

Physics in Action

I had the opportunity to attend the Physics in Action conference as a school trip, hosted by Education in Action at the Emmanuel Centre in Westminster.

The day consisted of six different talks, ranging from Plutonium Space- batteries by Tim Gregory, to Integrated Quantum Photonics by Imogen Forbes.

Physics has always been one of my favourite subjects, so attending these talks was extremely interesting because they gave me an insight into how physics is used in different industries and the innovation it brings.

My favourite talk was 'Atoms for Outer Space: Taking Nuclear Science to the Skies' by Tim Gregory. He discussed how nuclear science has powered spacecraft since the late 20th century, examples being for Voyager 1 & 2. Plutonium is a waste product from nuclear reactors, and what was interesting is that the heat from plutonium can generate an electrical current that is powerful enough to fuel spacecraft. Another fascinating aspect of this is that compared to chemical batteries such as the ones in our phones, space batteries have incredibly long battery lives. Using our phone drains battery, however for space batteries, it depends on the radioactive isotope's (i.e. plutonium's) half life, which is 88 years. When Voyager 2 launched in 1977, it was provided with 470W of power; when it reached Neptune in 1989, 12 years later, it had 350W. Only 20% of its 'battery' had drained in 12 years!

Overall, I gained valuable knowledge into physics beyond the school curriculum and am grateful for the opportunity to have attended this event with my physics classmates.

Thank you to Education in Action, its host Lewis Matheson (founder of A level Physics Online!) and all the speakers from the event.

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