



PROGRAMME

UK AvH Association's Annual Research Symposium 2022

Friday 16 September 2022,

Ramsay Lecture Theatre, University College London, 20 Gordon St, London WC1H 0AJ

- 10:30-10:50 Coffee & registration
- 10:50-11:00 Prof. James Wilton-Ely (Imperial College London)
President, UK AvH Association
Welcome
- 11.00-12.00 *The Mark Warner Lecture:*
Dr Lisa Jardine-Wright (University of Cambridge)
*Encouraging the next generation of physics researchers:
Not only inspiration but empowerment.*
- 12.00-12.30 Dr Jiangbo Zhao (University of Hull)
On a journey of light interacting with miscellaneous matters
- 12.30-14.00 Lunch – provided
ECM (Executive Committee only: SRCR room in Chemistry, UCL)
- 14.00-14.45 Annual General Meeting (Ramsay Lecture Theatre)
- 14.45-15.15 Prof. Arwyn Jones (University of Cardiff)
Hitching rides, from Heidelberg to Cardiff, on drug delivery vectors to the insides of cells.
- 15.15-15.45 Prof. Birgit Münch (University of Bonn)
The childless ruler as a Mother of dwarfs.
- 15.45-16.15 Coffee / tea
- 16.15-17.15 *The Brian Ketterer Lecture:*
Prof. Helen Gleeson (University of Leeds)
Stretching the limits
- 17.15 Formal close
- 17.30 Wine / soft drinks reception

ABSTRACTS

Prof. Helen Gleeson (Cavendish Professor of Physics, School of Physics and Astronomy, University of Leeds)
Stretching the limits

This lecture tells a story of learning and discovery in the area of liquid crystal elastomers - remarkable materials that combine the properties of liquid crystals with rubbers. It offers a special tribute to Prof. Mark Warner, who was a pioneering researcher in this field and who helped me to take my first steps into it. I will describe how my invention of contact lenses with electrically switchable focus led to an idea for improved cataract replacements. Along the way, we discovered an entirely new property of liquid crystal elastomers, an auxetic response whereby the material gets thicker when stretched rather than thinner. I will show how this expands the potential of these amazing rubbers to new applications with the potential to help address some of our global challenges.

Dr Lisa Jardine-Wright (Director of Isaac Physics, Churchill College Cambridge)

Encouraging the next generation of physics researchers: Not only inspiration but empowerment.

Prof. Arwyn Tomos Jones (Professor of Membrane Traffic and Drug Delivery, School of Pharmacy and Pharmaceutical Sciences, University of Cardiff)

Hitching rides, from Heidelberg to Cardiff, on drug delivery vectors to the insides of cells

My talk will focus on the initial work I did as an AvH fellow at the EMBL (European Molecular Biology Laboratory) Heidelberg on analysing how cells are able to engulf proteins and other material to their insides via a process called endocytosis. I will highlight how this nucleated international and industrial collaborators aiming to hijack endocytosis to deliver therapeutic molecules to treat diseases such as cancer, and infectious diseases in the form of vaccines.

Prof. Dr. Birgit Ulrike Münch (Kunsthistorisches Institut, Rheinische Friedrich-Wilhelms-Universität Bonn).

The childless ruler as a Mother of dwarfs

Role models of Isabella Klara Eugenia (1566-1633) In the ranks of the princely widows, Isabella Klara Eugenia occupies a special position: as daughter of Philip II, she had held the regency of the Spanish Netherlands together with her husband, Archduke Albrecht, since 1598. Starting from the numerous paintings executed primarily by the court artists of the Brussels court, this article examines the representations of Isabella Klara Eugenia and the agitation rooms of the governor that were mediated by them. Immediately after her move to Brussels, numerous portraits were found in which Isabella is shown with strikingly precious clothing and accentuated fashionable hairstyles and jewelry. The couple remained childless, as all descendants died in infancy. Portraits showing Isabella together with her court dwarfs are disproportionately common, sometimes interpreted as intimate mother-child portraits. The paper demonstrates Isabella's conscious and purposeful use of visual art as a means of self-staging.

Dr Jiangbo Zhao (Department of Engineering, University of Hull)

On a journey of light interacting with miscellaneous matters

Colours we are encountering in daily life could involve complex physics. Juggling with colours (light-matter interaction) is in nature fascinating, and at different length scales, can be consequential, within or beyond the expectations. This talk will briefly touch on certain facets of it, spanning from biomarkers, through coloured glass and smart window, to water (strictly speaking, bluish instead of transparent) and nanoparticles tracking, etc.



Dr Lisa Jardine-Wright (University of Cambridge) answers a question after her lecture entitled *'Encouraging the next generation of physics researchers: Not only inspiration but empowerment'*.



Professor Arwyn Jones (University of Cardiff) presenting his talk *'Hitching rides, from Heidelberg to Cardiff, on drug delivery vectors to the insides of cells'*.