

# Strategic Plan

### Why microbiology matters

Microbes are everywhere and affect almost all aspects of our lives. We cannot see them, but our world would not function without them. Bacteria, viruses, fungi, protists, archaea, algae and other microscopic life forms are on us and in us, in the air, soil and water, and in our food. They are in and on the surfaces of everything in our homes, workplaces and other environments. Most do not harm us and many are essential for the good health of humans, animals and the planet. Microbes help keep the planet healthy by recycling waste and supplying nutrients. Agricultural systems would not function without some while others are harmful pests. Industry uses microbial processes to produce foodstuffs and drugs, benefiting society and creating wealth.

Microbes are very diverse, they are fascinating, and modern imaging techniques show that they can be very beautiful.

## 2018 - 2022

The huge variety of microbes and the range of ways in which they affect us mean that microbiology is an enormously varied and constantly changing subject. Reflecting this diversity, microbiology intersects with many other disciplines in the natural and social sciences and is a vital element of studies in a large range of different fields. Basic research in microbiology has led to the development of most of the important molecular techniques that are now used to study organisms from microbes to humans. Biotechnology, synthetic biology, the production of therapeutic proteins, and many medical diagnoses are all dependent on these molecular tools.

The study of microbes helps us to understand our world and our place within it. It gives us insights

into the complexity of nature and society, which in turn provide many different health, environmental, social, cultural, industrial and economic benefits. Microbiology answers big questions by giving us knowledge of very small things. Microbiologists are involved in addressing challenges that vary from urgent problems demanding immediate solutions, such as new and emerging diseases, through to long-term issues, like antimicrobial drug resistance, food security and environmental sustainability.

When the discipline of microbiology is strong and intellectually vibrant, we have a better chance of finding solutions to these problems, and building a healthier, more sustainable and more prosperous future.

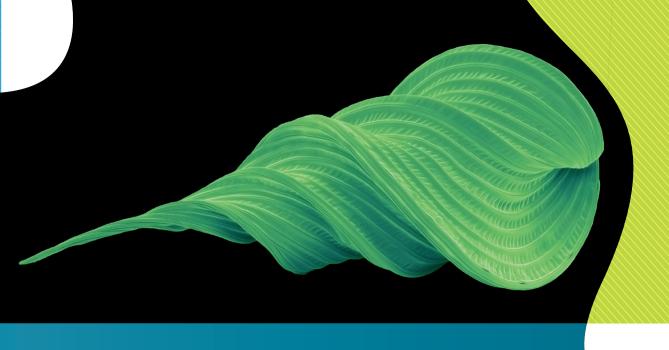
The Microbiology Society is a membership charity for scientists interested in microbes, their effects and their practical uses. It is one of the largest microbiology societies in Europe with a worldwide membership based in universities, industry, hospitals, research institutes and schools.

Our members have a unique depth and breadth of knowledge about the discipline. The Society's role is to help unlock and harness the potential of that knowledge. We do this by bringing together and empowering communities that shape the future of microbiology. We generate public benefit by fostering communication both among communities of microbiologists and between microbiologists and other communities who can translate that knowledge in useful ways.

Because of the diverse range of challenges and opportunities our members encounter, the Society works in a variety of modes. In some circumstances, it is a leader, in others it works in partnership with like-minded scientific organisations, and in others by convening different communities.

#### Crucial to the Society's success are **THREE CORE VALUES:**

- WE ARE WELCOMING to anyone interested in microbes, their effects and their uses. Our reputation as a friendly, nurturing and approachable community, driven by the experience of a diverse set of members, is extremely important to us.
- WE ARE TRANSPARENT and professional in everything we do. We believe that decisions should be informed by evidence and expertise, and that scientific methods form a robust and dependable way of developing reliable evidence.
- **WE ARE DEDICATED** to our charitable aims. We are not for profit, and strive to ensure that all our resources are applied optimally to furthering the science of microbiology and its application.



**OUR VISION:** A world in which the science of microbiology provides maximum benefit to society.

**OUR MISSION:** Advancing the understanding and impact of microbiology by connecting and empowering communities worldwide.

In the five years between 2018 and 2022, the Society's principal goal is to develop, expand and strengthen the networks available to our members so that they can generate new knowledge about microbes and ensure that it is shared with other communities.

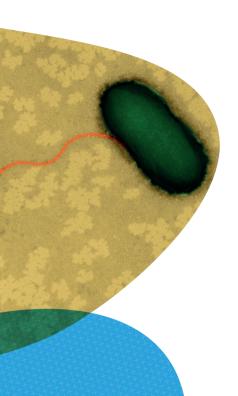
The number and scale of opportunities open to communities of microbiologists in today's world is vast. By combining our members' knowledge with the expertise of our staff the Society will be a key player in the debates and solutions that will turn those opportunities into impacts. Those impacts will drive us towards a world in which the science of microbiology provides maximum benefit to society.

#### **OBJECTIVE 1**

We will enable our members to strengthen their existing relationships and gain access to new communities, unlocking the potential for knowledge exchange.

The Society will:

- a. Maximise national and international networking opportunities for our members among existing and new communities
- b. Increase the involvement of groups of microbiologists who are not currently well represented in our activities
- c. Increase engagement and collaboration between our members and other societies, industry, funders, educators, regulators and decision makers



#### **OBJECTIVE 2**

We will advance understanding of microbiology and champion the contribution made by microbiology, our members and their work in addressing global challenges.

The Society will:

- a. Promote the Society's activities for communicating microbiological research across a range of disciplines
- b. Increase capacity and opportunities for members to communicate microbiology and their work
- c. Raise the profile of microbiology, our members, and increase the influence of the Society with the public, policy-makers and other stakeholders

#### **OBJECTIVE 3**

We will reinforce the Society's long-term sustainability and resilience by diversifying income streams, increasing efficiency and ensuring robust governance.

The Society will:

- a. Increase the emphasis on placing members at the heart of Society activities and growing future leaders
- b. Increase opportunities for generating income from a range of commercial and philanthropic sources
- c. Maximise cost savings and efficiencies

Microbiology Society, Charles Darwin House, 12 Roger Street, London WC1N2JU

info@microbiologysociety.org www.microbiologysociety.org

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#### Image credits:

Front cover: Coronavirus particles, TEM

Coloured transmission electron micrograph of three coronavirus particles. Different strains of coronavirus are responsible for diseases such as the common cold, gastroenteritis and SARS (severe acute respiratory syndrome).

Dr Linda Stannard, UCT/Science Photo Library

Page 2: Coloured TEM of a T4 bacteriophage virus

Coloured transmission electron micrograph of a T4 bacteriophage virus. The head of the structure contains nucleic acid inside a protein coat.

Dept. of Microbiology, Biozentrum/Science Photo Library

Page 3: Streptomyces coelicoflavus bacteria, SEM

Coloured scanning electron micrograph of *Streptomyces coelicoflavus* bacteria (strands) and chains of *Streptococcus* bacteria (round).

Page 5: Phacus helikoides, SEM

Coloured scanning electron micrograph of *Phacus helikoides*, part of a genus of unicellular protists that are found in freshwater habitats around the globe.

Steve Gschmeissner/Science Photo Library

Page 6 & 7: E. coli conjugation, TEM

Coloured transmission electron micrograph of *E. coli* strains undergoing conjugation via a pilus. *Dennis Kunkel Microscopy/Science Photo Library* 

Back cover: Allergenic fungus Alternaria alternata, SEM

Coloured scanning electron micrograph of a fungus that can cause disease on a wide range of plant species. In rare cases it can cause respiratory tract infections in humans and is associated with the development of asthma.

Dennis Kunkel Microscopy/Science Photo Library



