LUCIDUS
NOVEMBER 2020 PHYSOC NEWSLETTER

15 Minute Physics

An Introduction to Simulating Inertial Confinement Fusion

by Abetharan Antony

12:30 on December 1st

Join us here

Do you want to get into fusion research? Here's an excellent opportunity to learn more about the cutting-edge research in inertial confinement fusion and get to talk to a postgraduate about what a life in research is like. The next talk in our 15 Minute Physics series will be delivered by Plasma Physics PhD student Abetharan Antony and will be on **"An Introduction to Simulating Inertial Confinement Fusion".** Abetharan will be introducing the field with his simulations and answering any questions you may have. The event will take place at **12:30 pm (GMT), Tuesday December 1st.** You can access the talk via the Physics Society MS Teams Channel or you can join directly here.

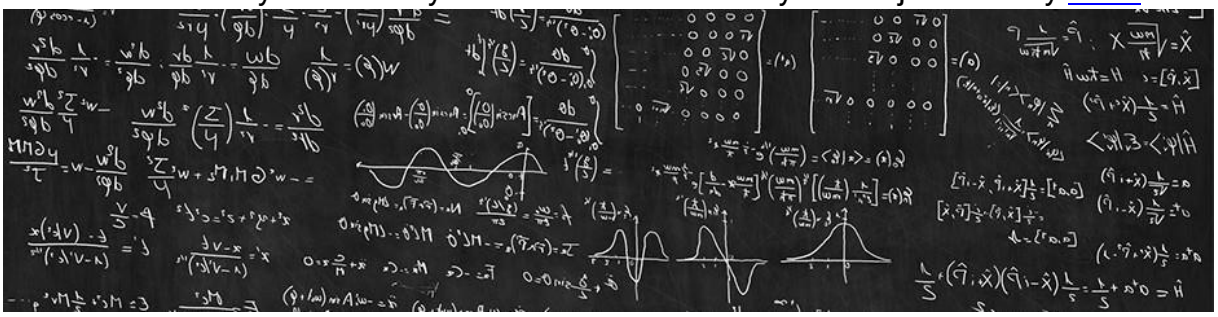


Photo Challenge Christmas Edition

12:00 on December 16th (1.5 hours)

Sign up link here

It's time to join our powers. As term starts to come to an end, **PhySoc, BioChemSoc and ChemSoc** are bringing to you one of the best socials of the year! Take some time off for fun and celebration while you join us in completing the **"Photo Challenge Christmas Edition"**. You can sign up with two friends from your department and we will match you with six others from different contributing departments, so you will get to meet new people! The event will consist of teams working to complete a set of fun challenges, taking photos as they go to win points.

Oh, and we almost forgot to say, there is **a surprise prize for the top three winning teams**!

The event will take place on **Saturday 5th December at 12-1:30 pm (GMT)** on a MS Teams event created for the event. For details of the event and the sign up link, click here.

Research Frontiers VI

Unconventional Laser from Nanostructure Materials

by Riccardo Sapienza

12:00 on December 7th (1 hour)

Join us here

Abstract: "Conventional nanophotonic schemes minimise multiple scattering to realise a miniaturised version of beam-splitters, interferometers and optical cavities for light propagation and lasing. Here instead, we introduce a nanophotonic network built from multiple paths and interference, to control and enhance light-matter interaction via light localisation. The network is built from a mesh of subwavelength waveguides and can sustain localised modes and mirror-less light trapping stemming from interference over hundreds of nodes. With optical gain, these modes can easily lase, reaching ~100 pm linewidths. We introduce a graph solution to the Maxwell's equation which describes light on the network and predicts lasing action. In this framework, the network optical modes can be designed via the network connectivity and topology, and lasing can be tailored and enhanced by the network shape. Nanophotonic networks pave the way for new laser device architectures, which can be used for sensitive biosensing and on-chip optical information processing."

The Direction of Time by Carlo Rovelli

15:00 on December 2nd
(Organised by UCL)
Zoom link here

We are very excited to invite you to our talk with Prof Carlo Rovelli next Wednesday, December 2nd, at 3:00 pm UK time. Prof. Rovelli is globally recognised for his works in physics, for his commitment to scientific communication, and for his interest in the history and philosophy of science. His main field of research is Loop Quantum Gravity, a very promising theory to bridge the differences between quantum mechanics and general relativity. His research on Loop Quantum Gravity has led him to question the nature of time, both from a philosophical and a physical point of view. His talk for the Physics Society is going to be exactly on this topic - The Direction of Time. More specifically, Prof Rovelli is going to talk about two papers he published recently, which we believe would be beneficial to read in advance.

These are:

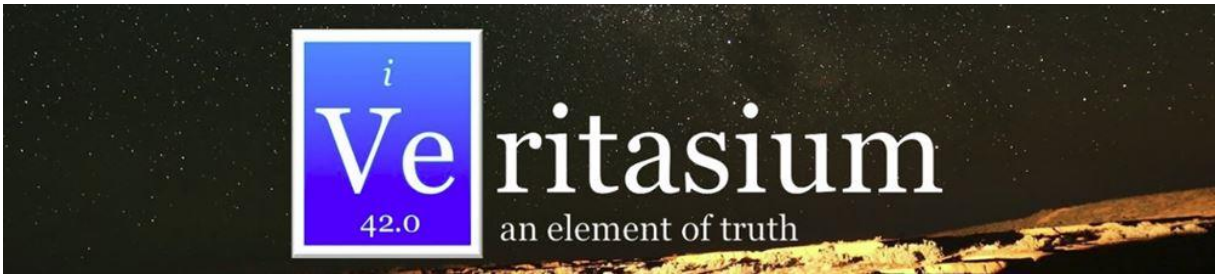
"Why do we remember the past and not the future?"

"Why can we decide what we will do tomorrow and not what we have done yesterday?"

The talk is only accessible to members of the UCL Physics Society or partner societies from other universities through the following Zoom link. No further registration is required. Please join by 2:55 pm, to allow the talk to start promptly at 3:00.

If you reached this point...you deserve a prize

The first event of the New Year will be a spectacular one... PhySoc will be welcoming **Derek Muller**, founder of the YouTube channel **Veritasium**, for a very special online talk. With almost 8 million subscribers, Derek inspires people from all around the world in every age group. Join us on **January 6th, at 5 pm (GMT)** to listen to his thoughts of YouTube, science and the impact of science communication in society! More information about the event will be coming out soon!



Jane Street tpp optiver

Messages from Our Sponsors

optiver

Dear Physoc!

Your first semester is coming to an end and here at Optiver, hope you have had an enjoyable one. We would like to send a quick message to inform you of an event which we are hosting on 19th November 16:00-18:00 GMT. In this interactive lecture, our trainer Robber Pullen will take a look at the role of market makers and the value of options in the financial landscape. It's a great opportunity to learn what trading option as a market marker is like. Be sure to sign up to join the event.

Be sure to check out our current open positions on our career site. We have positions for penultimate year and final year students. Freshers or second years of a four year course, we will be publishing our Insights day soon so be sure to keep an eye out for this.

We hope you are all staying safe during this time and have an enjoyable remainder of the year!

Jane Street

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