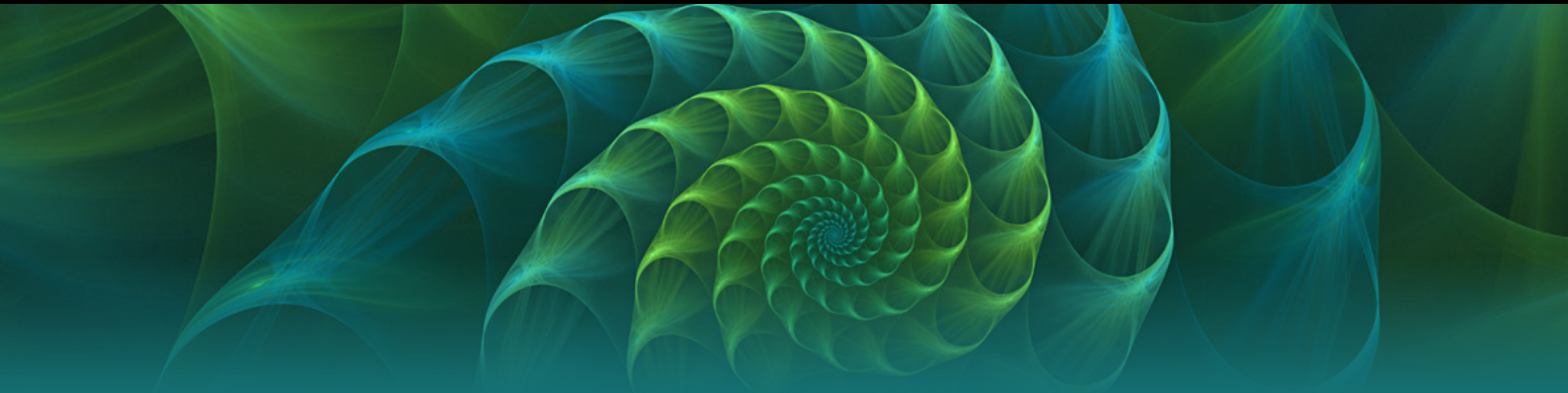




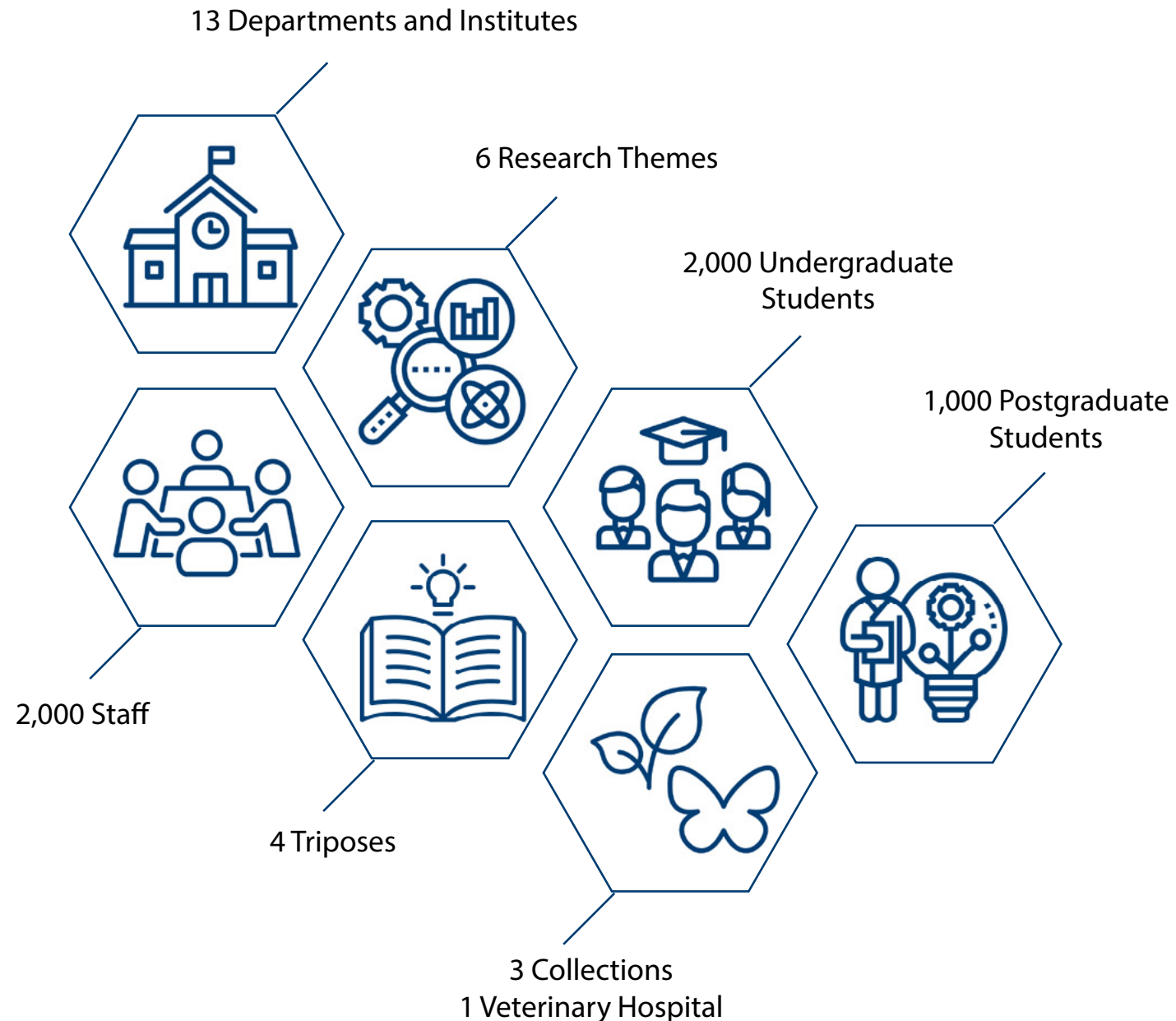
UNIVERSITY OF
CAMBRIDGE
School of Biological Sciences

Our School Our Vision



Shifting boundaries of knowledge in Biological Sciences

Our School in focus



Professor Anna Philpott
Head of the School of the Biological Sciences

In line with the University's mission, the academic vision of the School of the Biological Sciences is the pursuit of education, learning and research at the highest international levels of excellence. We know that to deliver this vision we must foster a working and learning environment that has the principles of collaboration, innovation and inclusivity at its heart, and I am proud of the bold and ambitious strides that the School is already making to achieve this.

I firmly believe that the diversity of research and education carried out across the School is fundamental to our continued excellence and success. We have world leaders working collaboratively across animal, human, plant and microbial science, spanning atomic, molecular and cellular research through to complex tissues, organs, whole organisms, human behaviour, ecosystems, and planetary health.

Working together across our 13 Departments and Institutes, our public facing Veterinary Hospital, Botanic Garden, Zoology Museum and the Herbarium, and with colleagues in our important strategic initiatives, our research and teaching is delivering positive impacts on society, improving health and disease outcomes across species, innovating solutions in agriculture, conservation and the environment, as well as contributing widely to the pharmaceutical and biotechnology sectors.

As the global research and education landscape evolves, we are committed to continuing to deliver both research and education at the highest levels, working in innovative ways to shift the boundaries of knowledge in biological sciences. To meet this objective, we are building plans to deliver an even higher quality working environment that inspires researchers, students and professional staff alike. This requires creativity and ongoing collective engagement across the School, and I am proud to be working with excellent colleagues from all areas to drive real progress towards achieving our vision.

We can be proud of all we have achieved but there is, and will always be, much to do. With the help of our dedicated, resilient and resourceful academic, professional and technical colleagues, it is clear to me that the School of the Biological Sciences will continue to go from strength to strength in the coming years and long into the future.

Anna P.

Discovery Research and Innovation

Connecting the brightest minds to deliver world-leading research

Biological sciences are at the forefront of solving the complex mechanisms underpinning life, bridging molecular intricacies within cells to the grand dynamics of ecosystems. It is a discipline where cutting-edge research sheds light on the genetic codes that direct biological functions, the metabolic pathways that fuel existence, and the evolutionary forces that shape biodiversity. By integrating knowledge and expertise across disciplines, the biological sciences aims to decode the mysteries of life at every level of organisation and pave the way for a healthy and resilient future.

This extensive and pioneering biological research takes place within our 13 Departments and Institutes, and across the six major **Research Themes** that cluster our world-leading researchers into coherent collectives of scientific expertise that represent key areas of research excellence across the School: Molecules and Cells; Reproduction, Development and Lifelong Health; Infection and Immunity; Functional and Evolutionary Genomics; Neuroscience, Psychology and Behaviour; Organisms, Evolution and Planetary Resilience.

Leveraging Theme infrastructure, researchers can build cross-disciplinary research initiatives with multiple stakeholders both within and across School boundaries, providing new platforms for collaboration, major grant funding and industry engagement which can open routes to real world research impact.



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Collaboration is a central feature of our research environment in Cambridge and the Research Themes in the School of Biological Sciences are a fine example of how new research ideas can be grown and fostered across Departmental boundaries. We are already witnessing the fruits of the Themes endeavours with a more joined up and supportive research ecosystem in the School and increasing numbers of successful collaborative funding bids, a positive trajectory which I am sure will continue into the future.

Anne Ferguson Smith, Arthur Balfour Professor of Genetics
Pro-Vice-Chancellor for Research, University of Cambridge, 2021 - 24

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We have **well-supported Impact Pipelines** via several routes including our Bioscience Impact Team, the Cambridge Academy of Therapeutic Sciences, the Milner Institute, the Cambridge Conservation Initiative, and the Crop Science Centre, who work to translate our scientific discoveries into real-world outcomes across society. We are also committed to promoting **Responsible, Equitable and Inclusive Research** and are innovating new ways to support our researchers in this important area. Enabling the development of Guidelines for Equitable Partnerships in International Research and our recently launched Participatory Research Support Fund are examples of our practical approaches in this space.

Cutting edge technology, excellent facilities and expert technical staff are essential components to the delivery of breakthrough research in the biological sciences. The School is implementing an ambitious **Bioscience Technology Platforms and Facilities Project** that has already carried out significant reorganisation of facilities to both reduce duplication of services and improve communication between Departments and Institutes. This includes fundamental changes to ways of working that will ensure sustainability in the long term for both staff and services as an important part of our commitment to reproducibility in the science we carry out. In addition, the project is a key component of the Technician Commitment in the wider University, supporting and enhancing the career structure and progression of an important component of our technical services.



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It is really reassuring to see the careful thought and strategic investment that the School is putting into our scientific facilities and new technology platforms. This ongoing work will allow us to deliver ever more innovative research, improve accessibility to equipment, whilst supporting and providing new opportunities for the fantastic technical professional staff who are integral to the research ecosystem in the School.

James Edgar, Sir Henry Dale Fellow, Department of Pathology
Molecules and Cells Research Theme Lead

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Sustained investment in **Research Culture** is cultivating a working environment that is inclusive, supportive and principled. Current initiatives include participation in the internationally collaborative project Action Research on Research Culture; the establishment of the Research Fellows Framework to support and develop our early career researchers; and the Roving Researcher Scheme which aims to mitigate the impact of leave on researchers by enabling research momentum to continue in the lab.

The Research Themes, Bioscience Technology Platforms, Impact and Research Culture initiatives are fostering a thriving collaborative research environment across the School. Learnings from this new landscape are informing a major work programme to shape the development of a **Modern and Inspiring Built Environment** for the School that is in line with our world-leading research and innovation. Our collaborative research culture in the context of ambitious and inspiring new infrastructure will enable us to continue to connect the brightest minds and deliver world-leading research.

Education and Student Experience

Enhancing our teaching and widening participation

Our School is the home of education across the biological sciences in Cambridge, nurturing and shaping generations of students through undergraduate and postgraduate teaching programmes. We are committed to delivering a research-led, world-class educational experience to our students within a diverse, supportive and intellectually creative community.

To ensure we continue to offer undergraduate teaching of the highest possible standards and to further strengthen our educational offerings, the School is currently undertaking large-scale **Strategic Reviews of our Curriculum and Teaching Methods**. The reviews have published detailed discovery phase reports which are praised across the University for their rigour and ambition. The proceeding phases are exploring the design of new curricula with a new skills programme for students, rationalised committee structure and increased support and advice for teaching staff, including teaching administrators.



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Cambridge is a place where over the years many students have grown into leaders in their field. It is a privilege to have recently been working with teams of committed colleagues to review and update our curriculum with the latest biological science and innovation so that we can continue to inspire and nurture the brightest minds of the future.

Ewan St. John Smith, Professor of Nociception, Department of Pharmacology
Biological Natural Sciences Curriculum Review Committee Member

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A key part of our vision for teaching excellence is to offer unrivalled support to teaching staff, cultivating an exemplary and collaborative community for education support. The project **Reimagining Undergraduate Education Support** is currently working on projects to share best practice in undergraduate teaching administration, to trial new software for timetabling and enabling professional networks to support and develop staff working across the teaching and learning remit. The recent introduction of **Roving Teaching Administrators** will play a role in supporting undergraduate teaching and easing pressure points that may arise.

We are also committed to exploring new methods of assessment, recently completing an innovative **Online Assessment Pilot** using the Inspira platform. The successful delivery of two years of online undergraduate examinations was a remarkable achievement. The monumental effort of the Inspira team has built a foundation for future successes and innovation with online assessment which is now being adopted in other areas of the University.



The School of Biological Sciences offers our **Diverse and International Community of Postgraduate Students** the opportunity to work with world leading scientists to expand knowledge and understanding across all aspects of biology. The training they receive contributes to the global reach of the University. Major progress has been made in the development and implementation of an expanded and more cohesive programme of postgraduate education, with considerable effort and resource focussing on widening participation in postgraduate education from under-represented groups.

The School has been leading the University with these **Widening Participation** initiatives and has a number of notable successes. In collaboration with the School of Clinical Medicine, we deliver a flagship summer internship programme, **Experience Postgrad Life Sciences**, to identify and bring talented undergraduate students with diverse lived experiences into the Cambridge research environment.



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“With a diverse mix of lessons, enlightening seminars, and networking socials, the Experience Postgrad Life Sciences Programme not only encourages participants to prepare for postgraduate studies but also fosters lasting friendships. It has been a remarkable journey, and I am grateful for the opportunity to participate in such an enriching and transformative experience.”

Shraddha Gosatkar
Experience Postgrad Life Sciences Student, 2023

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In undergraduate education, we have recently expanded our partnership with the Isaac Physics to include biology in the **STEM SMART programme**. This is a free programme designed to raise attainment and develop confidence for year 12 students who may have experienced educational disadvantage or are less likely to apply to University. There are three phases to the 18-month curriculum including a residential period in Cambridge where students attend small group tutorials, lab practicals, and support sessions outlining how to apply to competitive universities. Applications have grown substantially in the first two years of the programme and feedback from students has been overwhelmingly positive, suggesting that the programme is, indeed, transforming student aspirations.



To enhance our postgraduate training offering and as an integral part of our widening participation strategy, the research and teaching community in the School have developed a visionary new **Multi-Pathway MPhil Course** made up of six streams that span many of our research strengths, with dedicated access to bursaries. At the heart of this new course is a stimulating skills and research intensive training programme designed to give more students the opportunity to experience the excitement of scientific research across the breadth of the biological sciences.

Similarly, the flagship **BBSRC Doctoral Training Partnership** continues to offer educational excellence via a broad and supportive training programme, with a new Training and Inclusive Support Manager, who guides students in developing technical and transferable skills at the cutting-edge of bioscience research, preparing them for a wide range of careers.

Our collective work and commitment to improving teaching and research culture in undergraduate and postgraduate education is expertly supported by teams of professional staff and academic leads and is commended by internal and external stakeholders. Through our future estate programme we are exploring what a **Modern, Accessible and Sustainable Teaching Hub** could look like and how this would support advanced practical, digital and student-centred learning in the biosciences and beyond.



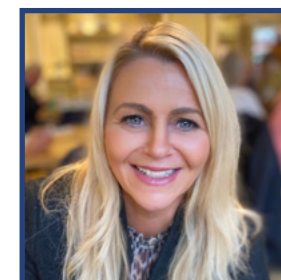
Outstanding People, Inspiring Environment

Bringing science, teaching and talent together to make a real impact

To continue to implement our vision for research and teaching we need to work to proactively attract, retain, support and develop a talented workforce committed to shifting the boundaries of knowledge in the biological sciences. We have a team of 2000 staff and 3000 students and we value the talent, expertise and enthusiasm that our community bring to the School.

We want the School of Biological Sciences to be a great place to work, where all our staff and students are engaged and inspired by a shared enthusiasm for scientific excellence and are supported and encouraged to perform to their full potential. We also aspire to deliver an organisational design that underpins a positive working culture with joined-up systems and processes that empower excellence. We value and encourage innovation across the services that support teaching and research and strive to enable our excellent professional services community to work collaboratively and share best practice across their professional networks.

We are also engaging with the University-wide **Change Programmes** which look to support teams and improve systems across HR, Finance, Research Support and more broadly Reimagining Professional Services. We recognise that amongst the many benefits to be gained from the Change Programmes there are also challenges and uncertainty that front line teams may experience in the Change process. We are engaging closely to support School members working within these evolving programmes.

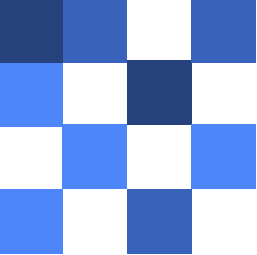


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“Many people across the School are working to reflect, innovate and ultimately transform the way we work so that all staff feel supported and inspired to perform at their best. I hope that through an ambitious vision and carefully implemented change programmes the School will become ever more connected and well supported, allowing people to grow and thrive in their roles.”

Fiona Craig, Departmental Administrator, Department of Pathology
Leadership and Management Community of Practice Co-Lead

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The University is signatory to the national **Technician Commitment**, a sector-wide initiative to help address key challenges facing technical staff working in higher education. As a School, we recognise that our expert technical staff provide invaluable guidance and support across the research and teaching pipeline, and as such we are working to uphold the four key areas of the Technician Commitment: visibility, recognition, career development and future sustainability of roles and skill sets.

The attention we give to how we support and develop our professional services, technical, academic-related and academic staff as well as our students says much about the sort of School we want to be. Our School-wide engagement with the **Athena Swan Charter** is an important way to develop, monitor and give visibility to the many ways we embed equality, diversity and inclusion in the life of Departments, Institutes and the School. Building on the School-wide Athena Swan award, we continue to strive to be leaders in equality, diversity and inclusion, in line with our reputation for world-class teaching and research excellence.



“It was empowering to be part of the School’s Athena Swan Self-assessment Team where we worked to evaluate and develop new strategies to promote equality, diversity, and inclusivity across the School. Including voices from across career stages in this process added valuable perspectives and I look forward to seeing how the approved plans will be embedded across the Departments and Institutes in the School.”

Yin Yuan, PhD Student Representative,
Athena Swan Self-Assessment Team

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Human, animal and planetary health are core themes across the biological sciences and connect us closely with our responsibilities to environmental sustainability and stewardship. In line with the University’s **Environmental Sustainability Vision**, we are committed to making a positive impact through outstanding environmental sustainability performance, with priority areas covering the reduction of carbon emissions, conserving natural resources and positively influencing progress through our teaching and research excellence.

Sustainability priorities are embedded in our plans for modernising our built environment in the School and will ensure we are on track to support the University’s ambitious environmental targets.

Our Future Estate

Building an inspiring campus to achieve our vision

Our ambition is to develop a modern and flexible estate that augments the world-leading research and education we strive to deliver, supports collaborative working, inspires our people and is fit for the future.

Excellent research and education spaces are pivotal to our ambitious vision for Biological Sciences. Our estate has a rich history and our buildings have constantly evolved and been adapted over decades to meet the changing nature of the science we do within them. We are now taking the opportunity to think strategically about what we need now and in the future.

Working collaboratively with spirit and imagination, the **School's Future Estate Programme** is exploring scenarios for how our built estate can be renewed in the long and the short term to allow us to remain at the forefront of scientific and teaching innovation.

We plan to deliver the best research spaces to enable interdisciplinary collaboration and innovation; creating more permeable spaces and social areas to facilitate people coming together across different disciplines and professional networks. For our students, we want to develop modern, accessible, and sustainable teaching facilities, allowing advanced practical, digital and student-centred learning in the biosciences and beyond.

Given the breadth of what we do across the Biological Sciences, we need to create effective spaces for a diverse range of needs and our space needs to be flexible to embrace rapid advances in scientific approaches and modern teaching methods. The project leadership team are strongly committed to seeking the views of stakeholders across the School as the work programme develops and to openly communicating progress.

Direct enquiries about the Future Estate Project can be made to: futureestate@bio.cam.ac.uk



Conceptual drawings to explore initial ideas for the development of our future estate. Credit: BDP Architects.

Contact us

We welcome enquiries and feedback from all School members: schoolbiol@admin.cam.ac.uk

Visit the website: www.bio.cam.ac.uk



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July 2024