



# 2015 CONFERENCE ON EVERYTHING CHURCHILL COLLEGE, UNIVERSITY OF CAMBRIDGE

25 April – Fellow's Dining Room, Cockcroft Room, SCR Corridor



## PROGRAMME

**13:00** **Registration** – SCR Corridor

**13:30** **Plenary Talk** – Fellow's Dining Room  
Mathematical Modelling of Visual Illusions  
Prof. Ian Stewart, FRS

**14:30** **Break**

**14:40** **Talk Session 1** – Fellow's Dining Room

Solar Fuels from Photoelectrochemical Water Splitting: Architectures for Advancement  
David W. Palm

Targeting the Untargetable: On Developing Drugs That Bind to Intrinsically Disordered Proteins  
Gabriella Heller

Genome Mining for Magnesidin Biosynthesis in *Vibrio Gazogenes*  
Constance Wu

Reaction Engineering Concepts for Selectivity Improvement in Partial Oxidation of Hydrocarbons  
Samson M. Aworinde

Identifying Small Molecules That Inhibit Non-Homologous End Joining DNA Repair  
Shannon R. Esswein

Non-Decaying Hydrodynamic Interactions in Narrow Channels  
Karolis Misiunas

**15:35** **Poster Exhibition** – Cockcroft Room

**16:05** **Talk Session 2** – Fellow's Dining Room

Engendering Children's Movement: A Participatory Technique to Unveil the Subjectivities and Multiple Realities of Young Migrants in Ghana  
Thomas Yeboah

Three-Dimensional Imaging Patterns Reveal Survival Trends in Patients with Glioblastoma  
Natalie R. Boonzaier

Funerary Choices of Ancient Egyptians – A Statistical Approach  
Barbora Janulíková

Calibration and Utility of Low-Cost and Highly-Portable Gas Sensors for Atmospheric Composition Measurement  
Joshua D. Shutter

Excess Spaces, Political Violence and Political Sovereignty in Modern German Autonomie  
Ali Jones

Machine Learning in Materials with Long-Range Interactions  
Max Veit

**17:00** **Poster Exhibition** – Cockcroft Room

- 17:30** **Talk Session 3** – Fellow’s Dining Room  
 Nuclear Air-Brayton Combined Cycle  
 Alisha Kasam  
 A Gentle Introduction to Compressed Sensing  
 Alexander Bastounis  
 Fine-Tuning and the Future of Fundamental Physics  
 David Kolchmeyer  
 The Human Need For Space Exploration  
 Carson F. Woodbury  
 The Quantum Revolution  
 Frederik Floether  
 What Is Music and Why Should We Study It?  
 Malinda J. McPherson

**18:30** **Poster Exhibition** – Cockcroft Room

**18:45** **Awards Reception** – Cockcroft Room

## Poster Exhibition

*Judged at 15:35<sup>a</sup>, 17:00<sup>b</sup>*

- #1<sup>a</sup>** Exploring Quantum Effects in Biologically Inspired DNA Origami Nanostructures  
 Philip Mair
- #2<sup>a</sup>** Reinforced Concrete Crack Analysis  
 Tahreer M. Fayyad
- #3<sup>a</sup>** Modelling Fracking: Role of Ground Disorder  
 John Kam-wing Wong
- #4<sup>a</sup>** Hybrid Monopiles for Offshore Wind Turbines  
 Aliasger Haiderali
- #5<sup>a</sup>** Separation and Analysis of  $\alpha$ -synuclein Strains as Distinguished by Differential Elongation Kinetics  
 Ashley Fidler
- #6<sup>a</sup>** Evolution of Linear Optimal Perturbations in Stratified Shear Layers  
 Alexis Kaminski
- #7<sup>b</sup>** Sustainable Concrete Using Industrial By-Products and Reactive Magnesia (MgO)  
 Ahmed Abdalqader
- #8<sup>b</sup>** Understanding the Origin of Epithelial Neoplasia by the HPV16 E6 and E7 Oncoproteins  
 Diane Libert
- #9<sup>b</sup>** A Bioinformatics-Based Analysis of Neandertal and Denisovan Genetic Introgression into Modern Human Genomes  
 Evelyn Jagoda
- #10<sup>b</sup>** Call and Response: The Blue Lotus in the Discourse of the National Characteristics  
 Zhiyuan Pan
- #11<sup>b</sup>** How We Design Beijing’s Greenbelt? : Insights from a Model of Urban Growth Dynamics  
 Mingfei Ma

## Acknowledgements

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