-research-school/candidates/postgraduate-research-scholarships>



Don't forget to 'Like' our AIMS@JCU Facebook page:

<https://www.facebook.com/AIMSatJCU/>

## CONTENTS

AIMS tour guides	2
Alumni news	3
2018 PhD Scholarship recipient bio	4
New Dean of the JCU GRS bio	5
Where are they now?	6
Research Director's report	8

Photographs in this publication were submitted by AIMS@JCU members unless otherwise stated

### About the AIMS@JCU Newsletter:

This newsletter is produced quarterly and distributed by email to AIMS@JCU members, AIMS and JCU staff.

If you'd like to be added to our mailing list, or have a query regarding this newsletter, please contact:

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## AIMS Tour Guides

Well done to all of the AIMS@JCU students who have been part of conducting weekly public tours of AIMS. In 2017, Carlos Bohorquez Rueda, Rodrigo Gurdek, Jose Montalvo Proano, Kathryn Evans, Varsha Vivek Balu and Josephine Nielsen took part in this initiative and this year so far, Sebastien Comarmond, Christopher Brunner, Felicity Kuek, Marites Canto, Michaela Nordborg and Jonathan Barton (Carlos, Rodrigo & Varsha are still part of the team) have also been AIMS tour guides.

AIMS would like to thank the AIMS@JCU students for their commitment to showcasing our research and facilities. Their professional and engaging introduction to AIMS provides a welcoming atmosphere for our guests every Friday, as well as a number of separate outreach events during the year. Their passion for marine science is tangible to all, making these events an opportunity for discovery and questioning on reef issues and potential solutions.

There may be a further opportunity next year for students to become tour guides at AIMS, we'll send an email out if this is the case.



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## Alumni News

Dr. Zoe Richards

AIMS@JCU alumni member, Zoe Richards, is now a research fellow at Curtin University in WA and a research associate at the WA Museum. Zoe still actively works with AIMS researchers – particularly James Gilmour, Jim Underwood, Luke Thomas and Karen Miller in WA.

The updated hard coral genus Identification Manual that Zoe has recently released via the WA Museum is available to download for free here: <http://museum.wa.gov.au/kimberley/coral-compactus-western-australia-hard-coral-genus-identification-guide-version-11>

Other work Zoe has been doing can be found online - email [aims@jcu.edu.au](mailto:aims@jcu.edu.au) for the link, this includes a recent publication with AIMS researchers – See Underwood – Genetic signatures through space, time and multiple disturbances in a ubiquitous brooding coral.

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Dr. Ian McLeod



Congratulations to AIMS@JCU alumni Ian McLeod as he and his wife Dr Agnes Le Port would like to introduce Alice LePort-McLeod, who was born on the 20th April 2018. Thank you for sharing these beautiful images and best of luck on this new exciting chapter of your life!



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2

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3

## 2018 PhD Scholarship recipient

Hillary Smith

Raised on the tropical island of St. John in the USVI, Hillary has always had a penchant for marine life. Following a career in the fine arts, Hillary decided to return to school to pursue a more engaging and satisfying career path and completed a Post-Baccalaureate program in Ecology, Evolution and Environmental Biology at Columbia University. During this program, Hillary became fascinated by genetics and genomics, and focused her studies on conservation genetics. Hillary then moved to Townsville to complete a Master of Science in Marine Biology at JCU, focusing her research on adaptive and functional genetics in corals. Since completing her MSc, Hillary has gone on to hold a wide variety of research roles, with her most recent work focused on the role of microbes in coral health and climate change.



Hillary will be commencing her PhD under the supervision of Line Bay (AIMS), Ira Cooke (JCU), Kate Quigley (AIMS) and Greg Torda (JCU). Her work will use next-gen sequencing and computational tools to identify genes and traits associated with bleaching tolerance in the coral *Acropora tenuis*, and will identify if specific gene variants underpin survival. Time-series genomic data will be used to investigate if the frequency of beneficial gene variants changes following extreme disturbance. This work will form the basis of evolutionary and climate change modeling, and will fill critical knowledge gaps for assisted gene flow and selective breeding programs.

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## New Dean of the JCU Graduate Research School

Prof. Christine Bruce

Professor Christine Bruce is Dean, Graduate Research at James Cook University, Townsville Australia. Christine is an Australian Learning and Teaching Fellow, Principal Fellow of the UK Higher Education Academy and Adjunct Professor, at University of Southern Queensland. Recent appointments include Professor, Information Science; Academic Program Director, Research Training for Science and Engineering; Convenor, QUT Higher Education Research Network and Academic Convenor of the San Jose QUT Gateway PhD Program, all at the Queensland University of Technology (QUT). Christine is a member of the Australian Council of Graduate Research, an International Advisory Board Member of the Center of Information Research and Innovation, San Jose University; and recently completed a five year term on the International Board of Directors for Linnaeus Center for Research, at University of Gothenburg Sweden.

Christine is most widely known for her contributions to information literacy and information literacy education. She is regularly invited to deliver keynote addresses and consult in these spaces. She is presently research consultant to the Hong Kong multi-university information literacy MOOC project. Christine is most well known as author of the *Seven Faces of Information Literacy*, and *Informed Learning*. She was lead editor of *Information Experience*. She works extensively with colleagues around the world on the application of informed learning theory to research and practice, and on the development of new theory emerging from this process, notably informed systems, information experience, informed learning design and information experience design amongst others. Christine's Australian and Learning and Teaching Fellowship focused on higher degree supervisors' experiences in STEM disciplines; higher degree study and supervision forms a significant secondary research track.



Christine Susan Bruce. BA UQ; Grad Dip Lib Sc, QIT; Med(Res) QUT; PHD UNE; A. ALIA. ALTF, PFHEA.

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## Where are they now?

Dr. Chiara Pisapia

Chiara completed her PhD in 2016 after working for 3.5 years under the supervision of Prof Morgan Pratchett and Dr Hugh Sweatman, and after extensive field work in beautiful reefs. Chiara investigated how background partial mortality affected corals at the individual, population and community level. Spatial, temporal and taxonomic differences in tissue loss regimes are important for understanding vulnerability and resilience of scleractinian corals to acute disturbances and environmental change. Chiara assessed the variation in rates of background mortality at both small (adjacent colonies) and geographic scales (ocean scales). More specifically, she investigated prevalence and severity of partial mortality at a hierarchy of spatial scales along the Great Barrier Reef (instantaneous and repeated measures over three-year time), she also compared prevalence and severity of partial mortality between the Northern GBR and Lhaviyani atoll, in the Maldives. Chiara was also interested in understanding ecological response of corals to partial mortality such as influence of injury on colony condition and energetic consequences of tissue repair (declines in condition associated with increased energy expenditure on tissue repair).

Chiara is now a Postdoctoral scholar at California State University of Northridge in Los Angeles as part of the NASA funded project CORAL (Coral Reefs Airborne Laboratory). Chiara is traveling all over the Pacific to connect remote sensing images with community structure and function of coral reefs. She is also interested in spatial variation and drivers of reef metabolism (primary production and calcification) across the Pacific and she is excited to work with a multidisciplinary team.



Chiara is very grateful for her AIMS@JCU family, without their support and help she would not be where she is at now! Thank you so much AIMS@JCU!

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## Where are they now?

Dr. Brian Strehlow

Brian Strehlow spent most of his PhD at AIMS, Townsville, under the supervision of Nicole Webster, Alan Duckworth, Peta Clode, Michael Renton, and Gary Kendrick. Even though he was based at the University of Western Australia in Perth, AIMS@JCU welcomed him to the fold and made him feel part of a postgraduate community at AIMS. His PhD thesis focused on determining the effects of sediments on marine sponges, and it identified lethal threshold values of sensitive species for future management of dredging operations and described methods of acclimation to sediment-related stressors in tolerant species.

Since completing his PhD in July 2017, Brian married another AIMS@JCU alum – Alexandra Caron (now Caron-Strehlow, see picture), and they recently moved to Odense, Denmark after Brian found a Postdoc at the University of Southern Denmark (SDU). He is currently working in the Nordic Center for Earth Evolution (Nordcee) within SDU's Department of Biology, under PI: Don Canfield. His research focuses on determining oxygen limits to sponge livelihood. Working with fellow postdocs Astrid Schuster and Lars Kumala, he is also exploring potential changes in the activity of the sponge microbiome under different oxygen concentrations. Finally, he is interested in identifying any possible signaling between the microbiome and the sponge itself in response to oxygen stress.



Alex and Brian are adjusting well to life in Denmark. It has been unusually warm and sunny there this summer, so that should make the transition from the dry tropics a bit smoother. They are both taking Danish language classes; though, fortunately, SDU operates primarily in English. Brian recently completed his first dives in cold water using a dry suit (see picture with Astrid Schuster), and the Nordcee sponge team is preparing for a field trip to Lough Hyne in Ireland, Europe's oldest marine reserve, this August. Apparently, once you get the dry suit on, cold water diving is surprisingly comfortable. Brian and Alex wish everyone at AIMS and AIMS@JCU the best and encourages everyone to come visit them in Denmark.

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# Research Director Report

Congratulations to all of the AIMS@JCU award winners for 2018 so far. Stay tuned for write ups of their travels, presentations and research in future newsletters:

## Science Communication Awards

**Ana Paula Barbosa Martins & Samantha Sherman** - Sharks International 2018 - Brazil; June 2018

**Marites Canto** - Ocean Optics Conference 2018 - Dubrovnik Croatia; October 2018

**Leela Chakravarti** - International Symbiosis Society Congress, Oregon, USA; July 2018

**Hannah Epstein & Bettina Glasl** - International Symposium for Microbial Ecology - Leipzig Germany; August 2018

**Vanessa Haller** - iEMS2018 - 9th International Congress on Environmental Modelling & Software, USA; June 2018

**Michael Jarrold** - Lessons from two high CO<sub>2</sub> worlds SEB Symposium - The Azores, Portugal; April 2018

**Samuel Matthews** - Knowledge, Discovery & Data Conference - London; August 2018

**Mikaela Nordborg & Blake Ramsby** - Australian Coral Reef Society 2018 - Exmouth; May 2018

**Molly Scott** - Australian Society for Fish Biology; October 2018

## Pilot Research Awards

**Maria Andersen** - Examining mechanisms of acclimation to future climate scenarios and symbiont transmission in an ecologically important sponge species – funding to go towards the extraction and processing of over 52 samples for 16s rRNA amplicon sequencing and FISH

**Ole Bjorn Brodnicke** - Augmented coral health – Linking coral physiology, energetics and microbial factors to enhance coral resilience – the funds will be invested in a research and training stay at Deakin University.

**Felicity Kuek** - Whole genome sequencing of a DMSP-producing Gammaproteobacterium – this funding will cover the costs of purchasing suitable kits for DNA extraction, and Nextera library preparation.

**Carys Morgans** - Symbiont cocktails for post-bleaching recovery – funds will contribute towards paying for the DNA sequencing

**Molly Scott** - Estimating the energetic costs of increasing temperature on coral trout to inform bioenergetic models - funding will be used to complement existing funding to purchase bench fees for two people to conduct the experiment at Lizard Island full time for one month.

## AMSA Awards

Merle Schlawinsky; Magena Marzonie; Alexander Buck; Ole Brodnicke

Libby Evans-Illidge, AIMS@JCU Research Director

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