

# ACS STEM NEWSLETTER

Issue: Summer edition 2024

## National Space Academy event

05 June (Year 10 Triple Science)

On Wednesday 5<sup>th</sup> of June, sixty-five of our Year 10 triple science students took part in a unique workshop run by the UK Space Academy. Many thanks to our science teacher Dr Mahmood for his tremendous efforts to secure our school a place for this highly sought event.



The workshop was run by Mr Mobbs, who explored with the students fascinating topics related to space, including careers available in the sector, besides being an astronaut (e.g. space lawyer amongst many others).

The students also had the opportunity to see samples from the moon, learn about various space missions, and inspect a real astronaut suit, which was worn by one of our students.

Towards the end of the workshop, the students were taught how to make space rockets and then launched them outside.

Everyone really enjoyed the event and we are very thankful to Mr Mobbs and the National Space Academy for delivering such an interesting and engaging workshop for our students.

“The workshop was very engaging and informative. It gave us the opportunity to learn about the different jobs within the space sector, and what it is like to be an astronaut and how normal things for us (on Earth) are the polar opposite in space. We also had the opportunity to make rockets and launch them outside in the playground, which taught us about a rocket’s key features and roles. This workshop helped me get a new perspective on space physics and the variety of jobs within the sector”. (Student, Y10)

“The workshop was really interesting and Mr Mobbs was a very engaging speaker. We learnt about how spaceships are launched and how astronauts live in space. It was quite intriguing.

We also had the opportunity to see a real astronaut suit, and it was interesting to learn about its intricate features and how careful you have to be while wearing one. The best part of the workshop was designing paper rockets. I enjoyed working with my colleagues and although the results were not what we expected, the experience was really fun". (Deep, Y10)

## **UCL ORBYTS EDUCATIONAL PROGRAM & CONFERENCE**

03 July (Year 10)

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On Wednesday 3 July, our science teachers Dr Mahmoud and Ms Khalil accompanied a group of our Year 10 students to the UCL main campus in Euston to take part in the final conference of the UCL's ORBYTS educational programme.

Since January, the students attended the "UCL Quantum Club", an extracurricular science club organised and led by Dr Mahmood, as part of the [ORBYTS study programme](#), which allowed students to work with academics and get involved in a real research project. During the workshops, the students were joined by Dr Robert Banks from the UCL, who introduced them to quantum computing and worked with them on finding possible solutions to the intriguing "max-cut" problem.

The trip to the UCL campus allowed students to share their work with other schools and discuss their research. The day started with a tour of the campus, followed by presentations delivered by all participant schools. The students also prepared posters summarising their work, which were displayed in the main hall, akin to how PhD students and academics share their work with the global research community. Our students were divided into two groups: one group stood next to their posters and answered questions about their work, whilst the other group walked around and inspected the rest of the posters created by other schools and asked questions about their projects. The groups then swapped around.

After lunch, students took part in a keynote talk delivered by Dr Dunn, which helped them gain a better understanding of what academic research entails. A second keynote session was delivered by Dr Jones, who took part in the same programme of study at the UCL in 2015. She talked to the students about her educational journey and how she embarked onto studying Biochemistry, followed by a PhD in neuroscience. Dr Jones is now moving to the Max Planck Institute in Germany for a postdoctoral position.

At the end of the talks, students took part in a QA session. They asked Dr Jones how the ORBYTS program supported her PhD study and they were also curious to find out what inspired Dr Dunn to research T helper cells.

“I enjoyed the trip to the UCL campus, which allowed us to present our research on quantum physics. We were able to interact with students from other schools and talk to them about our project. It was useful to learn how to present ourselves in a workplace and how to effectively communicate a topic to others. I highly recommend taking part in this programme”. (Student, Y10)

“It was great to take part in the ORBYTS project and to have the opportunity to present our research on quantum mechanics. I learnt so much about the topics the other schools researched and it was a nice way to celebrate our efforts. It was quite challenging, but very enjoyable overall”. (Nikki, Yr10)

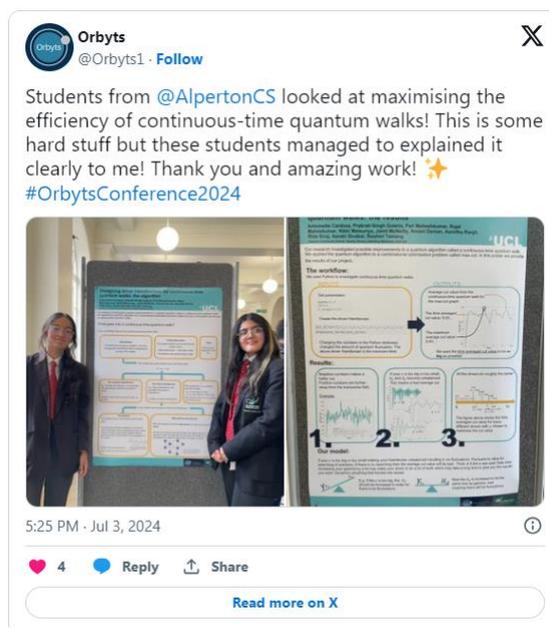
“The ORBYTS conference 2024 was an incredible and truly beneficial experience. We had the opportunity to travel to the UCL main campus, where schools from all over London gathered to present the work they had researched. Personally, I found the presentations intriguing and learnt a lot from them. Our presentation was about designing driver Hamiltonians for continuous-time quantum walks. We had 2 poster sessions, one hour each, in which we had to present the posters to students from other schools and answer questions posed to us. This was really fun and helped in building public speaking skills. At the end of the day, we were taken back to the conference room, where we listen to an inspiring talk by a PhD student about her journey from her

own ORBYTS project, nearly a decade ago, to her PhD! Overall, ORBYTS was a very motivating and impactful project and I thoroughly enjoyed it”. (Prakriti, Yr10)

“I really enjoyed taking part in the conference. I learnt so much and it was really fun to interact with students from other schools and to learn about their research project.” (Asmitha, Yr10)

“The trip was fun and educational and I enjoyed hearing about the career journeys of other academics, which taught me a lot about the possible careers in science one can follow.” (Amani, Y10)

Please see below a tweet from the ORBYTS organisers praising our students for their brilliant presentation!



We are very grateful for the numerous opportunities offered this year by our Science department to our students across the school from Y7 to Y13, as part of the enrichment and extracurricular program in science, which allowed students to expand their knowledge, engage with academic research and get a better understanding of what careers are available in this field, which hopefully will further motivate students to pursue science in their future studies.