

JANUARY 2022 | ISSUE 3

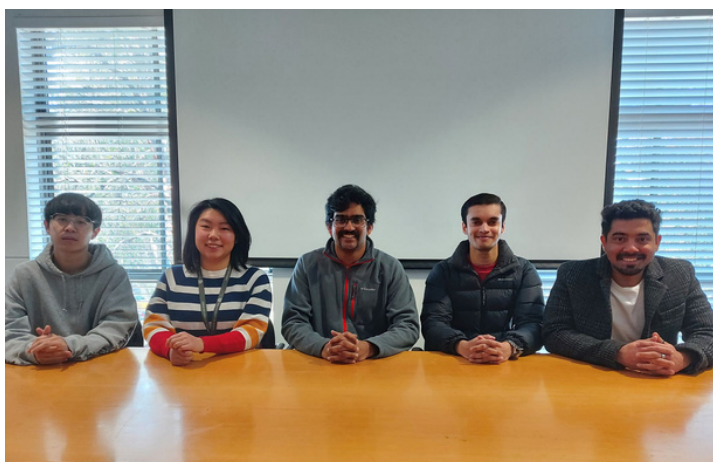
# PGSC NEWSLETTER



An update of all postgraduate activities in the *School of Chemical & Biomolecular Engineering*



## WHO ARE WE?



**L-R:** Wenjie Yang (*Vice-President*), Yanxi Yu (*Vice-President*), Pradeep Murthy (*President*), Hashim Jalil Khan (*Treasurer*), Upalee Labhane (*Secretary*)

*We are a group of highly technical and devoted Chemical Engineering PhD students at USYD.*

*We organise various professional and social events to benefit the CBE research student cohort.*

*Our goal is to improve both the culture and development of the CBE students heavily interested in research.*

## CONTACT US



**USYD.CBE.PGSC@GMAIL.COM**



**SCHOOL OF CHEMICAL AND  
BIOMOLECULAR ENGINEERING  
UNIVERSITY OF SYDNEY**



**@CBEUSYD**



**CBE AT UNIVERSITY OF SYDNEY**

# SOCIAL EVENTS

## END OF YEAR EVENT

24 November

CBE held its **end-of-year party**, consisting of our traditional and popular trivia event, hosted again by **Pradeep Murthy**! Try an example set of questions below...

Once again, the trivia was challenging, yet fun and so many students took part!

Congratulations to the winning team **No Crusts** for their final score of 73.5/100. Big thanks to **Athiya Azeem** and **Jack Naylor** for their help in setting up the trivia and co-ordinating the event!

Science &  
Technology  
(10 points)

1. Into which carbonaceous substance will diamond eventually degrade?
2. The first railways in Britain were built by the *navies*, but what does the term *navvy* mean?
3. What is the unit *candela* used to measure?
4. If you suffer from rhotacism, which letter of the alphabet are you unable to pronounce?
5. The antimony pill, made indeed out of the poisonous metalloid antimony, was used in the 19<sup>th</sup> century for what remedy? Why was it known as the *everlasting pill*?
6. What is  $1 \times 10^{100}$  also commonly known as?



## GRUDGE MATCH

20 October

The annual **futsal grudge match** made its epic return this year!

All the blood, sweat and tears that the PG student team put in...still couldn't defeat the staff team! Well done, staff! Congratulations to the **UG student team** for their win! And nice try **Prof. Abbas**...you can't get away with everything just because you're the head of school!

Big shout to **Behdad Soltani** and **Jacopo Giaretta** for refereeing!

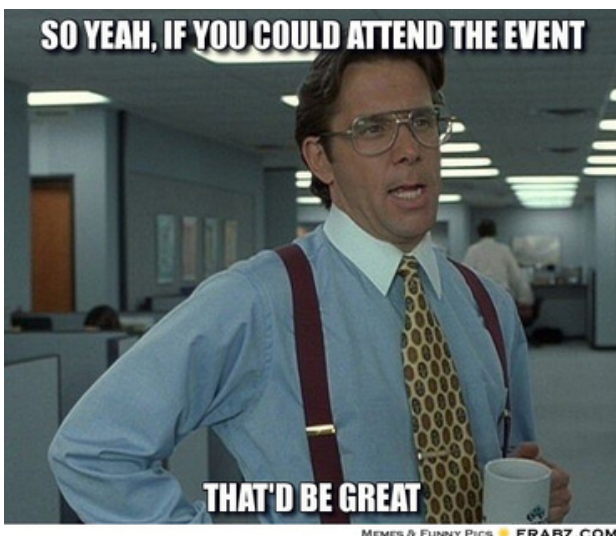


# SOCIAL EVENTS

## BASKETBALL!

October 12

Our **Basketball games** brought a lot of excellent talent from our very own engineering school to the **USyd Aquatic Centre**! Within our 2-hour booking, we played a bunch of mini games to burn some calories and get ourselves away from the desk! To help with our fierce competitiveness, plenty of fruits, snacks and beverages were provided. Thanks to everyone for coming along!



# RESEARCH EVENTS

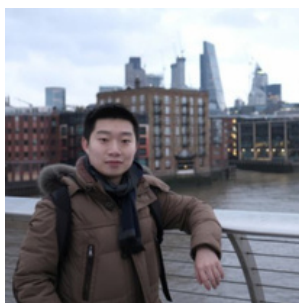
## IR SPECTROGRAPHY SEMINAR

29 November

CBE PGSC held an online research seminar, based around the incorporation of **infrared-based technologies** to study the material and reaction mechanistic properties of catalysts. The talk was excellently delivered by **Dr. Yaolin Wang** from the University of Liverpool. A late night presentation, yes, but well worth it!

Through this seminar, we learnt a lot about how we can identify hidden materials or compositions within the catalyst, how the catalyst might behave during the chemical reaction (i.e., which intermediate pathway might the material prefer).

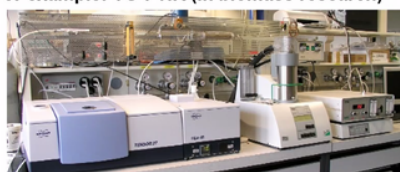
Thank you, Dr. Wang! I'm sure that everyone found the talk very entertaining and inspiring and will utilise it as part of their research.



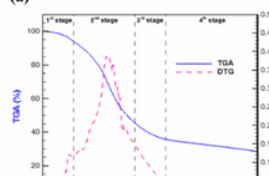
### Transmission IR spectroscopy

Combination with other characterisation

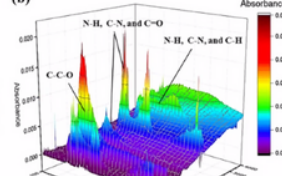
For example: TG-FTIR (in biomass research)



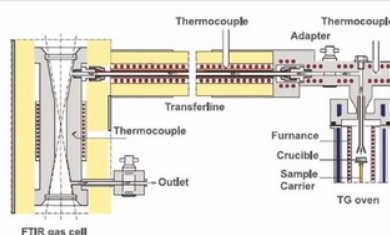
(a)



(b)



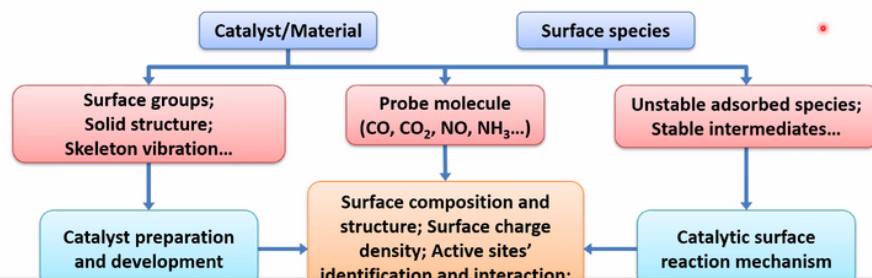
(a) TGA and DTG pyrolysis of Actinobacillus succinogenes, and (b) 3-D profiles of FTIR spectra of evolved gases during



### What information can FTIR provide?

- ✓ It can identify unknown materials
- ✓ It can determine the quality or consistency of a sample
- ✓ It can determine the amount of components in a mixture

### In the study of catalysis





# RESEARCH EVENTS

## ACADEMIA TO INDUSTRY

18 October

We held another very entertaining research-based seminar earlier this year, to which over 50 HDR students were in attendance from across engineering (either in-person or online).

This excellent talk was provided by **Prof. Andrew Harris**, who has a myriad of experience in research, having obtained his PhD at the prestigious Cambridge University, as well as in industry, having worked for Laing O'Rourke and with start-ups, such as Novalith and BioScout! As such, his talk was about the **transition from academia to industry**.

His key pointers were that **innovation** is indeed everywhere and with the key aim of creating benefit, of course! Research can only take you so far on its own and it's up to us to decide if whatever we are working on can easily make it to the market! And, of course, we should always have a plan and vision towards achieving it!

The presentation was very entertaining and enlightening! Thank you, Professor! If you did not have a chance to come along to the talk, you can watch it [here!](#)



# ALUMNI

*Below is a list of students who have recently completed their research thesis in 2022/3. These students have taken an extensive amount of blood, sweat and tears over several years to get their contribution to research developed, completed and circulated. This is not an easy task and so they should be truly congratulated for their hard and dedicated efforts!*

Please connect with us on [LinkedIn](#) for future updates about current and past students, professors, staff, etc. or even CBE activities.

## Student

*Chang Liu*

*Lizhuo Wang*

*Gholamreza Vahedi Sarrigani*

*Julia Ciarlini Junger Soares*

*Zhe Gong*

## Supervisor

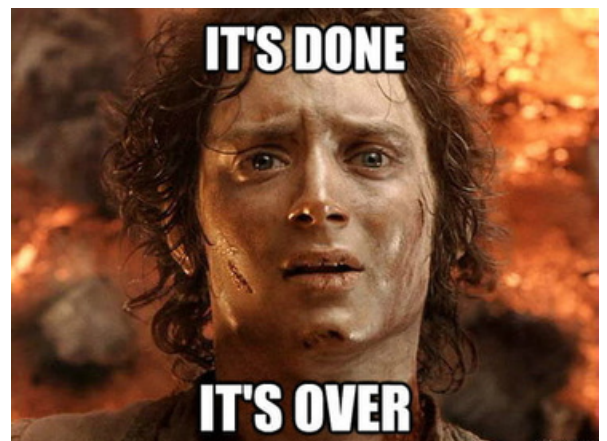
Li Wei

Jun Huang

David Wang

Alejandro Montoya

Ali Abbas



# OTHER NEWS

## GOODBYE, TEAM!

The PGSC team has been hard at work for the last two years, with many social and professional events having been held! But, it will surely be managed well in new hands, as **Pradeep Murthy**, **Wenjie Wang** and **Yanxi Yu** will be stepping down from their respective Presidency and Vice-Presidency roles. **Hashim Jalil Khan** and **Upalee Labhane** will remain on the team and will be joined by new members. Good luck to the new team! We will certainly be supporting you!

## NEW EMAIL AND WEBSITE!

Just to let you know, we have a new **email address** and **website**!

Please reach out to us via email ([usyd.cbe.pgsc@gmail.com](mailto:usyd.cbe.pgsc@gmail.com)) in case you had any major queries or ideas to share!

Also, check out our new website (<https://usydcbepgsc.github.io/>) to learn more about us or know about any upcoming events!



## FUTURE EVENTS AND NEWSLETTER CONTENT

As this is our second newsletter, we will be including more content over time, with ideas such as:

- Honouring researchers or research students for their achievements or publications
- Major PG student milestones for the year (e.g., conferences, competitions, etc.)
- Alumni interviews
- School and faculty updates
- Industry and research talks

If you would like to share any ideas around for us to contribute to the newsletter or even suggest new event ideas, then please email us with your ideas. Thanks!







***THANK YOU FOR READING!***

***FOR THOSE ABOUT TO  
WORK...WE SALUTE YOU!***