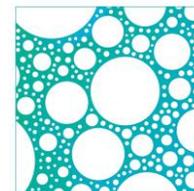


Australasian Colloid and Interface Society

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ACIS Newsletter – Issue 12, March 2017

Welcome

Dear members,

Welcome to our twelfth issue of ACIS News! We produce a quarterly newsletter - sent around in March, June, October, and December - to keep ACIS members informed of our initiatives and for members to directly communicate with their Society. Please send your suggestions and items for the next newsletter to C.P.Whitby@massey.ac.nz.

ACIS 2017 News from Gunther Andersson



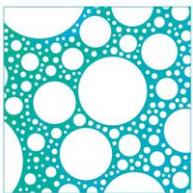
ACIS 2017 was held from 29th of January to 2nd of February 2017 at Opal Cove Resort in Coffs Harbour. 201 delegates from 17 countries have attended the conference. 72 of the attendees were student delegates. 4 exhibitors of scientific instruments were present with a booth or trade display.

The conference delegates were welcomed by a group of representatives of the Gumbaynggirr people on Sunday night. Highlights of the conference were the plenary speaker Prof Kathleen Stebe from the University of Pennsylvania, USA, and the Alexander Lecturer Prof Gregory Warr (University of Sydney). Prof Erica Wanless (Newcastle) and Prof Vince Craig (ANU) did an excellent job of compering the conference dinner.

Further highlights of the conference were a session for early career researchers with supportive information given by representatives from both industry and academia as well as a women in STEM session. The latter attracted strong interest and was a discussion based session focussing on facts and promoting gender balance across all levels of employment and engagement in industry and Universities.

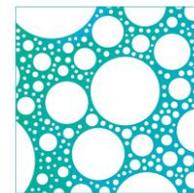
At the conference the following awards were bestowed:
Early Career Researcher ACIS travel grants - Dr Lei Bao (RMIT) and Dr Phuong Nguyen (UQ).
Poster Prizes - Ms Joanne Du and Ms Brianna Knowles





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ACIS AGM Report 2017

by Chiara Neto



Our Annual General Meeting was held during the ACIS2017 conference in Coffs Harbour. Prior to the AGM members participated in an electronic vote for two positions that were available on the Board. We congratulated Alison Tasker, who was elected as a new member of the Board, and Tim Davey (Dulux Australia), who was e-elected. We also thanked outgoing Director Ray Dagastine (Melbourne Uni) for his service over the past two years.

Alison is post-doctoral research fellow in Chemical Engineering at the University of Queensland. She is also a member of the ACIS Awards and Prizes committee. Tim has been Director for the past two years, and has been in charge of communication, including our excellent website and the transition to the wildapricot server. Both of the new Directors will be in charge for the next three years, ensuring good continuity on the Board.



Alison Tasker (UQ)



Tim Davey (Dulux Australia)

Minutes of the AGM are available upon request from the secretary Dr Simon Corrie simon.corrie@monash.edu.

The AGM was also an opportunity to thank Gunther Andersson (Flinders Uni) for his team for their excellent work in designing a successful ACIS2017 conference. The high attendance from international speakers, the quality of the talks, and the positive and friendly atmosphere are testament to his hard work and brilliant planning.

Thank you Gunther!

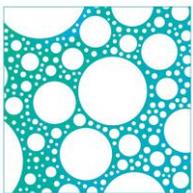


ACIS 2017 Organising Committee

Back (left to right): Vince Craig (Treasurer), Bryn Coad (Co-Chair), Gunther Andersson (Chair),

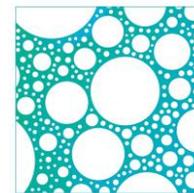
Front (left to right): Jane Yeaman & Sarah Robinson (Tulips Meeting Management),

Not pictured: Rico Tabor (Social Program Coordinator) and Aminreza Khodabandeh (Committee member)



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Announcing the ACIS Equity and Diversity Committee



Following on from a very successful panel session at ACIS 2017 on “The Changing Landscape of Professional Scientific Life” ACIS will found a new committee focussed on equity and diversity. This committee will address all kinds of equity and diversity issues, including gender, cultural background, disability, scientific background, stage of career, sexual orientation, and geographical distribution of ACIS members. It aims to promote and support diversity amongst our members, and at the ACIS and student conferences.

The committee currently consists of Dr. Charlotte Conn (RMIT University), Dr. Rico Tabor (Monash University, ACIS Board Member) and Prof. Vince Craig (ANU, ACIS Board Member). The committee is keen to hear from ACIS members, including students, who would like to get involved. If you are interested in working with the ACIS equity and diversity committee, or have some suggestions for the committee, please contact Charlotte (charlotte.conn@rmit.edu.au).

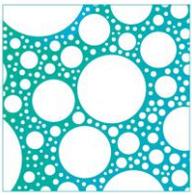
Meet our new ACIS Board Director, Alison Tasker



I am an early career researcher at the University of Queensland with a research focus on encapsulation of actives using impermeable metal shells. I completed my PhD studies in the UK at the University of Leeds, in 2013, studying moisture transport into and out of biopolymer films, after which I took my first post-doctoral position at the University of Leeds. My work is focused on encapsulation and improving the retention of actives. My group created a novel microcapsule system capable of retaining even small, volatile molecules indefinitely, by the addition of a continuous gold shell around a polymer microcapsule.

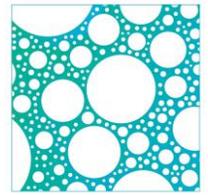
I moved to Australia in 2015 and have continued to explore this exciting area, and its potential applications. One of the exciting new areas I am developing is to use the microcapsules as a drug delivery system for the treatment of recurrent brain tumours, which could potentially improve prognosis of the disease significantly. The metal shells allow for active targeting of tumour cells by addition of antibodies to the gold shell, and release can be triggered externally using ultrasound.

I have been involved in our colloid community since I relocated to Australia, through the ACIS student conference in 2016 and the 2017 symposium, as well as being a member of the awards committee. I want to see ACIS continue to attract new members and hold not just conferences, but other events and activities which will enable members to create new collaborative opportunities. It is important to me that ECR and PhD students become more involved in the society to bring their vibrant energy and enthusiasm to ACIS.



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It's time to get Sassy again!



We had such a great meeting last year that Stuart Prescott (UNSW) is organising it again. The Sydney Surfaces and Soft Stuff meeting is a one day symposium for researchers in colloids and interface science based in and around Sydney. Sassy2017 will take place on Tuesday, June 6, 2017 at UNSW. The aim is for the oral presentations to be predominantly given by 2nd and 3rd year PhD students. Abstract submissions for talks are due May 19, 2017. Best of all, there's no registration fee. You do, however, need to register by June 2nd. For more information: <http://meetings.complexfluids.net/sassy/2017/>

Save the date: Student conference 2018 date and venue confirmed!



ACIS is pleased to announce that the 31st Australian Colloid and Surface Science Student Conference will be held at Deakin Warrnambool campus in Victoria (about 3 hours west of Melbourne) from Monday 29th January to Thursday 1st February 2018.

The conference will be hosted by Monash University, and the conference organisers are Rico Tabor, Gil Garnier and Ben Boyd.

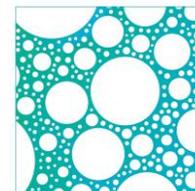
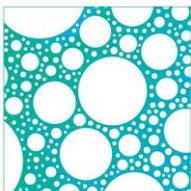
The ACSSSC provides postgraduate students working on colloid and surface science with an opportunity to present and discuss their research in an informal, supportive and friendly atmosphere. It is also an excellent opportunity for researchers and academics to exchange the latest updates in research in an informal atmosphere, and provides excellent networking opportunities for all.

We anticipate a careers session, focused workshops, some high profile international visitors, and a host of recreational activities.

Please put the date in your calendars now, and we look forward to seeing you in the summer!

PhD students: if you'd like to be involved in organising the conference, we are currently in the process of assembling the team. Please email rico.tabor@monash.edu if you'd like to be a part of making it all happen!





Nucleating Colloids – a Column for Students & Early Career Researchers



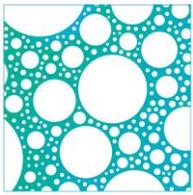
By Liam Scarratt, PhD student at Sydney

During 2016 I took part in a pilot course for postgraduates at The University of Sydney, titled “Inventing the Future”. Students applied competitively for places from the Faculty of Science, Engineering, Business and Design/Architecture, who were then assembled into 4 different groups of 5, given a design brief, and then asked to produce a prototype and present a pitch to a panel within a semester. Each group included at least one student from each faculty, and the briefs given to groups included: producing a simple method to detect skin cancer; making a nanosatellite module; and reducing our reliance on the current electricity grid. Our team was tasked the electricity brief, and comprised of myself, 3 PhD students in physics, electrical engineering, and digital design, and a Masters student in Business. The course ran over 13 weeks of 2nd semester last year. Every fortnight you would meet for a day with the course organisers and your peers to undergo mentoring, see some guest lectures and get expert advice, all with the aim of teaching you how to work better as a team, come up with sound ideas, and learn about the start-up process in general. You were expected to meet with your team outside of this time to progress your research and work on your prototype.

One of the most challenging aspects in this course was focusing on a single idea. We were trapped in the ideation phase of our brief for the first 4-5 weeks, starting on regulating the electricity usage of different appliances with a smart meter, before jumping over to producing a solar economy model to encourage energy trade between houses with batteries and solar panels, then moving onto all kinds of wacky methods to make common objects like soccer balls or frisbees store charge using kinetic batteries, even integrating battery storage into trees to function as off grid street lamps (note, pretty much all of these ideas already exist in some form or another). After struggling for a while, we got a more specific brief, which helped us focus our efforts.

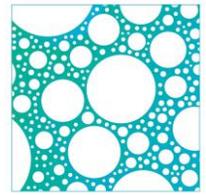
We moved towards how to reduce the energy spent on regulating temperature via air conditioning in buildings, an issue with a big environmental impact. This new area of focus opened an entirely new area of thinking. Now we were delving into what impact reflective coatings had on rooftops or windows in reducing solar gain, whether thermochromic paint or nano-structures were superior, and the regulations of how reflective your roof could be as to not blind pilots flying overhead. In this area, we ended up playing around with the idea of creating a switchable black to white surface for covering a house rooftop, reflecting light in summer, or absorbing it in winter. We did trial tests with a thermal probe and house models that we built up in the design faculties workshop using some basic materials, with the final product aiming to be a simple pulley mechanism to rotate out different surfaces as needed. We even planned to run small water capillaries through it to help with removing excess heat. This was an idea we chased for a few weeks, before totally changing our tune after some more research into the area of thermal flux for different materials, and studying the thermal heat map for Parramatta to better grasp the urban heat island effect.

Continued over the page



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We found that plants were the most effective at absorbing energy from the sun without remitting it into the surrounding area. So, we looked to modify our original idea with hydroponics for a tarp-like material that can grow plants from a liquid based feed (distributed through the capillaries we were going to use for water). This idea was short lived after some consultation with experts in the area, as we learned that hydroponics alone was not going to be produce plants sturdy enough to withstand constant solar radiation, so we moved to green roofing including soil for that extra insulation. To diversify ourselves from the current market, we proposed using a modular green roof system for simple replaceable parts and customisable appearance with different plant breeds, and set about finishing our project in the last couple of remaining weeks. We finished up the course in November, did the presentation and all got back into our respective PhD/Masters research that was piling up. A couple of the teams took their project further and are doing well in their ventures. If you are interested in the course, there is a promo video with the people behind it found on this link: <https://www.youtube.com/watch?v=e16WUTr6hpU>

This course was intensive and asked a lot of your time management skills, especially if you balance your PhD research, teaching and other commitments on the side like most us do. Trying to work in a functioning team with people who all have very constrained time availability can make it hard to collaborate regularly, which was only overcome by having adaptable team role delegation and establishing a good working relationship where everyone felt like their ideas were valued and important. Working in a team where everyone's skills are super different helps with attacking complex multidisciplinary problems, but it also comes with its fair share of challenges.

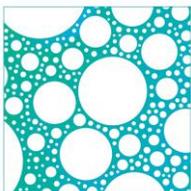
One of the most eye-opening experiences I had was noticing just how different our thought processes and priorities were when approaching the same problems, something which we learn through our respective disciplines. I have fond memories of trying to keep the whole team informed regarding some of the science stuff during the project with the physicist in our group, only to get totally tangential questions/responses from everyone else, with our design student caring only for the aesthetic/user interface, our business student crunching numbers for marketability and our engineer already planning a prototype. Those were some crazy times!

All in all, I can't recommend highly enough giving something like this a go if the opportunity is available to you. It is reassuring to see how your research skills can be applied to pretty much anything, and I feel like that opens what you can do in the future, it did for me.



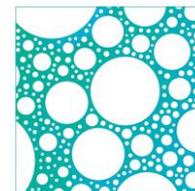
Use our LinkedIn Group to tell people your news

ACIS is now present on LinkedIn. Please join our LinkedIn group and post discussion items on job ads, conference calls, and interesting facts about the wonderful world of colloid and surface science.



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Activities

Join our Awards, Communications, Conferences and Events Committees

ACIS needs its members to be actively engaged. Please let us know if you would like to be involved in the committees that will run the activities of the Society: *Awards; Communications; Conferences and Events*. Or if you would like to propose other activities we should be running. **We especially invite students and early-career researchers to become involved.** Please email your interest to acis@colloid-oz.org.au.

Sponsorship of Events

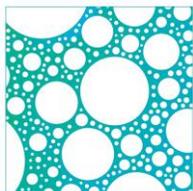
ACIS Sponsorship is available for events (symposia, workshops, industry networking events, and short courses) held in Australia or New Zealand and organised by ACIS members for the benefit of the colloids and interface science community. Prospective event organizers, who wish to request ACIS endorsement and sponsorship, should supply the information requested in the form available on the website <http://colloid-oz.org.au/> at least three months in advance.

Visiting Scientist Register

Are you planning to host a visit by an outstanding scientist in the colloid and interface field? Why not let ACIS members know about the visit? We aim to keep track of visiting scientists, to facilitate their introduction to the Australasian scientific community. Please email details of the visit to acis@colloid-oz.org.au.

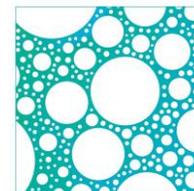
ACIS Membership

Please encourage your colleagues, students and industrial partners working in the field of colloids and interface to join us. General membership is \$100 per annum. The membership year is from 1st July each year. Memberships paid after this date are valid until 30th June of the following year. More information is available on our website <http://colloid-oz.org.au/>.



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Future Events

7th Advances in Microfluidics & Nanofluidics (AMN), the 9th International Symposium on Microchemistry and Microsystems (ISMM) and the 5th Asia-Pacific Chemical and Biological Microfluidic Conference (APCBM) together with the 8th Australia New Zealand Nano-Microfluidics Symposium (ANZNMf) (26 - 29 June, 2017, Tasmania, Australia)

Abstract submission for posters accepted until 5th June 2017, or until the maximum number of 200 delegates has been reached. <https://anznmf.com/>

Nanotechnology Entrepreneurship Workshop for Early Career Researchers Future Industries Institute (12 – 13 July, 2017, South Australia, Australia)

Abstract submission closes on 30 April, 2017. http://ausnano.net/content/ecrphd_17

European Colloid & Interface Society (ECIS), (3 – 8 September, 2017, Madrid, Spain)

Abstract submission for oral presentation closes on 30 April, 2017, and for posters on 30 May, 2017. <http://www.ecis2017madrid.com/>

91st annual meeting of the American Chemical Society Division of Colloid and Surface Chemistry (9 – 12 July, 2017, New York, USA)

Abstract submission closes on 15 April, 2017. <http://www.colloids2017.org/>

UK Colloids, (10 – 12 July, 2017, Manchester, UK)

Abstract submission for oral presentations closes on 18 April, 2017, and for posters on 12 June, 2017. <http://www.rsc.org/events/detail/25628/uk-colloids-2017>

The 2nd International Conference on Advanced Functional Materials (ICAFM) (4 – 6 August, 2017, Los Angeles, USA)

Abstract submission closes on 5 May, 2017. <http://icafm.org/>

7th Complex Motion in Fluids Summer School (24 – 29 September, 2017, Cambridge, UK)

Abstract submission closes on 1 May, 2017. <http://complexmotion2017.damtp.cam.ac.uk/registration.html>

The 7th Asian Conference on Colloid & Interface Science (8 - 11 August, 2017, Kuala Lumpur, Malaysia)

Abstract submission closes on 15 May, 2017. <http://umconference.um.edu.my/ACCIS2017>

The 21st International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS) (22 – 26 October, 2017, Savannah, Georgia 31402 USA)

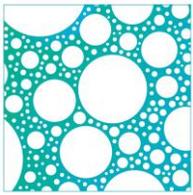
Abstract submission closes on 25 April, 2017. <http://www.microtas2017.org/>

17th Food Colloids Conference (8 – 11 April, 2018, Leeds, UK)

Abstract submission opens 4 September, 2017, and closes on 8 December, 2017. <http://www.foodcolloids2018.co.uk/>

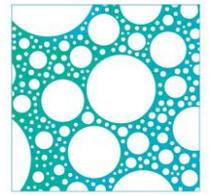
7th International Colloids Conference (18 – 21 June, 2017, Sitges, Barcelona, Spain)

Abstract submissions open for posters only, closing soon. <https://www.elsevier.com/events/conferences/international-colloids-conference>



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Job Ads

Research Associates, Engineering, University of South Australia

The School of Engineering at UniSA is seeking to appoint two research associates in the field of biomedical engineering related to understanding the interaction of biological entities within functional interphases and to the development of new antibacterial coatings capable of responding to external stimuli. The closing date is 8 May 2017. The posts are advertised at:

<https://www.timeshighereducation.com/unijobs/en-au/listing/53385/research-associate-in-engineering/>

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Please email us ads for PhD and postdoc positions in the area of colloids and interfaces.

The Newsletter team is:

Catherine Whitby – C.P.Whitby@massey.ac.nz

Chiara Neto - chiara.neto@sydney.edu.au

Liam Scarrett - lsca1817@uni.sydney.edu.au

