

**Asian
Physics
Olympiad**

Adelaide, Australia | 5–13 May 2019

GRAVITAS

APhO 2019 NEWSLETTER
ADELAIDE, AUSTRALIA
VOL. 4 9 MAY 2019

Gravitas was inspired by the Latin word for 'Gravity', it being the fundamental force of nature that holds our universe together - much like the passion for physics that binds people of diverse backgrounds and aspirations at a momentous occasion like APhO.



KOALA-TY TIME

Printed by Toshiba

INSIDE

**UP-CLOSE WITH OZ'S
LOVEABLE MARSUPIALS**

Visiting South Australia's
wildlife sanctuary home

ON-CAMPUS TOUR

Insight into cutting-edge
facilities

**EXPERIMENTAL
EXAM**

Working around the
clock for the final exam

UNIVERSITY EXPERIENCE

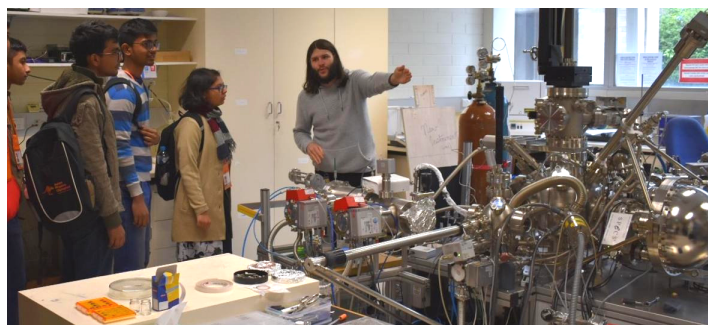
A GLIMPSE INTO THE FUTURE

After a memorable Australian wildlife encounter, APhO students had a peek into Australian university life at Flinders University.

Following a warm welcome from the university's Vice President and Executive Dean Professor Alistair Rendell, the students heard from Associate Professor Sarah Harmer-Bassell who spoke about *'What it's like to be a Physicist in 2019'*.

She used the example of mineral mining, an industry taking up 5% of total electricity costs, to demonstrate how cross-discipline collaborations can help solve global challenges. Recent PhD graduate Dr Yanting Yin also gave the students some insider's guides about studying abroad and his experiences as an international student himself.

The university visit wrapped up with an eye-opening physics lab tour, exposing APhO students to some of the most cutting-edge facilities in the College of Science and Engineering.



Researchers from Flinders University also explained the features of several unique techniques involved in ongoing research, including the Metastable Induced Electron Spectroscopy (MIES), which can determine the molecular structure of the outermost layer of a sample by measuring energy spectra.



**DIYAR
TULENOV**
Kazakhstan

"I found the speech from Professor Rendell the most interesting. I got to know who Flinders was and how the university was founded. I also got to learn more about the history of the UK and Australia. I feel like the university life in Flinders must be very fascinating and motivating."



**NIYATI MANISHKUMAR
MEHTA**
India

"The lab facilities are quite different from what I've seen in our country. It's an eye-opening experience to me as I haven't carried out many experiments in my school yet. I'd love to pursue a research career in physics or related fields in the future."



**SHEIKH
SHAFAYAT**
Bangladesh

"I found Dr Yin's speech inspiring because he followed his curiosity and eagerness to learn new things. He found out the knowledge gap when he worked in the solar panel company, then he decided to fill the gap by doing a PhD."

INNER-WORKINGS OF A PAPER TRANSLATION



**Associate Professor
Vyacheslavs
Kashcheyevs**

While students were out enjoying a nature-filled day, Team Leaders were involved in the second round of translation of the final examination papers. "The purpose of the paper translation is to take away any language comprehension efforts without adding any hints so that the only thing left for students to solve is physics," one of the Head Markers, Associate Professor Vyacheslavs Kashcheyevs shared.

This expert in quantum physics is part of the International Academic Committee of European Physics Olympiads. He has since been involved in the International Physics Olympiads (IPhO) for over a decade. His connection with physics Olympiads dates back to 1996 when he won a bronze medal in the 27th IPhO in Norway. "It's a privilege to be able to use my expertise to help the young generation of physics students discovering their talent," the Physics Olympiad medalist said.

The team leaders had been through a challenging time discussing the experimental paper, "They dived into the problems to develop a full understanding of exactly what's going on and what their students are supposed to do," Associate Professor Kashcheyevs said. He appreciated the essential role Team Leaders played in helping students to perform at their maximum capacity, saying, "Their expertise in physics enables the translation to be as comprehensive and concise as possible, to the extent that any non-English speakers wouldn't come across any language barriers."



COSYING UP TO AUSTRALIA'S WILDLIFE

APhO students continued their exploration of Australia's native land yesterday with a more than exciting trip to the Cleland Wildlife Park.

Some being unsure of what was in store for them, it did not matter that the unpredictable weather brought cloudy skies and a breeze of 16°C through the serene atmosphere, which buzzed with thrilled teenagers all at the same time.

The Park is home to many native Australian wildlife, these including the kangaroo, koala, emu, wombat, dingo, Tasmanian devil and several bird species. It was clear that the favourites of the lot were the ever-curious kangaroos and cuddly koalas as students spared no time in getting within inches of these lovable marsupials.

"It was the first time I came in contact with these animals and it was a great experience feeding the koalas and kangaroos," said Rawan Alghamdi, student from Saudi Arabia who did not shy away from petting the curious grey kangaroos. "It was also a great choice bringing us here after the exams so we can change our moods and get ready for tomorrow's exam," she added.

For Russia's Irina Lialikova, it was also a pleasant change of pace from the challenging days before. "We have some places like this in Russia, but we have different animals, nature and landscapes, so it has been wonderful for me. I just adore the nature."

The animals were equally eager to cosy-up to students, strutting their waddles or hopping about getting close to students.

"This is great because you can directly interact with them. At the zoos back in my country you cannot touch the animals, they are in cages. We really like the environment here and it was relaxing, with fresh air, it's really nice," said Turkish student Mert Unsal.

To Dhruv Kumar Gupta of India, his first time in Australia was complemented by the opportunity to wander the park alongside the animals.

"I'm seeing the emus, kangaroos and wallabies for the first time and it's really amazing. When we heard we were going to Cleland Wildlife Park, I was really excited because I knew we could do these exciting things."



AUSSIE WORD OF THE DAY

'FAIR DINKUM'

Slang for 'fair' or 'true', this phrase is often used to proclaim a confirmation.

E.g. "That's fair dinkum!"

WEATHER



Rainfall

High 15° Low 15°

Don't leave without your umbrella!

JOIN THE CONVERSATION

    @apho2019

 apho2019.asi.edu.au

ACKNOWLEDGEMENT OF COUNTRY

Kaurna miyurna, Kaurna yarta, ngadlu tampinithi

The Asian Physics Olympiad Committee acknowledges that we are meeting on the traditional country of the Kaurna people of the Adelaide Plains.

We recognise and respect their cultural heritage, beliefs and relationship with the land. We acknowledge that they are of continuing importance to the Kaurna people living today.



HAPPY BIRTHDAY!

SIOBHAN TOBIN

Team Leader, Australia

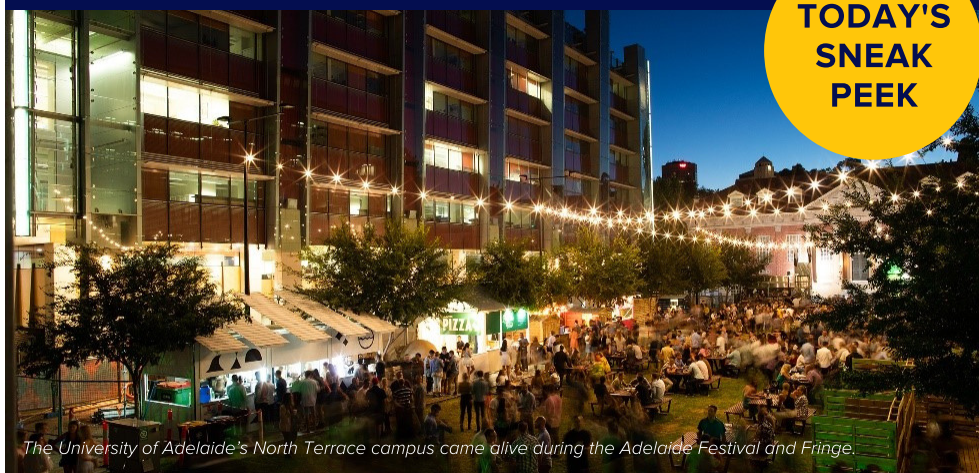
AUSTRALIA'S PHYSICS TRAILBLAZERS

Professor Brian P. Schmidt is an American-born Australian astronomer who shares the 2011 Nobel Prize in Physics with Saul Perlmutter and Adam Riess. They discovered that the expansion of the Universe is accelerating by observing exploding stars, called supernovae. He said the Universe is expanding in a way that galaxies and stars are moving away from one and another. The scientists could also estimate how fast the Universe spreads out by measuring the movement of the light emitted by supernovae.

ADELAIDE INSIDER

Brought to you by The University of Adelaide

TODAY'S
SNEAK
PEEK



The University of Adelaide's North Terrace campus came alive during the Adelaide Festival and Fringe.

ADELAIDE, THE FESTIVAL CITY

We hope you are enjoying your time here in Adelaide. You might be interested to know that Adelaide has been recognised as one of the best festival cities in the world and regularly hosts world-famous events and festivals that showcase our exceptional food, wine, sport, art and vibrant city life.

You've probably already noticed that Adelaide is a walk-able city. Getting around is easy. Being a smaller city, you can feel the festivities in the air whatever part of town you are in. Our events really do take over the city.

During February and March, the University of Adelaide opened our main campus to over 220,000 new visitors as we became the beating heart of one of the world's most popular cultural events; The Adelaide Festival and Fringe. We proudly played host to performers from all over the world, and people of all ages enjoyed the lively atmosphere at the University's historical and iconic grounds.

The University's North Terrace campus is a vibrant hub within the city centre for students, a destination for everyone, including school children, cultural connoisseurs, tourists, business leaders, athletes, future students and more, as well as our staff, their families.