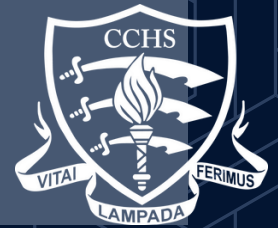


STEM News

Mrs Kurian, Subject Leader of Physics and STEM Lead



This term started with nine of our Year 12 and 13 students attending Quantum Coding Challenge Day at Institute of Physics Headquarters in London. The day featured coding challenges, talks from experts in quantum computing and discussion about various pathways and opportunities for further study and careers in physics and computer science with STEM professionals. In September, CCHS had the opportunity to host another early edition of the Institute of Physics public lecture on the topic 'Imaging the Universe'. The lecture delivered by Martin Bracken, a lifelong amateur astronomer, was well-attended by members of the CCHS community and neighbouring schools.

I am delighted to report that after a rigorous quality assurance process, Chelmsford County High School is now registered as a centre to deliver STEM Leaders Programme. 26 Year 10 students who completed their Level 1 Leadership Qualification in the last academic year have received their awards. The qualified Year 10 STEM Leaders are currently working hard to launch a lunch time club, STEM-Soc run by students for students!



The Secondary Engineering Leaders programme is also well underway, and we are looking forward to seeing their completed projects in the next term.

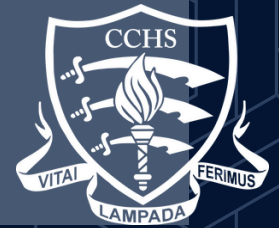


In October, our Year 7 & 8 students were taken on an amazing journey from the depths of the ocean to the far reaches of outer space through a series of interactive tasks which the students engaged in with a great deal of enthusiasm. The UK's longest running STEM Roadshow jointly delivered by BAE systems, Royal Navy and Royal Air Force was presented by Mark Greenop Associates. The topic explored various engineering challenges and solutions needed to communicate in hostile environments such as under the ocean or in deep space.



STEM News

Mrs Kurian, Subject Leader of Physics and STEM Lead



Last month, some of our Year 12 students attended lectures of speakers from both medical and engineering background at a STEM Conference organised by Drapers' Academy in collaboration with Chelmsford Science and Engineering Society (CSES) and Chelmsford Cathedral. Some of our Year 10 and 11 students were fortunate to attend the highly popular CSES -ARU Christmas Lecture by Tony Purnell, former Head of Technology at British Cycling about how engineering helped Great Britain top the cycling medal table at the Tokyo games.

Quantum Coding Challenge Day

Attending the quantum coding hackathon at IOP was a very enriching experience for us all. The day started with interesting talks from professionals in their fields ranging from quantum mechanics to computation, then a chance for everyone to take part in the intellectually stimulating hackathon (which some students from CCHS even won a prize for!), and finally ended with a career panel discussion. It was also a fantastic opportunity to network with so many other like-minded STEM students and overall, we all thoroughly enjoyed the day!

Arushi, (12 KRE)

Year 10 Engineering Club



Over the past term, a few Year 10 students were given the opportunity to take part in a lunchtime engineering club run by Mrs Kurian and Mr Bye. During these sessions we looked at a specific piece of equipment called a microbit. A microbit is a small pocket-sized computer with many different output features (such as an LED display) that you can program to perform different functions. It is a good example of how software and hardware work together to perform useful functions. We looked into different things we can code it to do and how these functions can be applied to real life problems. We focused on how small programs can be applied practically to everyday objects. For example, a simple count program can be adapted for a watch so it counts your steps when you move or a program that increases a variable up to a specific number can be used in your tv remote for the volume. We then took this a step further and thought about we can adapt the microbit to solve a problem of our own choice. We are starting to create our own projects based if this concept and I am looking forward to seeing how they turn out. Overall, it is really fun and I am learning a lot about how I can apply my knowledge to more practical situations outside the classroom.

Hannah, (10 C)



Arkwright Engineering Scholarship 2023

I began my application for the Arkwright Engineering Scholarship in November 2022.

In January 2023, I submitted my application, in which I described my interests to do with Engineering and Physics. As part of my application process, I had to work on a project which demonstrated my ability to think logically and creatively - I chose to create a ChatBot therapist using Python. While this project did not go completely to plan, the process itself was valuable as I had gained programming skills which I did not have previously.

After I had cleared the application and exam, I then had to attend an interview in April, in which I gave a presentation about my interests and the project I'd worked on, along with my aspirations for the future, and I was also asked questions

about why I had applied for the scholarship. Albeit initially daunting, the interview went smoothly and was a great experience in terms of preparing myself for future interviews (and did not require as much anticipation as I gave it).

At the end of January, I sat an aptitude exam, which, ironically, was quite enjoyable - it was completely different to any exam I had sat previously. Although I only had to complete 2 questions, each question required a large amount of planning, creative thinking and application of knowledge on circuit systems, algorithmic thinking and general scientific thinking.

In September, I received news on whether I had been granted the scholarship, and I was very pleased to discover that I had received it. Receiving the scholarship has already opened up so many new avenues - listening to the achievements of others and talks given by alumni and an RAF Deputy Commandant at the London Awards Ceremony was particularly inspiring, and I was able to talk to others with similar interests to myself. Soon I will be receiving mentorship from a member of the RAF, which I am really looking forward to. The money from the scholarship will enable me to further explore my interests and take on larger and more challenging embedded programming projects. For me, this scholarship has enabled me to have more confidence in my abilities and has increased my motivation to keep challenging myself, even if I am unsure about the outcome.

Rucha , (12 JBR)

