

# Centre for Molecular Therapeutics

June News Updates



## Centre for Molecular Therapeutics Retreat

Castaways Mission Beach 4<sup>th</sup> and 5<sup>th</sup> November 2019



Registrations are now open

<http://events.jcu.edu.au/CMTRetreat>

**CMT WEBSITE:** <https://www.jcu.edu.au/cmt>

**FACEBOOK:**

<https://www.facebook.com/Centre-For-Molecular-Therapeutics-1511726859066532/>

**TWITTER:** <https://twitter.com/CMTJCU>



## Under the Microscope – Mohadeseh Dastpeyman



### 1. Tell me about your area of research?

My research is focused on applying the approach of downsizing disulfide-rich peptides for the development of potential drug leads, and providing insight into important structural features for bioactivity. My PhD thesis, in particular, explores the structure-function relationships of two disulfide rich peptides; the scorpion venom peptide chlorotoxin, and the parasitic liver fluke granulin protein (*Ov-GRN-1*).

### 2. What interests you about working in this area?

What I like the most about the structural biology is that it is a multidisciplinary field, incorporating the principles of molecular biology, biophysics and biochemistry. Indeed, working in different disciplines has introduced me to new concepts, methods and ways of approaching medical research.

### 3. How do you see your research developing in the future?

I would like to further expand my knowledge and expertise in the field of structure-based drug design. I would also be very happy to see the wound healing peptide derived from the functional region of granulin protein successfully enters market some day.

### 4. What are the 5 most important techniques you use in your research?

Peptide synthesis, high performance liquid chromatography (HPLC), mass spectrometry, NMR spectroscopy and a range of biological assays such as cell culture, flow cytometry, proliferation assay, migration and invasion assay.

### 5. What advice do you have for science students who are considering medical research as a career?

Medical research is all about learning, exploring and discovering, so learn as much as possible. Ask questions, this is how medical research works; one question leads to another for further investigation. The bottom line is if you love it and you “got” it, just go for it you will find your way.

### 6. What do you see as the benefits of being part of the Centre for Molecular Therapeutics (CMT)?

Collaboration of researchers from different disciplines to design and conduct high quality research projects. Also, let's not forget about cutting edge equipment.

### 7. Tell me about the highlights of your professional career so far?

My PhD project, in which I contributed to the development of a potent wound healing peptide. Furthermore, my PhD research has, so far, led to the publication of four manuscripts including two papers in *Journal of Medicinal Chemistry*. I also received several bursaries and travel awards to present my PhD research in national conferences such as 12<sup>th</sup> Australian Peptide Conference.

### 8. What would you like to do in the future?

I would like to continue being a part of the global scientific endeavor to make the world a better place to live.

### 9. Tell me 5 things you dislike?

Honey chicken, mosquito bites, slow computers/instruments/internet, warm milk, YouTube ads!

### 10. Tell me 5 things that make you happy?

Family and friends, music, traveling, a cute quokka, fully assigned NMR spectra



## Scientist finds new experiment

IT'S been a big year for bright young scientist Claudia Cobos and it just got bigger. Only recently married to Cairns nurse Evan Casella and newly graduated from James Cook University with a PhD in biochemistry, Claudia has embarked on a new adventure.

Always ready to embrace change and challenge, she has flown to Austria, where she has taken up a postdoctoral position at the University of Vienna – the oldest university in the German-speaking world. “Once again I’m leaving behind people that I love to follow my dreams, but I know it is not a goodbye, it is only a see you soon.”

The Chile-born molecular scientist and researcher says she is embarking on a new chapter in her life.

“New language, new people, new city, new country, new continent, new job ... I’m new here, so I don’t know anyone and I don’t speak German.” Claudia says Evan will join her later this year. “Australia has been my home since 2011. It has been such an amazing journey,” she said.

Claudia completed her Honours in Chemistry in Chile and worked at the Chilean Nuclear Energy Commission before meeting Evan in Santiago. It was love at first sight for both and when he asked her to join him in Australia, Claudia took the plunge.

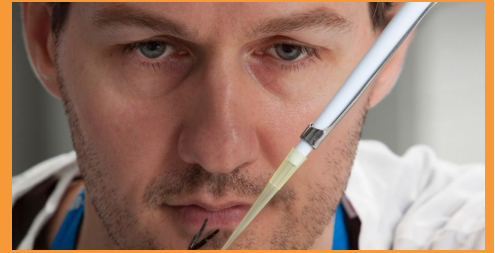
“I was following my heart, but I was scared. My family and friends were on the other side of the world,” she said. “It was a different language. I wanted to continue my career but didn’t know how.” Eventually, she found the perfect research project through JCU in Cairns and the Australian Institute of Tropical Health and Medicine.

“It was meant to be,” says Claudia, a Spanish speaker who completed her PhD in her second language.

“Australia received me with open arms, gave me the tools to become a doctor, showed me how amazing mateship is. It is more than my home. It is part of me. Australia was all that I dreamt of and more.” Evan said it was hard to say goodbye to his beautiful new wife as she began her next scientific adventure, but he knew she would do “incredibly well” in Austria.

In 2017, Claudia won an award at an international chemistry symposium at Britain’s Cambridge University.

## Unlocking the Power of Venom Prof Norelle Daly and Dr David Wilson



Professor Norelle Daly and Biochemist, Dr David Wilson have been bitten by the same bug - the desire to expand knowledge of Australia’s venomous animals, including their potential to yield new life -saving drugs.

<https://www.aithm.jcu.edu.au/unlocking-the-power-of-venom/>

## Harnessing Hookworms to Defeat Inflammatory Bowel Disease



Parasitic worms have had a bad reputation, but natural products chemist, Dr Phurpa Wangchuk, has identified small molecules in hookworms which could hold the key to a cure for severely debilitating inflammatory Bowel Disease (IBD).

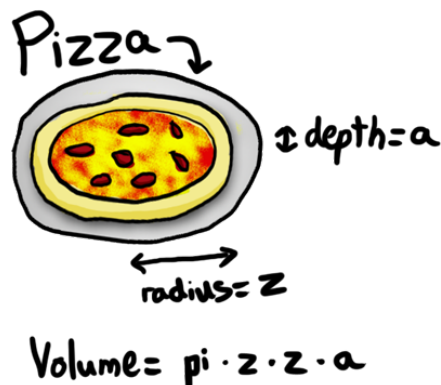
<https://www.aithm.jcu.edu.au/harnessing-hookworms-to-defeat-inflammatory-bowel-disease/>

## June Publications

Leonard, D., Buttner, P., Thompson, F., Makrides, M., & McDermott, R. (2019). [Anaemia in early childhood among Aboriginal and Torres Strait Islander children of Far North Queensland: A retrospective cohort study](#). Australian and New Zealand Journal of Public Health, doi: [10.1111/1753-6405.12911](#)

Wangchuk P, Kouremenos K, Eichenberger RM, Pearson M, Susianto A, Wishart DS, McConville MJ, Loukas A. [Metabolomic profiling of the excretory-secretory products of hookworm and whipworm](#). Metabolomics. **2019** Jun 28;15(7):101. doi: 10.1007/s11306-019-1561-y.

Johnston EB, Kamath SD, Iyer SP, Pratap K, Karnaneedi S, Taki AC, Nugraha R, Schaeffer PM, Rolland JM, O'Hehir RE, Lopata AL. [Defining specific allergens for improved component-resolved diagnosis of shrimp allergy in adults](#). Mol Immunol. **2019** Jun 24;112:330-337. doi: 10.1016/j.molimm.2019.05.006. [Epub ahead of print]



## June Jokes



### R Community Meetings at AITHM

Monday's 12-1pm

E5 Meeting Room

Experienced and aspiring R Users are very welcome to attend.



Tropical R club is a R users' group for researchers in AITHM and CTBMB, which encourages learning and collaboration in R/Bioconductor through exposure, teaching and mentorship. It aims to improve the quality of data analysis in R at AITHM and JCU. The tRopical R club is run by PhD students Olivia Rowley and Martha Cooper, with senior mentors Dr. Ashley Waardenberg and Dr. Matt Field. Follow @mrthmaria and @oliviarirowley4 on twitter to find out more.

## SKILLING UP FOR A CAREER IN SCIENCE WORKSHOP

CMT is proud to be co-hosting a workshop titled *'Skilling up for a Career in Science'* targeted for PhD students and ECRs. The workshop will be co-hosted by *TropWater*, the *Centre for Tropical Bioinformatics and Molecular Biology*, and the *Centre for Molecular Therapeutics*.

We will cover topics including grant writing, alternative pathways to success, networking, working with industry and government and combatting imposter syndrome.

**The TOWNSVILLE workshop will be held on July 4 at 9am-1pm in the ATSIP seminar room.**

**The CAIRNS workshop will be held on July 15 at 11am-3pm in D003-059.**

In both locations, lunch will be provided to allow an opportunity to network with panel members.

If you would like to attend please email Lynne Saunders: [Lynne.Saunders@jcu.edu.au](mailto:Lynne.Saunders@jcu.edu.au)



### A farewell message from Jade Jansen

I want to thank everybody for making the last 7 months such a wonderful experience. There are so many people that have helped me with experiments and taught me new techniques in the lab. I also really enjoyed myself outside the lab with all the lovely morning tea's, lunches and good chats. Everybody has been so nice to me, which made me really feel at home. If anybody is coming to the Netherlands, make sure to hit me up so I can show you my wonderful country. Dankjulliewel!!!

Jade

*Jade, an overseas intern from the Netherlands has been part of the Doolan Group for the past 7 months. She will be leaving Cairns this month and returning home hoping to pursue a PhD.*

