

Summary for the session on 05/04/23 is as follows:

On 5th April 2023, We Aryaanites had yet another evening filled with awe and curiosity as we interacted with Dr. Merlyne D'souza, one of the world leaders in the field of Electronics.

She started by telling us how she started her journey in engineering. She told us that she gave a talk on Black Holes in her 2nd Year of College itself! She told us how she started from Goa and ended up in the UK. She did her BSc from Mumbai University and Bachelor's in Electronics & Communication from the prestigious IISc Bangalore and with 2 degrees already in her pocket, she was recognised by Cambridge University and did her PhD. She beautifully emphasised on the importance of "Engineering to help the Society". She said that no matter what you do, you need to be able to convey your work to other fellow scientist. Then, She talked about IOT (Internet of Things). She told us about the new class of Amplifiers which operate at much higher Frequencies (A project she worked on). She also told us about the work she's doing towards a solution to epilepsy as, in 30% of the cases drugs do not work. She also told us about the University of Sheffield where she is a professor. She told us about the variety of Research Centres and wonderfully explained the work that each centre does. Then, she told us about the Undergraduate Courses at Sheffield, wherein you can also work for One Year in the Industry and gain Real-life experience. Then, She told us about the Syllabus of each year and how you start from scratch and go on to develop Complex Systems exploiting the power of Numerous Labs at Sheffield. Furthermore, She told us about 3rd & 4th Year Courses, where you choose specific courses to specialise in. Then She told us about the Admission and Application Process for the Universities in the UK.

Then, we began with our first Q&A Session and She beautifully instructed the students on starting their own research and how the most fundamental thing is to find a problem to solve and then find the most efficient solution. Then, we moved onto the 2nd Section of the session. She emphasised on transistors and showed us some examples to show us how they help us in everyday life. First, she asked the question what a transistor is, and went onto explaining how it works on an Atomic Level. She wonderfully explained what N-type and P-type Doping is, and how they contribute to Different types of transistors. She explained how each transistor regulates temperature and speed at a molecular level and how it contributes to the overall performance of the computer. She also went deep into how computer processors work and also showed us the developments in transistor size over time. She wonderfully explained Electron Tunnelling with the example of a mountain climbing. Furthermore, She expanded on what a Capacitor is and explained negative and positive capacitance with detailed graphs. Finally, She summarised the session by commenting on what the Future holds for engineering.

The message we get from her story is — Life Never Goes Blunt, everyday there are new and exciting experiences to discover which sharpen your Life.

This session really took us outside the book covers and focussed more on the practical aspects of engineering, Thank You Ma'am it was my privilege to propose Vote Of Thanks to you, this session was just a delight! Last but not least, I would like to thank our director Sir VPD who made this session possible, Thank You sir for constantly exposing us to such superiorly skilled and hardworking people whom we all look upto.

Written By,

Shreyas Kamat

(12th Reg)