EDINBURGH INTERNATIONAL SCIENCE FESTIVAL 2018

LIFE
THE UNIVERSE AND EVERYTHING
“The internal machinery of life, the chemistry of the parts, is something beautiful. And it turns out that all life is interconnected with all other life.”

RICHARD FERMAN. PHYSICIST
2018 – Scotland’s year of Young People and the 200th anniversary of the publication of *Frankenstein* – will see us explore *Life, the Universe and Everything*, as we ask where we have come from, where we are heading and what roles do science, technology and engineering play in securing the safely and sustainability of the planet for future generations?

How do we harness new knowledge and balance risks and opportunities for the benefit of humanity? How might the choices and decisions we make now determine whether we get the best or the worst of possible worlds? How can we nurture the young people who will LIVE this future?

*Life, the Universe and Everything* is a celebration of life. Of its wonder and diversity. Of our existence. Of our potential. It provides us with a chance to explore the building blocks of a future world that Scotland’s young people will inherit so that we can all ensure the future of life on Earth (and beyond?) is a bright one.
“Synthetic biology can help address key challenges facing the planet and its population. Research in synthetic biology may lead to new things such as programmed cells that self-assemble at the sites of disease to repair damage.”

CRAIG VENTER, BIOTECHNOLOGIST

FUTURE LIFE
Science and technology are helping us take control of our minds and like never before. We can fix, manipulate, enhance and preserve bodily and mental function through technology, pharmacology and genetics in ways we once could only dream of. We can even create ‘life’ in a lab. What does this all mean not only for our health and wellbeing but for our sense of self? Are we changing what it means to be human?

#psychology #neuroscience #health #wellbeing #mindfulness #biotech #prosthetics #syntheticbiology #transhumanism #AI #robotics #stemcells #livetransplants
DESIGN FOR LIFE
How do we harness the best of science, technology, engineering, architecture and design to create vibrant, sustainable homes, workplaces, schools and cities? How might we take inspiration from nature, the mother of invention, to ensure we design the cities of the present and future with quality of life firmly in mind?

#syntheticbiology #bioart #biomimicry #biodesign
#livingcities #design #architecture #sustainability
#smartmaterials

LIFE ON EARTH
Earth is a complex ecosystem; we share our planet with about nine million other species (not counting the ones we have yet to discover!) and humans make up only a tiny proportion of life on Earth. We explore the wonder and variety of the flora and fauna with whom we share our world and ask how our interactions with our fellow earthlings is impacting the diversity of life on Earth, and what this means for its human inhabitants.

#biodiversity #wildlife #naturalhistory #ecology
#ecosystems #diversity #extinction #naturalworld
#naturalcapital #environmentalism

“Sharing the planet, I think, really is humanity’s greatest challenge. It is a challenge for us to share the planet with each other... and it is certainly a challenge for some of the other species with which we share the planet.”

SIR MARK WALPORT, GOVERNMENT CHIEF SCIENTIFIC ADVISER (UK)

“Study nature, love nature, stay close to nature. It will never fail you.”
FRANK LLOYD WRIGHT, ARCHITECT
“You cannot hope to build a better world without improving the individuals. To that end, each of us must work for his own improvement and, at the same time, share a general responsibility for all humanity, our particular duty being to aid those to whom we think we can be most useful.”

MARIE CURIE, PHYSICIST

HUMAN LIVES
We are unique in our complexity. No other inhabitant of planet Earth has the social structures, policies and politics, or has had the power and impact of humans. What role do people, places and policies play in balancing global risks and opportunities for the benefit of humanity? How might the choices and decisions we make now determine whether we get the best or the worst of possible worlds? How can science and technology help us make them?

#democracy #learning #arts #education #peace #finance #economics #politics #policy #internationaldevelopment #opensource #citizenscience #publichealth #innovation #society

SUSTAINING LIFE
Life on Earth is a wonderful yet fragile thing. We take a global perspective and consider the scientific response to some of the most pressing concerns of our time – growing populations, energy conflicts, public health issues, food security and much more – as we explore the roles science, technology and engineering have to play in securing the safety and sustainability of the planet for future generations.

#climate #population #water #food #energy #pollution #diversity #extinction #naturalcapital #geoengineering #offgrid #cleantech #greentech #globalhealth
LIFE BEYOND EARTH
We are one of eight planets, circling one of more than 100 billion stars in the Milky Way, which itself is one of at least 100 billion galaxies in the observable universe. Planet Earth is our home, for now, but we are increasingly looking to the stars as we consider whether the future of humanity lies beyond it. Might we be inhabiting only one of a multitude of universes? Is there life elsewhere in the vastness of space? We look into the heart of the atom and peer into the depths of space as we explore the wonder and mystery of our universe.

“The Earth is the only world known so far to harbour life. There is nowhere else, at least in the near future, to which our species could migrate. Visit, yes. Settle, not yet. Like it or not, for the moment the Earth is where we make our stand.”
CARL SAGAN, ASTRONOMER

#space #terraforming #exoplanets #spacetourism
#darkmatter #astrophysics #astrobiology #Mars
#blackholes #planetarymigration #scifi #stringtheory
#multiverse #spacerrace

“Climate change is destroying our path to sustainability. Ours is a world of looming challenges and increasingly limited resources. Sustainable development offers the best chance to adjust our course.”
BAN KI MOON
Life, the universe, and everything