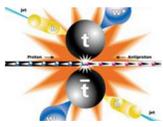


Wednesday, 22nd September 2021 [webinar]

- Dr Clara Nellist, ATLAS Experiment, CERN

On top of physics: studying nature's heaviest building block



The top quark is the most massive known elementary particle in the Standard Model of particle physics, although the reason for its large mass is not fully understood. Due to its unique properties, the top quark is potentially sensitive to effects of as-yet undiscovered new physics.

Scientists at the Large Hadron Collider at CERN study this particle in precise detail hoping it will help to explain mysteries of the Universe, such as the origin of Dark Matter.

Monday, 4th October 2021 [Live]

MALVERN • Coach House Theatre, Malvern.

Malvern Festival of Innovation. 7:00pm

In conversation with Rory Cellan-Jones

For details and to register see www.festival-innovation.com

Tuesday, 19th October 2021 [webinar]

- Dr Tina Potter, Cavendish Laboratory, Cambridge Univ.

Seeing the invisible: the Dark Matter puzzle



Dark Matter is one of the biggest puzzles in science today and we know very little about it. The LHC at CERN has been built to try and understand some of the long-standing questions in science and is being used to search for new particles that could explain Dark Matter. We will discuss the LHC and ATLAS; show how and why

we search for new particles predicted by Supersymmetry and learn of the latest results. As the LHC program moves into its final stage, what further secrets of the universe will we uncover?

Tuesday, 23rd November 2021 [Live]

26th Annual Public Science Lecture, Huntingdon Hall.

- Dr Martin Khechara, Associate Professor for STEM, University of Wolverhampton

The most dangerous experiments in physics



In this highly interactive, definitely ridiculous and probably dangerous science show, Dr Khechara will explore some key principles of physics, including motion, temperature, electricity and magnetism to show the audience some of

the best and most spectacular demonstrations that can be carried out on stage.

For Huntingdon Hall: admission is only by ticket. These are free from the Box Office from 1st Sept.

Tuesday, 7th December 2021 [Live or webinar TBC]

WORCESTER • University of Worcester.

Predicting the risk posed by tropical and extra-tropical cyclones



Extra-tropical and tropical cyclones impact society around the globe. We will discuss the latest assessments of the risk of occurrence and uncertainties. Based on the latest modelling and analysis techniques,

the possibility of predictions will be discussed. Focus will be on time scales beyond the synoptic weather forecast, from seasons to decades and to the end of the century.

Tuesday, 18th January 2022 [Live or webinar TBC]

WORCESTER • University of Worcester.

- Dr Adam Booth, School of Earth and Environment, University of Leeds

Physics in the freezer: seismology on polar glaciers



Predicting the evolution of glaciers is crucially important for quantifying global sea-level rise. Geophysical imaging is a valuable part of a glaciologists toolkit, allowing us to determine ice thickness, measure the

internal structure of glaciers and characterise the interplay between ice and meltwater.

TBA, February 2022

Joint with  

HEREFORD • Hereford University Centre

- Speaker & title to be announced



Event planning in progress.

Monday, 28th February, 2022

Joint with 

WORCESTER • Fownes Hotel, Worcester.

- Dr Mohammed Jahangir, Dept. of Electronic, Electrical and Systems Engineering, University of Birmingham

Quantum timing devices giving conventional radar a new facelift



Accurate timing is central to modern communication, navigation and sensing systems. For radar the advent of ultra-low noise quantum devices will transform the detection of small objects and greatly enhance a radar's performance.

Tuesday, 15th March 2022 British Science Week

MALVERN • Malvern St James School

- Professor Andrew Newsam, Professor of Astronomy Education and Engagement at Liverpool John Moores University and Director of the National Schools' Observatory

Exploring the dynamic universe



The Universe is an, ever-changing place full of extremes - from Black Holes to asteroids, massive exploding stars to elusive distant planets. Developments in robotic technology enable astronomers to build high-tech telescopes that allow them

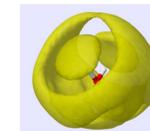
to observe changes in the universe on timescales from seconds to years, all without leaving comfort of their homes or offices. So, how are astronomers using these new methods to explore the universe? And how can you help?

Tuesday, 5th April 2022

WORCESTER • University of Worcester.

- Dr Alan Soper, FRS, former STFC Senior Fellow, Rutherford Appleton Laboratory, Harwell, Oxfordshire

Water: the enigma with many variations!



Although water is very common in our world it is, in fact, a highly complex material which elicits much controversy. Is it really a mixture of two liquids? Does it really exhibit a liquid-liquid phase transition when compressed at low temperature? The list of so-called

"anomalies" of water is seemingly endless. I will attempt to survey what we know about water based on the various experimental approaches that have been adopted.

Wednesday, 11th May 2022

Joint with 

WORCESTER • University of Worcester.

- Dr Tom Muxlow, University of Manchester, Jodrell Bank Centre for Astrophysics

The e-MERGE Deep Galaxy Survey - a window on deep time



The e-MERGE deep radio survey is imaging radio emission from star-formation and Active Galactic Nuclei activity in thousands of distant galaxies spread across cosmic time. The survey will help us investigate the processes which govern the co-evolution of the

stellar population and the central nuclear massive black hole in galaxies.

** Please see: <https://events.iop.org/> and then search Midlands for the latest info. **

Tuesday 5th October 2021**MALVERN • Live event.** (See: www.festival-innovation.com)**Next Generation Innovators****Sponsored by IOP**

This is a science event for Years 7 to 9 pupils. There will be demonstrations and lectures for Schools and Home Educators (registration essential). This is a full day of talks and hands-on science & engineering.

Monday to Saturday 4th - 9th October 2021**MALVERN • Malvern Theatres**

(See website above)

Malvern Festival of Innovation

Today we need to innovate more than ever: the way we do business, the way we use resources; the way we live. We need new ideas to stay competitive, new technologies to improve lives, and new insights to lead the way. Join us to discover what's coming next and to learn how others are innovating.

Including ...

Saturday 9th October - Family Show: Be enlightened and inspired by the Family Show speakers (tickets required) and explore the hands-on exhibits (free) staged in the Malvern Theatres. For lecture tickets please see the website.

Saturday 25th June 2022 (TBC)**MALVERN • Priory Park (bring a picnic!)****Science in the Park****Sponsored by IOP**

FREE! Join us for a fun and exciting day exploring the wonders of science and technology. Collect the stickers and do experiments. Outdoor activities for all the family.

Venues**Coach House Theatre**, Malvern, WR14 3HA**Fownes Hotel**, City Walls Road, Worcester. WR1 2AP.**Hereford University Centre**, Herefordshire and Ludlow College, Folly Lane, Hereford. HR1 1LS.**Huntingdon Hall**, Worcester. WR1 3LD.

Box Office: 01905 611427

Malvern St James, Avenue Road, Malvern. WR14 3BA.**Malvern Theatres**, Grange Road, Malvern. WR14 3HB.**University of Worcester**, St. John's Campus, Worcester.

WR2 6AJ. (Go to Reception in Edward Elgar bldg.)

The **Institute of Physics** is a leading international professional body and learned society, established to promote the advancement and dissemination of physics.

The Institute has a world-wide membership and has a major international presence in:

- scientific publishing and electronic dissemination of physics;
- setting professional standards for physicists and awarding professional qualifications;
- promoting physics through scientific conferences, education and science;
- policy advice.

Details about the various grades of membership and of professional qualifications can be found at <http://www.iop.org/membership/>
Undergraduates, Trainees and Apprentices can join the IoP as an Associate Member.

For further information

Institute of Physics - Hereford and Worcester Centre:

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alancsmith@physics.org

If you have an idea for a topic that you would like to hear about then please get in touch.

Follow us on Facebook. Search: @iophwc

To be included on our mailing list:Please e-mail: branches@iop.org

and ask to be included on the

Hereford & Worcester Event email list**Image credits**

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Hereford & Worcester Events**Lectures & Outreach
2021/2022****The e-MERGE****Deep Galaxy Survey**

A window on deep time - the e-MERGE deep radio survey is imaging radio emission from star-formation and Active Galactic Nuclei activity in thousands of distant galaxies spread across cosmic time.

IMPORTANT ANNOUNCEMENT

The first few talks in the programme will be on-line via webinar. Please see: <https://events.iop.org/> and search **Midlands** for the latest information and webinar registration details.

All talks start at 19:30, and finish no later than 21:00, except for 4th October which starts at 19:00.

Admission free!