UNIVERSITY OF SURREY

Professor of Vaccinology

University of Surrey information pack

Building

BRILLIANCE

At Surrey, every step counts, every little discovery.

The Faculty of Health and Medical Sciences has research partners in over 40 different countries worldwide. The Faculty offers an extensive portfolio of teaching programmes with considerable league table success for undergraduate, postgraduate, research and continuing professional development courses. Ranked 1st for Food Science, 1st for Veterinary Medicine, 5th for Psychology and 7th for Biosciences in the UK, the Faculty offers courses that are academically rigorous and practically relevant.

The Faculty is ranked top ten for research in the UK. In the latest UK research excellence framework (REF 2014), 93 per cent of our biosciences, health, psychology and veterinary research was rated world-leading or internationally excellent, placing Surrey eighth out of 94 institutions submitted in the Allied Health Professions, Dentistry, Nursing and Pharmacy category

Enter a world

OF COLLABORATION

Surrey is made up of many talented individuals who make us a great institution. But working together, and connecting with external institutions, businesses and government make us even stronger.

Since the University's founding in the 1960s, and before that at Battersea College, our community has thrived on strong connections with the world outside our campus. This spirit of collaboration is evident across the University today at every level. It informs our teaching, adds value to our research and increases our impact – connecting people with ideas, students with opportunities and businesses with technology.

Collaboration begins with the connections we make in our community, supporting projects that make a difference locally, and extends to our global partnerships that are enabling transformative research in areas such as 5G, cancer treatment and sustainable tourism.

Around the globe and beyond, Surrey plays a significant role. We were one of only a few UK universities invited to take part in the GREAT Festival of Innovation in Hong Kong, a wonderful forum for collaboration and interdisciplinary discussion on technologies that will drive the UK's future economic growth.

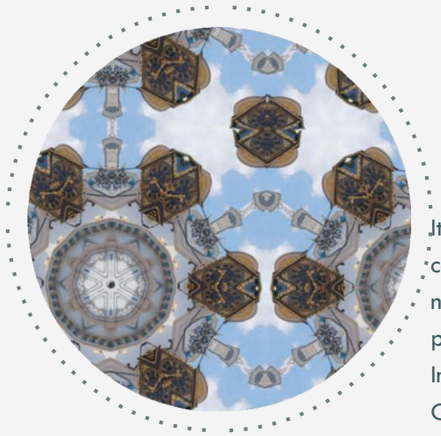
We also saw the first successful deployment of the RemoveDEBRIS satellite, a project we are leading with a consortium of space sector organisations. There's real energy, momentum and ambition to Surrey. It's always been part of us, and I'm excited to be able to share with you how we're taking that energy forwards into the future.. These collaborations, and many others, are bringing improvements across a diverse range of fields, and new connections are propelling us in surprising directions. At Surrey, we are continuously redefining and joining together the many spheres that surround us – from real worlds to virtual ones, and from the worlds inside ourselves to those at the farthest reaches of our imagination.

Professor G Q Max Lu AO DL
FAA FTSE
President and Vice-Chancellor
University of Surrey

Our worlds OF collaboration

Surrey is an interconnected network of intelligence, innovation and discovery – and the effects of the connections we make with the outside world can be felt locally, internationally and in worlds beyond our own. Our extensive, well-established collaborations with industry and the National Health Service (NHS) continue to provide knowledge exchange with the commercial sector, clinical practice and the wider community.

The University plays a leading role in the Kent, Surrey and Sussex Academic Health Sciences Network forging greater collaboration between academic institutions, the NHS and industry to boost research and innovation in health care.

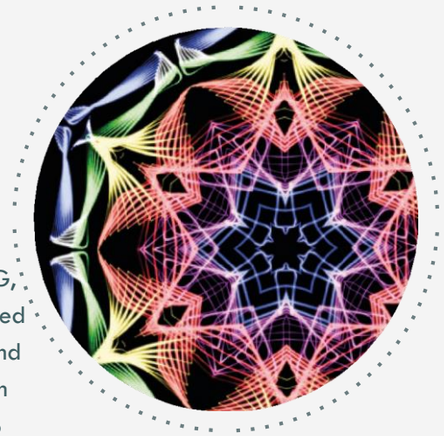


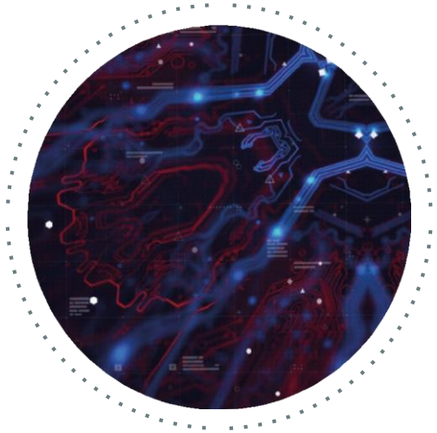
LOCAL

It starts with the active role we play in the community on our doorstep and our local networks. We have many collaborations with partner organisations including the Pirbright Institute, APHA, the Laboratory of the Government Chemist, the Quadram Institute, the Royal Surrey County Partnership Trust, Surrey and Sussex Health Partnership Trust..

OTHER WORLDS

The next generation of communications technology and data analytics, namely 5G, puts Surrey at the forefront of the connected health agenda. Our expertise, resource and infrastructure enable us to harness talent in the physiological and big data sciences to enable the development and evaluation of new e-health devices.





INTERNATIONAL

We see opportunities rather than boundaries, making connections across the world in our quest for new discoveries.

THE FUTURE

Our curious mindset and spirit of innovation mean we always determine what's to come.

OUR

community

We are proud to play a part in the rich life of Guildford and our surrounding area, and work hard to develop meaningful and mutually beneficial connections with our local community.

We partner with local organisations on an inspiring range of projects to celebrate what's great about Guildford, support residents and be a good neighbour in our community, building and developing close relationships. Responding to our annual Guildford Residents' Survey we worked with students to promote safety and reduce noise, introducing Night Street Marshalls, the #LetGuildfordSleep campaign and providing a regular night bus service.

We host the Pint of Science festival in Guildford pubs and support STEM through the Innovate Guildford Festival, as well as several volunteering and research projects that benefit local residents. As part of our wider support for our neighbours in the North West Guildford community, our ongoing work with Kings College has helped secure a 'Good' OFSTED rating for the school. We also created a community garden, which itself won an award at Guildford in Bloom, an event proudly sponsored by the University.

The University supports and promotes Guildford's rich culture and is delighted to see members of the public performing alongside students in our University of Surrey Community Orchestra.

We celebrate the people and places which make Guildford and Surrey such a special place to live, work and study. 2018 marked 60 years since the Surrey Hills was named an Area of Outstanding Beauty, and we enjoyed hosting a symposium to mark this event and celebrate the landscape that forms part of the unique character of the University.

Our community is part of the fabric of life at Surrey, and the connections we forge with residents, charities and institutions bring mutual benefits in new and unexpected ways. By inviting the outside world in, and reaching out, we will continue to learn and grow together.

A NATURAL

partnership

The Students' Union (SU) is a vital part of the University of Surrey community. Representing students, the SU works with the University and our wider community on a broad range of activities.

I've been part of the University since 2010 and what a journey it's been! As Students' Union President, it's a real pleasure to be working now with my Union colleagues, our partners within the University, and our friends in the local community to create the changes students want to see and a better community for all.

For one, we have recently started our new 'Employable Me' campaign with the University and local businesses to help build our students' employability through extracurricular activity. Meanwhile, students have raised thousands of pounds through Raising And Giving activities for our chosen charities, Meningitis Now and Guildford Action (2017-18), and Shooting Starchase and Oakleaf Enterprise (2018-19).

And, we also launched a new volunteering platform, surreyvolunteering.com, which recently passed 1,000 registered volunteers who are now out and about across Guildford working with a range of charity partners. Inclusion is a theme of my work as Union President this year. I want us to have a greater focus on supporting every section of our student community, and to develop our network with other Students' Unions in the south of England. By working in partnership, we can make a bigger difference for everyone!

Dr Alex Harden,
Students' Union President 2018-19

INTRODUCING

FHMS

The Faculty of Health and Medical Sciences (FHMS) is one of the University of Surrey's three faculties. FHMS is home to four Schools with world-leading facilities for research in the Schools of Biosciences and Medicine, the School of Health Sciences, the School of Psychology and the School of Veterinary Medicine. All four contribute to the research profile of the Faculty.

The School of Biosciences and Medicine:

aims to optimise human and animal health for the benefit of society, in the face of global challenges such as ageing populations, disease burden, food security and climate change. Our expertise is focused in terms of critical mass of world leading experts working in four broad areas: biochemical sciences, microbial sciences, nutritional sciences and clinical and experimental medicine. Our research capability is supported by superb facilities and a centrally-funded skilled technical team. It extends from molecular analyses at the bench, through *in vitro* small animal studies, first in human clinical trials and 'second translation' research in the community.

In chronobiology and sleep research we exploit fabulous molecular biology and *in vivo* facilities to study circadian rhythmicity, including the effects of light and sleep and this work is complemented beautifully by work on humans thanks to our state-of-the-art residential clinical facilities.

Basic and clinical translational research in the School is also undertaken in clinical medicine, cardiovascular science, immunology, oncology and multi-omics, the latter having considerable big data analytical capability. This research is further enabled by our accredited clinical trials unit and clinical research facility, the latter with first in human capability. Complementing these are our Surrey Health Economics Centre (SHEC) and we host the NIHR-funded South East Research Design Service.

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Our bacteriologists cover a broad spectrum of pathogens and represent the largest grouping of investigators in Tuberculosis research in the UK.

Our virology research emphasises virus exploitation and interaction with cellular processes including translation, protein processing and innate immune responses. These infection biology studies are enabled by in-house containment level 3 facilities and complemented by systems biology research expertise.

In nutritional sciences, our research benefits from the clinical facilities described above and includes molecular nutrition and micronutrients, metabolic medicine and macronutrients and sports and exercises sciences.

Ultimately, our multidisciplinary and translational applied teaching and research are tackling current and emerging global health challenges to improve human and animal health and wellbeing.

"I'm getting a lot of experience in the clinical trials industry. It's a very complicated process and it has been a real eye-opener to discover how much needs to be done to get a trial running. I'm very excited to learn more."

Kayleigh Cheong
Biochemistry Student

1,038

STUDENTS ON PLACEMENT ACROSS THE GLOBE IN 2017-18

2,300+

PLACEMENT PROVIDERS IN THE UK AND OVERSEAS

In the **School of Psychology**, the research it carries out, the interventions it develops, and the teaching and training staff deliver benefit individual and societal development and wellbeing. The School has a strong track record of innovation in Psychology, from the discovery of the McGurk effect, to the first Centre for Environmental Psychology, the shaping of cross-European approaches to food labelling, changing educational approaches to national identity, and the ongoing development of mobile neuro-assessment.

Being at the forefront of the development of research and of innovations, the School is directly contributing to the wider Faculty themes of One-Health and the University cross-cutting themes of Lifelong Health. Disciplinary research expertise lies in:

- Releasing the lifelong potential of the Brain- ageing/dementia; neuro-development disorders and computer interfaces;
- Addressing inequalities in life-course health and wellbeing- obesity, diabetes, stress, nutrition, food safety, sexual health;
- Helping to embrace changing society, environments and communities- community intervention, mental health, environmental and social contexts, culture, language and science; identity, diversity and prejudice;
- Intervening to create fulfilled, healthy and creative lives – sport and exercise, improving parenting and caring, psychological therapies;
- Informing and influencing policy and practice - food labelling and NICE guidelines, European environmental policy and national identities, UK policies on early intervention, public understanding of science.

The **School of Health Sciences** undertakes education and research to deliver the most dynamic, effective and caring healthcare professional in a School that places innovation, research and passion at the heart of everything it does.

Our research is informed by our recognised leadership in three cross-cutting themes: Ethics in care; Digital Health and Workforce Organisation and Wellbeing. These themes run through clusters of professional and research expertise such as cancer care, long term conditions and ageing, maternal and child and family wellbeing. For example, researchers working on cancer care represent one of the largest grouping of health science researchers working across the life span and disease course - from diagnosis to survivorship and palliative care, including supportive technologies and training to facilitate self-management (Digital Health).

Our Digital Health research is focused on remote patient monitoring, chiefly in cancer and dementia care, application of internet of things in healthcare, digital solutions for diabetes, and analysis of big data. We collaborate with engineering commercial partners and citizens to create health technologies that are accessible for patients and families and that are proven to improve health and social care outcomes.

Researchers working on long term conditions and ageing focus on workforce development, service users and health across the lifespan in a number of areas including diabetes, dementia, depression, cancer and people with multiple long-term conditions. For example, the Technology Integrated Health Management (TIHM) for dementia is a collaborative project involving researchers from Surrey, the NHS, Alzheimer's Society and others, that is aimed at developing smart devices which are connected via an Internet of Things to help people with dementia to live in their own homes for longer.

A KINGDOM OF

collaboration

With our network of veterinary practices across the UK, we're creating a new generation of vets.

The **School of Veterinary Medicine** has created a vet school that is different.

Just over five years ago we welcomed a very special group of students – our first cohort of undergraduate students to our School of Veterinary Medicine - who successfully graduated in July 2019. The School houses lecture theatres, biomechanics laboratories, a Veterinary Clinical Skills Centre and one of Europe's largest and most sophisticated high containment veterinary pathology centres. Whilst embracing the traditional values of professionalism, scientific curiosity and clinical excellence, it has broad horizons.

With a strong One Health focus, our expertise in veterinary pathology & digital pathology, microbiology, parasitology, immunology, antimicrobial resistance, endocrinology, metagenomics & microbiome, nutrition, neurobiology, oncology & neurology, and physiology is complemented by epidemiology and the appropriate use of innovative technology through vHive. The Veterinary Health Innovation Engine (vHive) is a unique partnership between the University of Surrey and Zoetis Centre for Digital Innovation, supported by a co-investment of £8.5 million in resources dedicated to the development and adoption of new digital technologies in animal health. Veterinary researchers are also involved in the development of novel alternatives to antibiotics (zoonotic diseases), vaccine development and improved practices through food production and management of biosecurity on farms. Close links with our veterinary partners, Pirbright and the Royal Surrey County hospital facilitate research projects to understand the pathogenesis of diabetes, neoplastic disease and neurological diseases in animals and humans.

"Our fully distributed model of education – working with practices to provide clinical training - is the first of its kind in the UK. Our partners are critical to the delivery of this novel model and ensure our students develop the knowledge, skills and attributes required for life as veterinary graduates."

Dr Mike Cathcart
Director of Clinical Education
School of Veterinary Medicine

FHMS

CORE FACILITIES

Our research capabilities are enabled and enhanced by focused, well-resourced facilities that are supported by a centrally-funded research technical team of 60 technicians

The clinical research facility (CRF) is a core human research resource which is Medicines and Healthcare products Regulatory Agency (MHRA) accredited for first in human Phase I studies.

Our Clinical Trials Unit (CTU) is UK Clinical Research Collaboration (UKCRC) accredited and covers all aspects of trial design, set-up, trial conduct, data management, data analysis and reporting from single-site to global multi-centre trials.

The Surrey Sleep Research Centre (SSRC) is home to forward-thinking multidisciplinary approaches to sleep research and offers a wide range of state-of-the-art equipment to monitor, record and analyse sleep patterns and sleep disorders. Facilities include individual sleep laboratory bedrooms and a hospital ward environment with infrared CCTV monitoring.

Our Digital Health Technology Accelerator is part of a multi-partner enterprise to enable innovation and implementation of digital devices and ways of working to improve patient and care and enable individuals to live in their homes independently and for longer as they age.

Building on our existing reputation in biosciences, the University invested £7.5m in 2018 to build a biomedical research facility in which to conduct animal studies for research in areas such as cancer, sleep, circadian rhythm, ageing and infectious disease. The facility comprises a holding space for small animals (mice, rats, guinea pigs, rabbits and hamsters), along with dedicated procedural space for work at Biosafety Containment Level 2 as well as surgical, sleep and circadian rhythm suites.

Infection research is enabled by two separate containment level 3 suites on site. Bioinformatics capability is provided by an academic-led facility with dedicated research officers providing advice in experimental design and costing for research proposals, and a range of skills in data sourcing, wrangling, processing, and analysis.

Aside from standard laboratory facilities, our dedicated, technician-supported research facilities include: automated quantitative pathology imaging; automated immunohistochemistry; confocal microscopy, including live cell; mass spectrometery; bioreactors; Illumina MiniSeq; flow cytometry, including cell sorting in containment level 2; Microencapsulator facilitating innovative single cell RNAseq; animal gait analysis; human movement analysis including gait.

Our research focus falls principally under the University theme tackling the Global Grand Challenge of Lifelong Health. This focus is underpinned by pillars of research excellence in:

- Chronobiology and Sleep
- Infection and Immunity
- Nutrition and Food Security
- Healthy ageing and supporting long term conditions
- Understanding Relationships with Social and Physical Environments
- Digital Health and Data Science

WHAT'S

our vision for FHMS research...

> is to be internationally recognised for delivering high quality research, innovation and impact, resulting in sustainable benefit for the health and wellbeing of humans and animals and the global environment. We are internationally known as a partner of choice and exemplary for developing postgraduate and early career researchers. Our mission is to improve the health and wellbeing of humans and animals and their environments through new knowledge and its application to the design, development and delivery of responsible innovation and impact.

Executive Dean, Prof Helen Griffiths

We are growing our reputation as the place for the next generation of researchers and innovators to develop the confidence and skills they need to launch their careers. To echo the University's Strategy, we will not only support our researchers for today but also prepare them for success tomorrow. Key doctoral training partnerships include the Leverhulme Quantum Biology Doctoral Training Centre; the FoodBioSystems Doctoral Training Partnership and the Applied Research Collaboration Kent, Surrey and Sussex.

Our research is driven by an understanding of the importance of collaboration and co-creation with colleagues and with those individuals, groups and organisations beyond our Faculty and University who have an interest in our work, and with those who have an interest in their work. We use these interactions to shape what research we do, as well as how it is conducted, disseminated and used; through such knowledge exchange and stakeholder involvement we will foster innovation for the widest possible benefit. It is the varied disciplinary knowledge, networks, life experiences and skills of our research and innovation community that will enable us to achieve our mission.

Game

CHANGING RESEARCH THEMES (1)

Our research in Health and Medical Sciences spans a diverse range of ***cross-cutting themes***.

Chronobiology and Sleep:
Alleviating disrupted sleep and managing circadian timing for improved health outcomes

Sleep is a major determinant of well-being, behaviour and of mental and physical health. The circadian timing system, present in humans and animals, regulates almost all aspects of cell and system physiology. When it is perturbed through illnesses such as dementia and cancers, sleep abnormalities ensue. Circadian rhythm disruption and sleep restriction are features of our modern 24-7 society and we need to manage these better, including as we age and travel.

Research programmes within the Chronobiology and Sleep theme address the function and regulation of sleep and circadian rhythms. Studies to optimise the administration of light and of melatonin inform actions to address the cognitive decline associated with sleep loss and circadian misalignment. Probing datasets for links between genotype and the timing of activities such as food consumption reveals approaches to disease prevention.

Infection and Immunity:
Understanding microbes, host immunity and preventing the spread of infectious disease

Biosecurity is a global concern - infectious disease is estimated to cause a third of all human deaths worldwide. Better ways to empower the immune system to protect us from pathogens, but without triggering the inappropriate immune responses that cause illness, are continually needed. As microbes evolve and emerge from animal reservoirs to threaten our food supply and health, we need to develop new agents such as vaccines and antimicrobials and understand how best to use them, including to avoid AMR. Within the theme we take an interdisciplinary and One Health approach to tackling these challenges.

Investigations of host-pathogen interactions and of microbial structure and mechanisms, including at the quantum level, reveal target structures and pathways for blocking transmissible disease and enhancing antimicrobial penetration in humans and animals. Studies to elucidate immune system complexities inform better diagnosis and treatment of autoimmunity, inflammation and sepsis. Generating new datasets and applying computational techniques enables new ways to minimise the transmission of pathogens and to optimise antibiotic production from bacterial strains to be designed.

Further research

CROSS-CUTTING

themes (2)

Digital Health and Data Science:
Gathering new data insights to advance diagnostics, treatment and care

Digital technology is changing the way that illnesses in animals and humans are diagnosed, monitored, prevented, treated and experienced. New AI tools are continually being developed and fresh insights are needed to apply these efficiently and effectively to an array of datasets and to use the outputs ethically to hone algorithm design. The ultimate challenge is to move from systems that react to changes in health to those that predict potentially deleterious changes and support early intervention to prevent diseases taking hold.

Within the theme, work to probe datasets of symptoms acquired from internet of things-enabled sensors installed in the homes of patients living with, or at risk of conditions such as dementia, diabetes and cancers, helps prevent both the human and economic cost of hospitalisation. Sensor data from biomechanical analysis of companion animals reveal the impacts of skeletal abnormalities, enabling swifter diagnosis and improved animal welfare. Probing complex datasets of pathogens, animal hosts and environmental conditions enables real time detection and diagnosis of zoonotic disease and enhances global surveillance efforts. Exploring how technology can best be used to support clinician patient interactions and monitor and improve sleep reduces demands on health systems.

Healthy Ageing and Supporting Long-term Conditions:
Defining mechanisms and markers of age-related disease to improve intervention and care

The world's population is ageing. In Europe and North America there are already more people older than 60 years than under the age of 15. The life expectancy of those living with conditions such as dementia, metabolic illness, cancers and genetic conditions that previously prevented progression beyond childhood or middle age is increasing. And this is not just an issue for high-income countries by 2050, 80% of all older people will be living in low- and middle-income countries.

Throughout the world, the increased quantity of years is not always being matched by a rise in quality of life and we need to better manage age-related changes and prevent social isolation. Research programmes in this theme use subcellular through to systems and population level approaches to address these challenges. Fundamental molecular and clinical investigations determine the mechanisms involved in ageing and disease progression and reveal biomarkers and symptoms to monitor to assess treatment response.

Analysis of big data from genomics to healthcare costs enable complexities around clinical decision making to be unravelled. Studies to co-design interventions and services help maintain physical and cognitive function and promote adaption to multimorbidity, including in the vulnerable.

Scholarship of Teaching and Learning:
Advancing pedagogic research to shape individuals and influencing society for the better

The ways that education is delivered can profoundly influence learning outcomes for individuals and affect groups and communities in which people learn. And practices associated with scholarship change continually, often prompted by critical reflection upon both one's own experiences and methods and those of others. From such educator-led changes, an evidence base through peer reviewed publication can be built to initiate wider developments in educational practice and policy.

Within the Scholarship of Teaching and Learning theme, we use a wide range of systematic techniques to investigate educational practices and to determine the best ways to enhance the student experience. Through pedagogic research, often co-created with students, we provide an enhanced understanding of the educational environment and prompt discussions between staff and students about teaching excellence. We also enhance theoretical and conceptual understanding about educational processes and experiences and the wider contexts in which learning and teaching take place.

Further research CROSS-CUTTING themes (3)

Nutrition and Food Security:
Determining dietary requirements and sustainable food choices to improve health

Ingesting suitable amounts of nutritious and safe food at an appropriate regularity is key to sustaining life and promoting health and wellbeing. This is not currently happening - the World Health Organisation estimates that around 60% of the global disease burden is attributable in some way to poor diet or unsafe food. New thinking, knowledge, applications and governance systems need to emerge to persuade individuals to make healthy and sustainable choices for themselves and others. Better strategies to ensure food and water security, including effective food waste management, are sought throughout the world. Research programmes within the theme of Nutrition and Food Security address these challenges - from investigating electron shuffle in food chain-relevant microbial communities to instigating behavioural change in human populations.

Biomedical, clinical and genetic studies of nutrient deficiency, nutrient handling and circadian control of metabolism inform approaches to personalised diets and disease prevention. Investigations of how nutritional requirements alter during times of illness and exertion aid menu design, including when fresh food is not easy to obtain. Understanding how diseases and drug treatments effect the GI microbiome in people and animals highlights ways to prevent contamination of food and water, reducing, for example, the likelihood of antimicrobial resistance (AMR). Studying the function and regulation of the gut-brain axis informs strategies to improving mental health.

PROFESSOR
SUSAN LANHAM-NEW

"Winning the Queen's Anniversary Prize gives us great credibility in the field of nutritional sciences specifically, but also in science generally. We will continue to push forward to ensure that this opens up further opportunities for collaboration with partners both nationally and internationally."

Understanding Relationships with the Social and Physical Environment:
Understanding how health and development are impacted by an individual's environment

Physical and social environments impact on the way people think, act and feel. At the same time, people are constantly changing those physical and social environments. Understanding how we act in and towards our homes, schools, workplaces and leisure spaces is essential to tackling many societal and environmental challenges and ultimately to enhancing health and wellbeing. Efforts to support social justice for all, to ensure the ethical treatment of patients and to improve children's education all rely on such behavioural insights, as do those to promote sustainable futures by tackling energy wastage and marine litter.

Within the theme, we draw on traditional and novel research methodologies to deliver evidence-based solutions to these challenges. Studies of how moral distress arises, health care teams work together, and how facilities are designed and built, inform approaches to improving work cultures, the ethical climate of organisations, staff wellbeing and patient outcomes. Investigations of developmental processes probe the two-way interaction between environments and cognitive, social, emotional and mental health outcomes. Monitoring the reactions of those immersed in virtual reality situations enables an in depth understanding of people-environment interactions, including how to retain ethical decision making in times of stress and why interaction with nature and with companion animals enhances wellbeing.

LET'S TALK

Professor of Vaccinology

BACKGROUND

As a result of our new strategic plan and future vision, the School of Biosciences and Medicine in the Faculty of Health and Medical Sciences is recruiting an exceptional person to a lead role in Vaccinology to continue to add to the successes at School, Faculty and University level and to work closely with The Pirbright Institute.

This is a very exciting opportunity underpinned by a substantial philanthropic contribution and a partnership between the University and The Pirbright Institute. The position will be within the Section of Immunology in the Department of Biochemical Sciences, part of the School of Biosciences and Medicine. The postholder will take the lead in building and leading a complementary programme of interdisciplinary research in vaccine development for the School of Biosciences and Medicine, and for providing academic and strategic innovation in Immunology and more widely across the School of Veterinary Medicine.

This new post will lead in the development and delivery of an innovative research programme in the broader field of immunology and infectious disease. The postholder will be responsible for identifying sources of funding, submitting innovative funding bids, undertaking high quality research and publishing in appropriate journals, thereby supporting the School research strategy.

Only five miles away, our close neighbours and partners at The Pirbright Institute deliver world-leading research to understand, predict, detect and respond to viral disease outbreaks. We work together to study viruses of livestock that are endemic and exotic to the UK, including zoonotic viruses, by using the most advanced tools and technologies to understand host-pathogen interactions in animals and arthropod vectors. Our major strength in understanding the immune systems of livestock provides a platform to control current diseases and respond to emerging threats.

This post will be a part of the Bill and Melinda Gates Foundation-funded Pirbright Livestock Antibody Hub which will exploit the recent advances in our understanding of B-cell responses to better understand the protective immune response in livestock and poultry with a strong translational and one health focus. Ultimately the Hub will support rational vaccinology approaches, antibody-based treatment and prophylaxis as well as increasing the applicability of animals as models for human disease and treatment.

High containment research facilities in the BBSRC National Virology Centre: The Plowright Building.

WHAT DOES THE ROLE OFFER YOU?

If you are the successful candidate, you will become a major contributor to the success of the University's ambitions, cementing our existing close working relationships with The Pirbright Institute. In this role, you will develop and lead a team of internationally recognised researchers within the realm of immune system function and reducing either infectious disease or cancer impact through prophylactic and therapeutic vaccine design.

This post attracts a highly competitive salary, relocation package and a generous start-up package including a substantial equipment/staff budget and fully-funded PhD students. Besides a vibrant and forward-thinking working environment on a leafy campus close to London, we offer leisure facilities and access to a variety of academic and professional development opportunities to help you fulfil your potential.

KEY RESPONSABILITIES

- To be a world leading academic with the demonstrated leadership to drive the research directions, impact and sustainability of Vaccinology at Surrey by securing continuous extramural research funding so as to undertake and publish research of the highest standards in immune function, vaccine design and related disciplines.
- Building academic relationships with industrial partners and institutions, contributing to and promoting the aims of the Pirbright Antibody Livestock Hub.
- Contributing to innovative teaching and curriculum development at both undergraduate and PG levels.
- Providing leadership, mentorship and management of academic colleagues to achieve recognition of world leading research activity within the School and the Pirbright Institute
- To provide leadership in the national and international recruitment and training of postgraduate students and the development of international collaborations.

QUALIFICATIONS & EXPERIENCE

- A sustained record of securing significant research funding along with an exceptional and continuing publication profile.
- Evidence of supervising PhD students through to completion as principal supervisor.
- A strong interest and track record in converting research into societal impact
- Proven leadership in knowledge transfer activities, the creation, development and dissemination of knowledge to the local, regional, national or international communities
- An international network developed from your excellent communication and interpersonal skills
- A higher research degree (PhD) in immunology or related discipline.

We **acknowledge, understand and embrace diversity and the School of Biosciences and Medicine is proud to be the recipient of the Equality Challenge Unit Athena SWAN Silver award.**

AN EXCEPTIONAL CANDIDATE

The successful candidate will be an exceptional research leader who can grow and sustain a collegial and productive research environment across the University and the Pirbright Institute.

Personal Qualities

If you join us in this role, you will be a dynamic, forward-thinking team player with a 'can do' attitude and a desire to achieve personally. In your new role, you will be ready to build on your outstanding track record of achievement in scholarship and research and able to inspire others with your clear strategy to attract and secure research funding. The successful candidate will be keen to regularly visit Pirbright regularly to ensure that research and educational programme developments are aligned to the School's vision as well as with The Pirbright Institute's Livestock Antibody Hub supporting animal and human health.

How to Apply

Informal enquiries can be made to the Head of School, Prof David Blackbourn, by email (via e.frost-bridges@surrey.ac.uk). When completing the online application form, please ensure that you include (i) a cover letter, (ii) your CV; (iii) a supporting three-page statement outlining your past accomplishments and detailing your intended five-year research programme For further information and details of how to apply, please visit:

The closing date for applications is 5th March 2020. Interviews will be held on 20th March 2020 in Guildford at the University of Surrey.

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