



# LUCIDUS

JANUARY 2021 PHYSOC NEWSLETTER



## Introduction to Quantum Computing Lecture II Quantum Sampling and Light by Dr. Steve Kolthammer

17:30 on Thursday January 21<sup>st</sup> (1 hour)

Join [here](#)

The second lecture in our series on Quantum Computing will cover experimental research in quantum computing hardware and fundamental advantages of quantum computers compared to the current digital machines. This series was created in partnership with the Department of Computing Society. The talk will be delivered by physics' very own Dr. Steve Kolthammer, whom some of you may know from the seminars on Quantum Mechanics.

Abstract from the speaker: "Sampling problems have been used to give early evidence that rudimentary quantum computers can perform calculations that cannot be completed by standard digital computers. In this talk, I'll introduce a quantum sampling problem for light. I'll aim to show how computational complexity arises in the interference of individual photons, without relying on previous knowledge of quantum physics or the theory of computation. I'll briefly share recent experimental progress and discuss some current challenges for researchers."



## Imperial Physics Review Launch!

Website Link [here](#)

Please welcome Imperial Physics Review! We are thrilled to finally launch a brand new, Blackett based, Physics Magazine, whose website you can find right [here](#)! In the last few weeks, second year students Adriana, Sara, Pepe and Santiago have been working with us, Physoc committee members Hanzhi, Marius, Lorenzo & Bilgesu to create this landmark platform. We love physics and we want to encourage people to

write, read and share ideas in physics. We will publish articles and commentaries written by students, themed around physics!

You may ask what's in it for you. Well, you can write articles on scientific topics that you love the most. If you're interested in writing for the Review, contact [imperial.physics.review@gmail.com](mailto:imperial.physics.review@gmail.com) with your idea and we will get in touch shortly after with details. Lastly, please follow us on Instagram and Facebook.



## Drawing a picture of string theory by Torben Skrzypek

12:30 on Monday January 25<sup>th</sup>

Join [here](#)

Calling on the theorist out there - this one's for you. What really is string theory and why should we care? Theory PhD student Torben Skrzypek will be answering all of your questions in our next 15 Minute Physics talk. Torben will be introducing string theory including the motivation, basic formalism, a lot of pictures and hints towards current research. Join us on Monday January 25<sup>th</sup> to learn about string theory from the expert and to ask any questions you have about doing a PhD and research in theoretical physics.

## Imperial - UCL - Oxford Inter-University Physics Conference

### Going Beyond the Standard Model

January 26<sup>th</sup> and 27<sup>th</sup>

Are you curious about what has been going on at the limits of our understanding of the subatomic world? Then come to this joint conference with speakers which are experts in the field and who work at the best universities in the country! Here are just some of the featured speakers:

- Prof. Jon Butterworth (UCL)
- Dr. Kimberly Palladino (Oxford)
- Prof. Matthew Wing (UCL)
- Dr. Jose Eliel Camargo-Molina (Imperial)
- Dr. William Barter (Imperial)

More details about the conference will be shared in the next week via an email from us.



## Women in STEM Free tickets [here](#)

The Imperial College Women in SET society is bringing their flagship conference once again: Women in STEM. The event will take place Wednesday the 27<sup>th</sup> of January at 6pm (GMT, London). You will get to meet 4 inspiring scientists who will talk about their career experiences and how they are making an impact in the world. This year WSET are bringing globally renowned researchers:

Payel Das: theoretical physics PhD currently working as the manager of the AI Science Department at IBM Thomas J. Watson Research centre in New York.

Laura Boykin: computational biologist using supercomputing and genomics to help farmers in Sub-Saharan Africa. She is also an activist and Senior TED fellow.

Elisa Oricchio: cancer researcher renowned globally for identifying a receptor that triggers tumor repression in follicular lymphoma. She has been awarded the Blavatnik Award for Young Scientists and currently works at EPFL in a laboratory named after her.

Melisa Ball: senior postdoc at Princeton. Learn about how she became a Doctor in Chemistry at Columbia University after an undergraduate education in Economics.

Get your free tickets now [here](#).

Imperial College London

WSET  
Women in Science,  
Engineering and Technology

ANNUAL  
**WOMEN IN  
STEM**

MEET INSPIRING WOMEN IN STEM AND  
GET AN INSIGHT INTO THEIR WORK AND  
CAREER EXPERIENCES

27 JANUARY AT 6 PM  
ON ZOOM

GET YOUR TICKETS NOW!

## Messages from Our Sponsors

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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!



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