



Adriana Humanes

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Another successful AIMS@JCU student seminar day!

Our annual Student Seminar Day was held on 15th October at Reef HQ with a host of extremely high quality oral and poster presentations as well as some fantastic photographs. If you missed out on the day, you can download the program and abstracts from <http://aims.jcu.edu.au/AIMS-JCU/research/seminarday.html>. Prizes were in the form of funding to spend on science communication, whether it be publishing articles in all access journals, attending a conference or networking in order to get a post-doctoral position. The presentation winners are as follows:

- Martino Malerba best oral presentation (\$2,000)
- Samantha Munroe second place oral presentation (\$2,000)
- Geoff Collins best poster presentation (\$1,000)
- Amin Mohamed second place poster presentation (\$1,000)

Thank you to all of our judges: Don Kinsey and Annie Ilett (talks); Rocky de Nys and Annie Ilett (posters), and Lyndon Llewellyn (photos) and to everyone who presented or came to support the students for this wonderful and important day in the AIMS@JCU calendar. We are already looking forward to next year's event. Photography prizes were awarded \$200 each and are shown on the following page.

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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.

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AIMS@JCU Student Seminar Day

Photography competition winners

Research subject



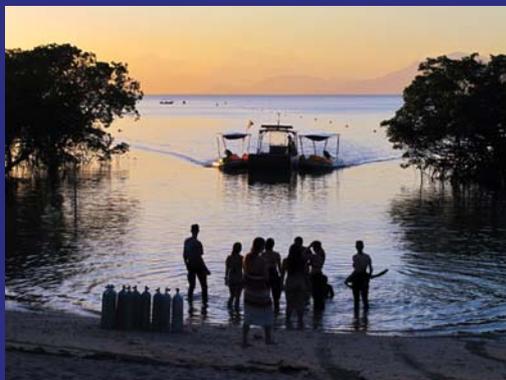
Adriana Humanes

Photomicrograph/Macro



Joe Pollock

Research in action



Joe Pollock

Quantitative Marine Science



Ian McLeod

People's choice



Adriana Humanes

Joe Pollock

Research in Three Minutes

AIMS@JCU Speed Talk Championships

For the second year running, AIMS@JCU sponsored the Speed-Talking Championships held at AIMS on 4th September 2013. During the championships, speakers were given three minutes to 'pitch' their research to a non-scientific audience using a single slide.

In this fast paced world, the ability to communicate effectively, succinctly and with impact is a critical skill. Seven contestants took to the stage to present on topics which ranged from microbes, biomarkers in pollution, conceptual models, corals and cyclones, communication through chemistry, to coral disease. Well attended, informative and enjoyable, the championships also doubled as the heat for the JCU Three Minute Thesis (3MT) competition held on 12th September 2013. In the lead up to the event, the AIMS Communications Group facilitated seminars on effective communication techniques and photography in the media.

The AIMS@JCU Speed Talking Championships judging panel consisted of Russell Reichelt (GBRMPA Chairman and CEO), Liz Tynen (JCU science communication academic) and Ken Anthony (AIMS Healthy and Resilient Great Barrier Reef Program Leader) who collectively congratulated the participants and praised them on the quality of their presentations.

The following speakers were chosen by the judges as the best in their respective categories: Scott Bainbridge (established researcher), Rebecca Albright (early career researcher), and Joe Pollock (post-graduate research student). The audience's choice for best presentation was awarded to Joe Pollock. Rebecca and Joe went on to compete in the 3MT final at JCU the following week.

A Marine Science Photography Competition was run in tandem with the championships. From over 40 entries, the prize for the winning photograph was awarded to Phil Mercurio. An informal afternoon tea was held after the Speed Talking Championships to announce the winners, display the photo submissions and to celebrate a second successful year of the event. Congratulations to all those involved.



2013 AIMS Speed-Talking Championship participants, judging panel and organisers.

Catalina Aguilar Hurtado

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2012 AIMS@JCU Pilot Research Student Update

Eric Fisher



Eric grew up in North Queensland and graduated from JCU in Townsville 1992 with a BSC (Hons) in marine biology. In 2004 Eric and his wife settled back in Cairns, where they still live with their two young daughters Layla and Jocelyn. For the past nine years Eric has worked full time as the head marine biologist for a local tourism company that visits the outer GBR daily from Cairns. He leads a small team of marine biologists and naturalists to assist in interpreting the history, ecology and resilience of the GBR to visitors through oral presentations and guided snorkel tours to the various habitats of coral reefs.

Broad research interests include fish biology, habitat utilisation, community ecology and understanding the physical and biological drivers behind seasonal trends in coral reef fish communities. In 2007, GBRMPA launched their citizen science programme "Eye on the Reef" to expand the monitoring of vast areas of the GBR not visited by researchers. Since the inception of this programme, Eric and his team have been dedicated to this programme and the long term monitoring of their tourism sites. Through this programme he was introduced to Mike Cappo (AIMS) who assisted in initiating his research project investigating fish aggregations on the GBR.

Eric is currently enrolled as Masters by research student with AIMS@JCU support, supervised by Mark McCormick, Howard Choat and Mike Cappo. Research on fish aggregations within the GBR has been limited. His research will focus on a multi species fish aggregation site situated off Cairns, to determine what physical and biological drivers are responsible for aggregation formation and the possible ecological role fish aggregation sites play in coral reef fish communities. To investigate the fish aggregation site, the project will incorporate a variety of methodologies, including 1) the statistical analysis of a long term data set of fish abundance and environmental variables, 2) using several types of novel marine instruments developed by JCU to illustrate current patterns, 3) using fixed video cameras to quantify fish behaviour, community structure and predator presence, 4) using a swimmable stereo video rig provided by AIMS to provide reliable estimates on abundance and size structure of aggregating fish. A final aim of the project is to search the Eye on the Reef data base to locate other multi species fish aggregation sites within the GBR as potential study sites to visit.

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2012 AIMS@JCU Pilot Research Student Update

Kate Quigley

Kate was born and raised in southern Spain, but has lived in a number of countries including Italy, Cuba, the United States, and Peru. With a passion for all things invertebrate, she decided to move to Australia and pursue research on the coral-dinoflagellate symbioses in tropical oceans for her Masters. After finishing that degree, Kate started her PhD in May 2013 focusing on the drivers in specificity between *Symbiodinium* and corals from a cellular and biogeographical perspective.

During her Masters, Kate was awarded AIMS@JCU Pilot Research Funding to explore how pH stress influences chloroplast functioning and morphology across different *Symbiodinium* types. She found that photochemical efficiency and chloroplast integrity vary between different symbiont types at different pH treatments, and that each type exhibited different potentials to acclimatize to decreasing pH. AIMS@JCU funding allowed for her to use Confocal Microscopy to take in-situ chloroplast measurements of *Symbiodinium* cells.

Numerous field and lab based reports suggest that hermatypic coral tolerances to stressors is in part dependent on the diversity of *Symbiodinium* that they host. Further studies suggest that corals may shuffle and switch their symbiont complements in order to gain increased potential to acclimate to stressors like increased water temperatures. However, this potential for flexibility in hosting new and diverse *Symbiodinium* may be limited by host, symbiont and environmental factors. These factors and their contribution to symbiont-host specificity must first be understood in order to evaluate the potential for acclimation and adaptation to stressors through changes in the *Symbiodinium* consortium inside corals. For her PhD, Kate will determine what factors are controlling *Symbiodinium*-coral specificity, and their relative contributions to the dominant and background diversity of symbionts found within corals.



Tiffany Sih

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AMSA Golden Jubilee Conference

2013 AIMS@JCU Travel Support



Young Koo Jin: The Australian Marine Sciences Association (AMSA) 2013 Golden Jubilee Conference, was held on the Gold Coast from 7th to 11th July. More than 300 talks which were divided into 19 symposia and 8 thematic sessions as well as 50 posters were presented. Some of the fields covered in the talks were ecological genomics, microbial symbioses, impacts of anthropogenic and climate changes, resilience, biological oceanography, and reef management.

One of keynote speakers, John Pandolfi talked about U series dating of dead corals which allows the estimation of temporal changes in coral abundance at species or genus levels. A large shift in coral assemblages was detected after 1860 (European settlement). This kind of tangible evidence is very useful for researchers who are interested in genetic signatures of environmental selections. I was also inspired and motivated by some researchers I met with who are conducting a similar project to mine (i.e. ecological genomics at population level), but on other marine creatures. Thanks to AIMS@JCU for a travel grant to assist me with this trip!

Stefano Montanari: The annual AMSA (Australian Marine Science Association) Conference is the foremost meeting for Australian marine scientists. Attending the 50th edition in Gold Coast has been a truly edifying experience from which my professional standing will greatly benefit.

I had the opportunity to present a poster of my work on reef fish hybridisation: The audience was highly competent and I received a wealth of constructive feedback.

I also got to meet and network with colleagues from other labs whom are working on similar topics, and the new liaisons will be very fruitful. For example, Cynthia Riginos of UQ, proposed a co-operation between her team and ours in order to co-sample

AMSA Golden Jubilee Conference

continued

locations and increase the geographic extent of our respective studies.

Further, I got the wonderful opportunity to be exposed to research conducted by leaders in their respective fields such as Maria Byrne, Carlos Duarte, Beth Fulton, and John Pandolfi. Overall, the exchange of thoughts has been very productive.

Aside from the professional and networking opportunities provided by AMSA 2013, my attendance to the conference also allowed for some exploration of the surroundings.

For the reasons described above and many more, the opportunity to attend AMSA 2013 has been of great value. I wish to thank AIMS@JCU for providing the funding that I used to partially cover my expenses.

Daniel Zeh: I attended the AMSA conference briefly as planned on Monday, 8th July. Unfortunately, time travelling and getting back to field work in Moreton Bay didn't allow for much time at the conference.

I gave my oral presentation, "Using data-logging acoustic receivers to study dugong movements in coastal environments: a comparison with satellite tracking" and it was well attended. I explained the importance of knowing how and in which areas dugongs use the Moreton Bay area for critical activities like feeding and mating. I also explained how regional managers can benefit from his research and in turn, can offer better protection for dugongs. I fielded some questions after and am happy to report that I kept my presentation on time! A couple of colleagues were there and complimented me afterwards.



Joe Pollock

I appreciate that AIMS@JCU made it possible for me to attend and to give my presentation. It was exciting to be with marine people of all sorts.

Research Director Report

Science communication has been a focus of the last couple of months at AIMS@JCU, with our heat of JCU's 3MT competition in September, and our annual AIMS@JCU student day earlier this month. Congratulations to the winners of the various prizes (reported on pages one and two of this newsletter), but I also want to congratulate everyone who participated. The standard of oral presentations, posters and photography was extremely high, and this is fantastic because it's not good enough to just do world class science! You also need to be able to communicate your outputs and outcomes, and their relevance, to peers and stakeholders. Participation in these opportunities is a great way to develop and showcase these skills. The feedback from our judges (representatives of important peer and stakeholder groups) has also been extremely flattering to all concerned – so its not just my biased view!

We were delighted to welcome two WA-AIMS students to the seminar day. Shanta Barley and Lucy Ferreira gave excellent presentations, and it was great to see them join the student group on the day. I'm looking forward to more AIMS-associated students joining in our activities in the future, regardless of the university in which they are enrolled.

To all AIMS@JCU members – I look forward to seeing you when you visit our new offices (DB17, 148 and 149), embedded in the e-research centre at JCU. And to all AIMS staff – I hope you will take the opportunity to strengthen your links to JCU, and forge new ones, by using our AIMS hot-desk. Keys and one-day parking permits, can be picked up from the Graduate Research School front desk, on the ground floor of building DB17.

Libby Evans-Illidge, AIMS@JCU Research Director

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Our seminar day oral presentation winners, Martino Malerba and Samantha Munroe - congratulations [Images courtesy of Ian McLeod]

Patrick Buerger