

# Unlocking the Future

The Institute of Physics

Strategy 2020 - 2024

# Unlocking the Future

## The Institute of Physics Strategy 2020 – 2024

As a society we face unprecedented challenges. Globally, we need to address a changing climate and a growing population, to decarbonise economies, improve healthcare and ensure water, food and energy supplies. Domestically, we need to develop the next generation of industries to create jobs and improve productivity to safeguard citizens' futures.

Physics has a vital role to play in tackling these issues and helping make the UK and Ireland fit for a new industrial era of science, technology and engineering.

The Institute of Physics (IOP) 2020-24 strategy, summarised here, aims to develop and support a thriving physics ecosystem, unlocking the future for UK and Irish physicists and their work at home and around the world.

The new strategy builds on the foundations created over the last five years. These foundations include our flagship community space and office in London's King's Cross – an investment underpinned by a strengthened financial position

– and a modern membership structure that supports the diversity of physics careers. With these fundamentals in place, the new strategy represents an increase in our ambition to maximise the societal and economic benefit of physics through partnerships with government, industry and academia.

In developing the strategy, we have consulted with members, partners and staff, and have drawn on an evidence base developed within the organisation, which provides benchmarks for measuring our progress. This is particularly important as the political and economic context continues to shift.

## Three challenges

The strategy identifies three key challenges that present the greatest barriers to unlocking the potential of physics and its impact in society:

1

**Diversity and skills:** We want to build a thriving, diverse physics community and play our part in solving the science, technology, engineering and maths (STEM) skills shortage by ensuring that people, no matter their background or where they live, have access to world-class physics education and training.

2

**Unlocking capability:** We want to ensure that the UK and Ireland are able to realise the full societal and economic benefits of the new industrial era.

3

**Public dialogue:** We want to show the impact of physics on people's lives, enabling informed public debate about funding and policy in areas including healthcare, climate change and cyber security.

# Six aspirations

To meet these challenges, we have six aspirations for the changed world we want to see at the end of the strategy period. This is a broad and ambitious strategy and our aspirations are also ambitious:

1

Every secondary school pupil in the UK and Ireland will have access to a specialist physics teacher.

2

Girls will make up at least 30% of those taking physics at age 16-19 and there will be double the current number of young people from black and minority ethnic and lower socio-economic backgrounds.

3

There will be clear roadmaps and funding commitments from the UK and Irish governments that propel research and development investment towards the Organisation for Economic Co-operation and Development average of 2.4% of Gross Domestic Product.

4

Double the current number of people will be employed in technical roles in physics-based and engineering businesses and the number of those on physics-based science apprenticeships will have increased by a factor of 100.

5

Our publishing services to the worldwide physics community will have further improved such that the number of scientists publishing their research in our journals will grow by 25%.

6

10% of the population will have a meaningful engagement with a physics-based public event and 1% will have sustained contact with physics.

These aspirations will serve as measures of our success in driving change for the UK and Ireland.

## How will we get there?

### Partnerships

Our aspirations are highly ambitious. We cannot achieve them alone, so working in partnerships and influencing others are vital. We will engage with all our members and stakeholders, in the UK and Ireland and internationally, to drive progress towards them.

### £10 million investment in a new Challenge Fund

To underpin this commitment, we are allocating £10 million to a Challenge Fund to support work with partners and co-funders, and to accelerate the delivery of the strategy.

### Evidence

The challenges and aspirations we have set ourselves are based on evidence. We will continue to develop an evidence base as an integral part of our work, to measure the impact of our work and inform future decisions that can strengthen physics and unlock its potential to benefit society. We will continue to monitor the external environment and will review our goals after three years to ensure they remain relevant to the challenges we face.

# How we work

We will develop new programmes to deliver this work, improving the way we work as an organisation, and remaining mindful of our purpose and roles:

## As a membership body

To provide valued services to our members that are relevant to their stage of career and location, and are regularly reviewed in consultation with our membership

## As a professional body

To support the professional development of people working in or with physics

## As a learned society

To bring together the physics community to develop its thinking and support the continuing strength of the core discipline

## As a publisher

To support learning and dissemination of knowledge by working with researchers in all physics disciplines in all parts of the world

## As a charity

To ensure that physics is able to fulfil its potential to benefit society.