



# TUESDAY TALKS/DwD: TT25

## Week 1: Workarounds for Complex Problems

### Tuesday 29 April

Paulo Savaget (Associate Professor of Engineering) shows how “scrappy” organisations tackle seemingly intractable problems, such as illegal logging, caste discrimination, and diarrheal deaths, through workarounds that achieve massive wins with minimal resources. Savaget identified the four workarounds that these groups commonly employ – the piggyback, the loophole, the roundabout, and the next best – and demonstrates how to know which one to use when.



## Week 2: Twosday

### Tuesday 6 May

#### **Talk 1: Finding Cosmic Explosions with the ATLAS Virtual Research Assistant**

Modern sky surveys can image the entire sky every night. In doing so, they discover new cosmic explosions. But the sky is vast and the alerts far too many for humans to keep up with. In this talk, Heloise Stevance will present how their Virtual Research Assistant for the Asteroid Terrestrial impact Last Alert System (ATLAS) sky survey has reduced her team workload by 80%, and comment on the importance of a "Data First" approach in the field of AI for Science.

#### **Talk 2: Rethinking Risk - Using AI and multimodal data to predict pesticide impacts on bees**

Pesticide regulations are based on whether individual bees survive exposure, but many studies show serious sublethal effects on behaviour, physiology, and hive fitness. In this talk, Rachel Parkinson will present new tools to improve risk assessment: high-throughput behavioural testing with video and audio, and AI-driven methods to extract and model data from scientific literature. Together, these approaches offer a scalable, systems-level framework for predicting how stressors impact pollinators



## **Week 3: Genetic Screening of Babies - is more better?**

**Tuesday 13 May**

Sequencing a person's genetic code is advancing, promising better detection and earlier diagnoses. Newborn screening in the UK is expanding from 9 treatable conditions to a 'pilot' covering 200+. The predictive power of genetic findings is often weaker than many assume; many babies need years of investigations before their risk can be clarified. In this talk, Anneke Lucassen (Professor of Genomic Medicine) will ask whether attempts to end 'diagnostic odysseys' that many babies with rare diseases face may lead to 'predictive odysseys' for many more.



## **Week 4: The Next Chapter of the History of the World**

**Tuesday 20 May**

Lord Hague will discuss global events since 1945, arguing that after the Cold War and the period of globalisation that followed it, we have now entered a third chapter of recent history. He will outline how this period is bringing a combination of exciting developments in science and technology, but also intensified dangers in geopolitics and security. The ability to manage positive excitement and enhanced danger at the same time will become a key test of organisations, countries and individuals, requiring qualities of resilience and constant reinvention for them to succeed. This event is for Reuben members only.



## **Week 5: VisualAI - From Babies to the Movies**

**Tuesday 27 May**

This talk, given by Andrew Zisserman (Royal Society Research Professor), will be in two parts; the first on how models can learn to see and hear simply by ingesting video streams in a similar manner to how infants learn to see and hear. The second is about how to enable models to follow a movie - at least to the extent that they can provide a description of it suitable for the visually impaired.



## **Week 6: AI - How can we tackle the 'Constellation of Biases' affecting the care of pregnant women?**

### **Tuesday 3 June**

Research into prevention of severe complications in pregnancy has identified multiple reasons why pregnant women do not receive the same standard of care as the non-pregnant population. Concerning symptoms are often dismissed as being “normal for pregnancy”, essential medications may be stopped and investigations such as x-rays may be inappropriately withheld. Compounding the problem, pregnant and breastfeeding women are often excluded from clinical trials. At this seminar, Marian Knight (Professor of Maternal and Child Population Health) will give an overview of her research in the area and discuss some of the ethical challenges and opportunities to make a difference.



## **Week 7: Generation AI - Young People as the Creators and Consumers of Future Tech**

### **Tuesday 10 June**

As AI becomes increasingly embedded in our lives, its impact on the generation growing up alongside it remains to be seen. How will AI affect children and how can we design to ensure AI contributes to a flourishing future for the next generation?

Andrew Serazin (Senior Research Fellow & Director of the Global Challenges Programme) will walk you through some of the opportunities and risks AI poses to childhood development, reflecting on our experience of supporting young innovators to integrate ethical principles into their designs.



## **Week 8: Student Take-Over**

### **Tuesday 17 June**

Join us for presentations from our wonderful Reuben students on their own, varied research projects.