

EDINBURGH INTERNATIONAL
science
festiva



2018 CELEBRATING
30 YEARS
31 MARCH–15 APRIL

EDINBURGH INTERNATIONAL SCIENCE FESTIVAL



Registered Charity no. SC003790

ONLINE BOOKING: SCIENCEFESTIVAL.CO.UK BOOKING HOTLINE: 0844 557 2686 #EDSCIFEST

WEDNESDAY 4 APRIL...

WHO LIVES AND WHO DRIVES?



DISCUSSION

8PM | 90 MINS | £8.50/£6.50/#SCIFIVE £5

SUMMERHALL | DISSECTION ROOM

We are rapidly approaching a time where self-driving cars will be an everyday reality, and intelligent robots will be making routine decisions about our healthcare treatments. But what happens when machines have to make a choice between human life or death? Join **Prof Lilian Edwards**, philosopher **Dr Mark Sprevak** and expert in human interactions with automated vehicles **Dr Tyron Louw** to discuss how, or if, it's possible to programme morality and reduce ethics to an algorithm, who decides which principles apply and who bears ultimate responsibility if things go wrong.

WHAT NEXT FOR THE ANIMALS OF PLANET EARTH?



DISCUSSION

8PM | 1 HOUR | £8.50/£6.50/#SCIFIVE £5

SUMMERHALL | MAIN HALL

More than any animal in the history of planet Earth, humans are altering the planet immeasurably. Which animals will adapt to our presence? Join zoologist **Jules Howard** as three well-known evolutionary biologists pitch their survivors to the audience, giving details of their possible future evolution and the form they may one day take thanks to our relentless being. Panel includes world fly expert **Dr Erica McAlister**, zoology curator **Paolo Viscardi** and ape expert **Adriana Lowe**.

WHAT THE WORLD CAN TEACH US



DISCUSSION

8PM | 1 HOUR | £8.50/£6.50/#SCIFIVE £5

SUMMERHALL | RED LECTURE THEATRE

From mobile phones to hearing aids, microphones are very common yet their designs still have significant drawbacks. Could nature play a role in improving their quality and our lives? Join engineer **Dr Rob Malkin** for an award winning talk, as he explores biomimicry and shows how studying insects with fascinating hearing organs could hold the key to helping us build bio-inspired acoustic devices.

ALSO ON TODAY

ONGOING EXHIBITIONS

10AM-5PM | CELEBRATING CORDELIA FINE | P.33

10AM-5PM | WILDLIFE PHOTOGRAPHER OF THE YEAR | P.33

10AM-5PM | ECOVILLE | P.36

10AM-5PM | EXISTENCE: LIFE AND BEYOND | P.36

11AM-6PM | COLLECTING SHADOWS | P.33

11AM-6PM | SYNTHETICA | P.35

RECURRING EVENTS

7.45PM | SKEPTICS AT THE SCIENCE FESTIVAL | P.39

A VERY SHORT INTRODUCTION TO... PERCEPTION



DISCUSSION

1PM | 1 HOUR | £6/#SCIFIVE £5 | SUMMERHALL

ANATOMY LECTURE THEATRE

Perception is one of the oldest and most deeply investigated topics in the field of psychology, and also raises some profound philosophical questions. It is concerned with how we use the information reaching our senses to guide and control our behaviour and to create our particular, subjective experiences of the surrounding world. Experimental psychologist **Prof Brian J Rogers** analyses the psychological and philosophical aspects of perception, and argues that what we see is not what we perceive. He investigates recent insights gained from the use of imaging techniques, and the attempts to model perceptual processes in AI systems.

Presented by Oxford University Press

SEARCHING FOR DARK MATTER AND DARK ENERGY



DISCUSSION

5.30PM | 90 MINS | £8.50/£6.50/#SCIFIVE £5

NATIONAL MUSEUM OF SCOTLAND | AUDITORIUM

Join philosopher of science, **Prof Michela Massimi**; cosmologists **Prof Ofer Lahav** and **Prof John Peacock**; astrophysicists **Prof Kathy Romer** and **Prof Alex Murphy** to learn about dark matter and dark energy, and hear the latest evidence suggesting they make up most of the cosmos. Discover the methods, and experimental techniques used at the Dark Energy Survey, and pressing philosophical questions surrounding them. The event is chaired by science writer **Graham Farmelo**.

Presented by the European Research Council.
Image: Reidar Hahn, Fermilab

MAKING THE MONSTER



DISCUSSION

5.30PM | 1 HOUR | £8.50/£6.50/#SCIFIVE £5

SUMMERHALL | DISSECTION ROOM

Explore the science behind Mary Shelley's *Frankenstein*... Is there any science fact behind the science fiction? And how might a real-life Victor Frankenstein have gone about creating his monster? The century before its publication saw huge advances in our understanding of science, particularly electricity and physiology. Sensational science demonstrations caught the imagination of the general public, and newspapers were full of lurid tales of murderers and resurrectionists. From stories of artificial life and experimental surgery, to 'monsters' and electrical experiments on human cadavers, **Dr Kathryn Harkup** examines the science and scientists that influenced Shelley and inspired her most famous creation.

THIS TIME, IT'S PERSONAL: THE FUTURE OF HEART DISEASE DIAGNOSIS



DISCUSSION

5.30PM | 90 MINS | £8.50/£6.50/#SCIFIVE £5

SUMMERHALL | MAIN HALL

Join British Heart Foundation Scotland for a panel discussion about the future diagnosis and treatment of heart disease. You'll discover how a more precise test developed in Edinburgh could identify those most at risk of a heart attack and how measuring levels of the protein troponin in our blood could indicate heart health. You'll also hear **Gavin McMurray's** story of the devastation of losing a lifelong friend to a heart attack, then surviving a heart attack himself years later, experiences which inspired him to raise money for BHF Scotland while achieving lifelong sporting ambitions.

Presented by British Heart Foundation Scotland

SOUND ART



AGES 16+

WORKSHOP

5.30PM | 90 MINS | £8.50/£6.50/#SCIFIVE £5

SUMMERHALL | ANATOMY LECTURE THEATRE

Lose yourself inside the aural landscape of drawing, where the sound of mark-making becomes an instrument in The Reverse Engineer's orchestra. Using the magic of live sampling and electronic manipulation, **Topaz Pauls** and **Dave House** will create a rich soundscape using your pencil's rhythmic hatching, your charcoal's sensual swooping, your paper's gentle rustling, and the model's heartbeat and breath. An experiment in immersive life drawing, not to be missed.