

# STUDENT WEBINAR

## NEW: BRIDGING THE GAP YR 12-13: QUANTUM IDEAS IN A LEVEL PHYSICS

### FOCUS

This webinar will focus on the quantum physics topics in the first year programme of most A level Physics syllabuses which many students will be looking to be learning during the summer term 2020. The webinar will focus on the key challenges of the **photoelectric effect** and **wave particle duality** and address qualitative and problem-solving questions that are likely to be asked on these topics. The webinar is interactive, there will be tasks, activities, work set, opportunities for students to ask questions throughout. There will also be course notes for the students produced by current examiners in A level Physics.

### PROGRAMME

	TIME
<b>Welcome and Introduction</b>	4.00 - 4.05pm
<b>Einstein and Planck's idea</b>	4.05 - 4.15pm
<ul style="list-style-type: none"> <li>● Simulation of the key experiment (Phet); how to visualise the quantum world</li> <li>● The wave model versus the quantum model; how to compare the two models</li> <li>● What exactly is a quantum?</li> </ul>	
<b>The Photo Electric Effect</b>	4.15 - 4.30pm
<ul style="list-style-type: none"> <li>● Focus on Einstein's key equation</li> <li>● Defining the key terms used in the equation</li> <li>● Using the Einstein equation to analyse exam questions</li> </ul>	
<b>Wave Particle Duality</b>	4.30 - 4.40pm
<ul style="list-style-type: none"> <li>● What is the experimental evidence for electron waves (Phet)</li> <li>● What does the de Broglie equation actually mean?</li> <li>● Using de Broglie to solve problems</li> </ul>	
<b>Tricky Problems</b>	4.40 - 4.50pm
<ul style="list-style-type: none"> <li>● Student activity: answer selected exam questions</li> <li>● Analysis of the mark scheme</li> <li>● What are the examiners looking for?</li> </ul>	
<b>Describe/Explain Questions</b>	4.50 - 5.00pm
<ul style="list-style-type: none"> <li>● Student activity: answer these questions</li> <li>● Analysis of the mark scheme</li> </ul>	

### DATE

Thursday 24 September 2020

### WEBINAR LEADER

**Tony Dunn** has taught for over 30 years in secondary schools and sixth form colleges, mainly in inner city areas, specialising in A-level Physics. He was Head of Science for 12 years and spent several years training Physics teachers in SE Asia. He has been an examiner for OCR A-level Physics for the past five years and developed CPD courses, webinars and student conferences for Keynote for over a year.

### FOCUS POINTS

- Provide a deepening of knowledge and skills of first year topics as a bridge towards the second year of you're a level Physics studies
- Experience a unique opportunity to hear from an experienced examiner in A level Physics
- Gain top level advice and guidance on how to access the higher grades in examinations
- Enhance your understanding of key areas of Physics, all linked directly to the exam papers
- Take away a full set of conference notes, with examination tips and example answers

### WHY SHOULD YOU BOOK A STUDENT WEBINAR?

- ✓ Give your students the edge to find out directly from examiners how to maximise their achievement potential
- ✓ Consolidate and deepen key knowledge essentials
- ✓ Listen to and discuss exemplar work
- ✓ Find out more about the key challenges and what the examiner is looking for in top quality work