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Oxford Prospects and Global Development Institute

Oxford Prospects Programmes

牛津展望计划

Oxford Prospects Online Programme

(Medical Sciences)

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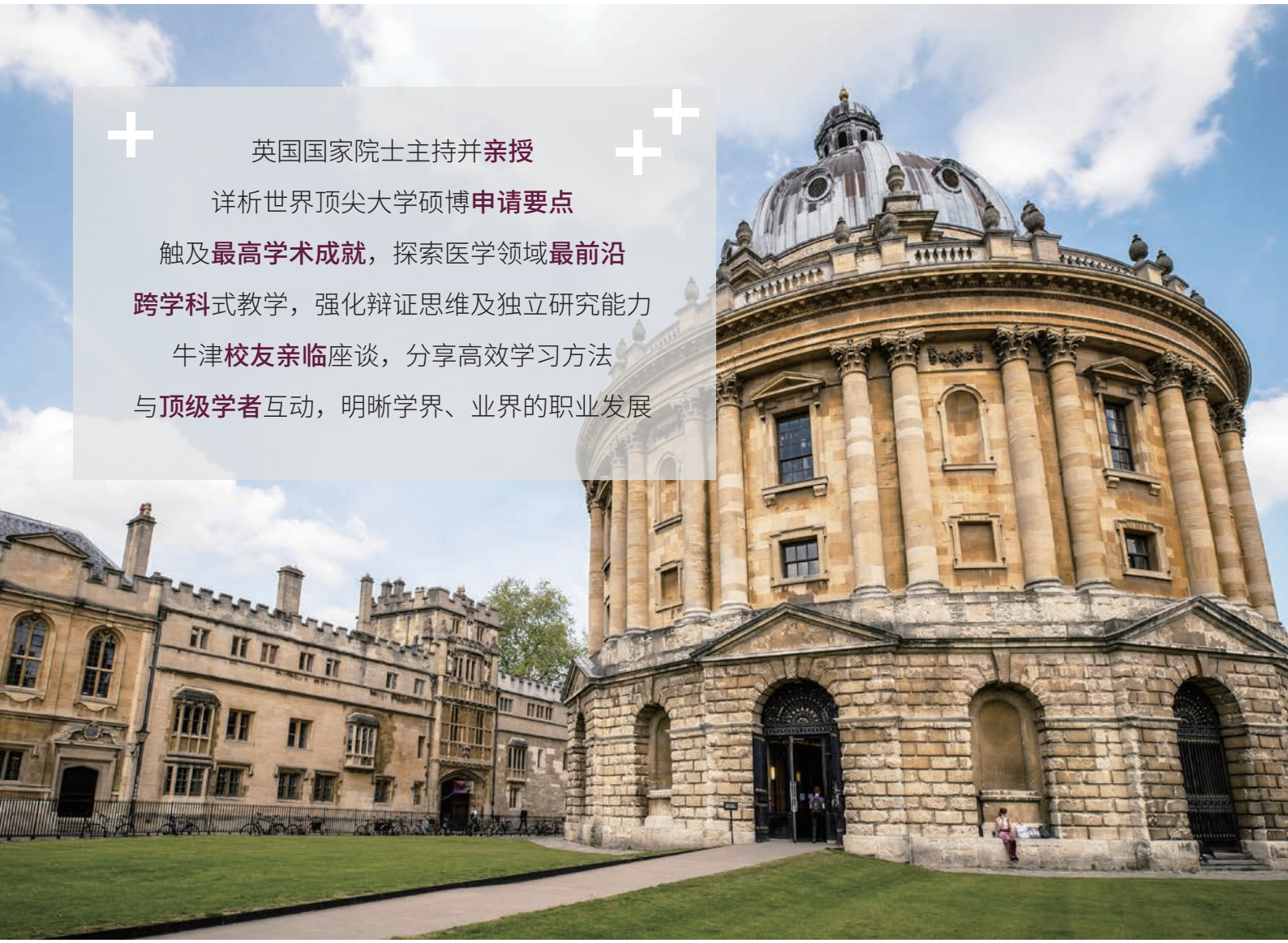


英国国家院士主持并**亲授**

详析世界顶尖大学硕博**申请要点**

触及**最高学术成就**，探索医学领域**最前沿**

跨学科式教学，强化辩证思维及独立研究能力

牛津**校友亲临**座谈，分享高效学习方法

与**顶级学者**互动，明晰学界、业界的职业发展

项目背景简介

牛津大学是英语世界国家中最古老的大学，创建历史可追溯至十一世纪末。2017-2022 年连续六年蝉联全球排名第一。牛津大学拥有雄厚的师资力量，其教职队伍中有 83 位皇家学会会员和 125 位英国科学院院士。近 900 年的校史中，牛津于各个领域培养了许多杰出领袖，包括 6 位英国国王、28 位英国首相、多位外国政府首脑、50 余位诺贝尔奖获得者和一大批世界著名的文学家和科学家，在诸多领域引领着世界最前沿的科学研究。

牛津大学医学院综合实力稳居世界前三，在临床医学研究方面连续九年世界排名第一，生命科学研究世界排名第三，现有 3000 余位本科生及博士研究生，和来自 101 个国家的 5600 余位学者、研究人员、NHS 临床医师和全科医生，拥有 44 家股权转移公司，在 25 个国家和地区拥有深度科研合作。主体研究及课程内容涉及生理学和药理学，生物化学和医学遗传学，应用心理学，病理学原理。

牛津大学摄政学院全球发展与展望研究院（OPGDI）与学术界同仁团结一致，特别筹备在线课程，有幸组织数位英国国家院士为模块领衔教授，为来自精心挑选的一流中国合作高校的优秀学生而设计，为其提供高质量的学习资源及学术交流平台。

基本信息

申请条件：IELTS 6.0 或 TOEFL 80 以上

如尚未拥有以上成绩证明，可提供其他英语能力证明（如四级 , 六级，或高考成绩等），项目学术处将依据申请人资历进行审核，或将安排面试，学术处将对录取结果拥有最终决定权。

授课形式：所有课程均为**直播授课，同步录制，便于回放复习**。

通过课程交互系统及课程交流群组，提供 Reading Materials，分享 Lecture Notes。

项目咨询：此项目仅向合作高校开放，课程内容咨询联系

Wechat: **yinmengdjj**

Email: **jerry.deng@oxford-prospects.com**

课程结业：顺利完成课程将获得 Programme Certificate 以及 Transcript。

此次课程总计约 40 小时 Contact Hours，以及 40 小时的自主研习时间，对应 8 个 CATS 学分，4 个 ECTS 学分，以及 3 个美国学制学分。

学术课程

Academic Lectures

15 课时

+

小班研讨会

Interactive Seminars

10 课时

+

拓展工作坊

Outreach Workshops

5 课时

+

特邀嘉宾讲座

Guest Lectures

3 场次

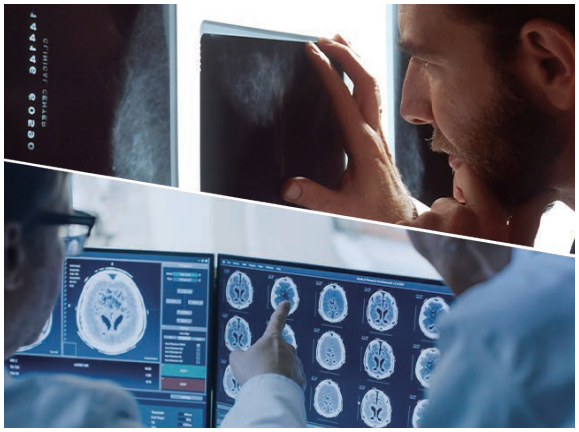
学术课程
Academic Lectures

人为什么会得癌症，当我们变老时，大脑会发生什么？什么是检查点疗法？干细胞可以用来治疗任何疾病吗？超声波对输药有用吗？抗生素会有危险吗？探究错综复杂的医学和临床研究，关注基因编辑和肿瘤成像方面的最新技术发展，神经退行性疾病和肿瘤学的过程，分析临床试验和药物开发所需的步骤，学习医疗保健系统和临床实践的各类模型，提升更加全面的认知。

通过对热门学术议题的 **纵深学习**，激发学科兴趣。通过跨学科式的 **广度学习**，构建对医学及生命科学更全面的理解和认知，对于未来学术和职业规划有更清晰的认识，更将利于突破单一学科思维模式限定，对于国际化、多元文化交流，团队合作，系统性复杂问题的解决奠定良好基础。

学术课程共计 **15 课时**，由英国学术院的国家院士领衔并亲自主持授课，其余授课老师为牛津大学教授、学者以及部分特邀行业嘉宾，无在读博士或博士后代课。

- Medical Artificial Intelligence Vision
- Haematopoiesis: from Normal to the Disease State
- Macrophage & Anti-microbial Activity
- Computer-aided Drug Design
- Flash Radiology
- Drug Development and Clinical Trials
- Cell biology: Evolutionary Perspectives on Cancer and Ageing
- Neurodegenerative Diseases: the Coming Epidemic
- Deep Brain Simulation and Testing
- Biomedical Engineering: Tissue Reconstruction and Angiogenesis
- Autoimmune Diseases and Checkpoint Therapy
- Quantifying Parkinson's Disease and Digital Phenotyping
- Is Vision Driven by the Eye or the Brain?
- Extracellular Vesicles in Health and Disease
- Vascular Pharmacology



* *课程大纲及师资请参照 Page 8-10*

小班研讨会
Interactive Seminars

共计 **10 课时**。每日学术课程之后将安排线上互动研讨课，学以致用，增强知识的理解和输出。学生们将作为课程核心，课前各小组（2-4 人）将在指导下进行充足的准备工作，课上作业展示，接受其他小组的提问，并在指导下就议题进行深度讨论，思考 - 质疑 - 辩论 - 捍卫，进而锻炼学术研究技能，提升团队合作能力。此部分师资为牛津大学教授、学者或研究员。

“与 Lecture 授课模式不同，Seminar 小班过程中的收获完全超乎我的预期，非常 Hardcore，教授给我们分组并引领我们进行开放式的课程讨论，激励我们探索，知识输出，科研方法论实践，让我第一次觉得问题解决、做学术是可以如此有趣。”

-- 李同学，浙江大学本科三年级

拓展工作坊
Outreach Workshops

共计 **5 课时**。拓展工作坊旨在激发学生的内驱力，锻炼批判性思维和研究技能，明晰学术和职业规划，同时还将提供与牛津大学成功申请者互动，建立新人际关系的机会，内容包括:

- 英国国家医疗服务体系（NHS）
- 医疗系统的横向对比
  （德国，新西兰，波兰，美国）
- 科学研究方法论
- 申请过程解读
- 学术科研论文撰写
- 心理健康及朋辈支持
- 牛津在读生及校友分享讨论会

学生反馈
Student Testimonials

“No silly questions”

为期三周的线上课程，我最大的收获不仅是密度极高的学术知识，更是对于走出舒适圈的觉悟及高效的学术研究技巧。在课程初期，由于害怕犯错，我一直羞于提问，但教授的那句 'No silly questions' 无意中给了我走出“沉默”这个舒适区的勇气。

-- 赵同学，吉林大学本科二年级

“人不能活得太过安逸”

一位牛津学长说的话给我留下了深刻的印象 'Never do the things that make you feel so comfortable doing. Once you get too comfortable doing something, it's about time to move on and get in touch with new things.' 人总是有惰性的，在自己熟悉的领域做着自己觉得舒服的举动无疑是最安全的，永远不会出错、不会出丑、也不必去面对任何窘迫的情形。然而这也恰恰扼杀了诸多本可尝试新事物的机会，探索新领域的可能性。“人不能活得太过安逸。”这一句话为我安于现状的态度敲响了警钟。

-- 杨同学，上海交通大学本科二年级

“各学科的前瞻性开拓了我的眼界”

很珍惜这次被选中参加牛津展望计划线上课程的机会，聆听许多优秀教授的讲课。在不同形式的学习过程中，我逐渐意识到沟通及自主学习的重要性。各学科的前瞻性开拓了我的眼界，教授的每次提问都发人深省。

-- 张同学，北京师范大学本科二年级

“为我打开了学术的新世界”

课程的新鲜感是我从未体验过的，我很荣幸能有机会和牛津大学教授一起学习。整个课程的全英文教学环境，使我的英语口语更加流畅，再也不惧怕查阅任何英文文献。课程中涉及的许多前沿科学研究，为我打开了学术的新世界，教授们经常耐心的鼓励我们提问任何问题。

-- 曾同学，浙江大学本科一年级

“对于一项研究来说，独特的选题和严谨的工作态度都至关重要”

由衷感谢此次线上课程的所有授课导师，在学习的过程中，我收获了许多的灵感，不仅有对未来职业的规划，更有研究方向的启迪。对于这些灵感，我不一定有机会一一实现，但我所获得启发的过程和思路将为我带来更多的新鲜想法。对于一项研究来说，独特的选题和严谨的工作态度都至关重要，感谢导师们给予我的提升。

-- 娄同学，上海交通大学本科二年级

“课程中最大的收获，是对于知识获取及思考方式的转变”

课程中最大的收获，是对于知识获取及思考方式的转变。以前我的学习是被动进行的，很少会提前预习或阅读相关资料。而现在我开始会在课下阅读文献，因为自我学习比单纯的靠老师归纳整理，更利于知识的吸收，也能获取更全面的信息。

-- 郑同学，山东大学本科二年级

“我真实的感受到了什么是跨学科学习”

与国内单一思维授课不同的是，我真实的感受到了什么是跨学科学习！学科研究不再是单一方向的思考，而是多元化交叉学科的融合。研究的主题也可以从“云端”的高大上，发展到日常生活的所见。这些不一样的认知加深了我对学习的兴趣，从未想过学习可以如此的接地气，如此的有趣！

-- 李同学，北京理工大学本科二年级

“结业典礼的云烟火感动而又惊喜”

课程内容的丰富有趣让我感受到牛津教授的博学多才。专业负责的授课态度及项目老师的耐心支持是我学习的不二动力。每个 session 的互动交流让我收获颇多，不同校友之间的新友谊，结业典礼的云烟火感动而又惊喜。

-- 张同学，中国社会科学院大学本科三年级

特邀嘉宾讲座
Guest Lectures

三场次特邀嘉宾讲座将邀请来自于不同行业的重量级嘉宾为同学们带来行业内的洞见和思考，这也将是此次学术课程以外最值得期待的环节之一。

Film and TV Industry
影视戏剧行业

3 次金球奖，15 次艾美奖，69 次提名成为艾美奖，1 次英国电影电视艺术学院奖，荣誉加身的《唐顿庄园》风靡全球无需多介绍。第一场讲座将邀请《唐顿庄园》总制片人 Ms Liz Trubridge 及神秘参演嘉宾。

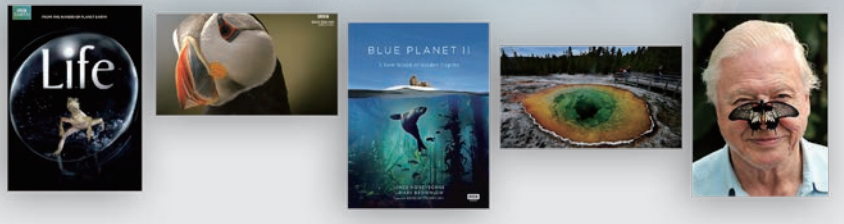
World Leading Enterprises
世界顶级企业组织

英国的世界顶级企业组织不胜枚举，阿斯利康，汇丰银行，联合利华，捷豹路虎，英格兰央行，葛兰素史克等等。第二场讲座将邀请资深企业高管。

BANK OF ENGLAND　HSBC
AstraZeneca　Unilever　bp
BURBERRY LONDON　LAND ROVER　JAGUAR

Nature Documentaries
英国自然纪录片制作团队

英国自然纪录片以其广泛题材和精良制作闻名于世，尤其是英国国宝级主持人爱登堡爵士（David Attenborough）所参与的：《地球脉动》、《蓝色星球》、《冰冻星球》等。第三场将邀请英国知名独立摄影师，其与爱登堡爵士本人紧密合作，参与制作诸多知名纪录片。



领衔教授
Lead Professors

Professor Graham Richards

英国皇家学会院士，
牛津大学化学系主席，
大英帝国勋章获得者。

2018 *elected a Fellow of the Royal Society (FRS)*
2018 *Richard J. Bolte Sr. Award, Science History Institute*
2010 *Co-Vice-President of the Royal Society of Chemistry*
2004 *Award of the American Chemical Society for Computers in Chemical and Pharmaceutical Research*
2001 *Commander of the Order of the British Empire, Queen's Birthday Honours*
1996 *The Lord Lloyd of Kilgerran Award, Foundation for Science and Technology*
1998 *Mullard Award, Royal Society*
1972 *Marlow Medal, Royal Society of Chemistry*

Professor Sir Walter Bodmer

英国皇家学会院士，
爵士头衔。

2013 *Royal Medal, Royal Society*
1994 *Michael Faraday Prize, Royal Society*
1992 *elected a Honorary Fellow of the Royal Society of Edinburgh (FRSE)*
1987 *Ellison-Cliffe Medal, Royal Society of Medicine*
1974 *elected a Fellow of the Royal Society (FRS)*

Professor Sir Mike Brady

英国医学科学院院士，
英国皇家学会院士，
英国皇家工程院院士，
爵士头衔。

2008 *elected a Fellow of the Academy of Medical Sciences (FMedSci)*
2000 *Faraday Medal, Institution of Electrical Engineers (IEE)*
2000 *Millennium Medal, Institute of Electrical and Electronics Engineers (IEEE)*
1997 *elected a Fellow of the Royal Society (FRS)*
1992 *elected a Fellow of the Royal Academy of Engineering (FREng)*

Professor Dame Frances Ashcroft

英国皇家学会院士，
英国医学科学院院士，
大英帝国勋章获得者，
女爵头衔。

2017 *Walter B. Cannon Award, American Physiological Society*
2015 *appointed a Dame Commander of the Order of the British Empire (DBE)*
2013 *Croonian Medal, Royal Society*
1999 *elected a Fellow of the Royal Society (FRS)*
1999 *elected a Fellow of the Academy of Medical Sciences (FMedSci)*

Medical Sciences
医学

Module Description

Why do people get cancer? What happens to the brain when we get older? What is checkpoint therapy? Can stem cells be used to cure any disease? Is ultrasound useful for administering drugs? Antibiotics – can they be dangerous?

This module provides an insight into the hottest topics in medicine and health related subjects. The greatest brains in the field will guide the students through the intricacies of medical and clinical research, paying particular attention to the latest technology developments in gene-editing and oncological imaging. Students will investigate the processes involved in neurodegenerative diseases and oncology as well as will analyse the steps necessary in clinical trials and drug development. The course offers a preview of how interdisciplinary teams are the only way to advance biomedical sciences and offers a comprehensive framework in translational medicine. Students will also examine various models of healthcare systems and clinical practice to become more aware and better informed physicians.

Learning Outcomes:

- Develop understanding of the state-of-the-art tools and techniques in biomedical research.
- Appreciate the importance of interdisciplinary teams in cutting-edge developments.
- Explore the ethical and regulatory issues in research.
- Understand the complexities of cancer research and neurodegenerative diseases.
- Have insight into the role of nanotechnology in biomedical applications such as vaccinations, drug delivery or cell cultures.
- Gain understanding of biomaterial manufacturing processes and its role in regenerative medicine.
- Discuss various aspects of inflammatory processes in body.

Proposed Topics

- Medical Artificial Intelligence Vision
- Haematopoiesis: from Normal to the Disease State
- Macrophage & Anti-microbial Activity
- Computer-aided Drug Design
- Flash Radiology
- Drug Development and Clinical Trials
- Cell biology: Evolutionary Perspectives on Cancer and Ageing
- Neurodegenerative Diseases: the Coming Epidemic
- Biomedical Engineering: Tissue Reconstruction and Angiogenesis
- Deep Brain Simulation and Testing
- Autoimmune Diseases and Checkpoint Therapy
- Quantifying Parkinson’ s Disease and Digital Phenotyping
- Is Vision Driven by the Eye or the Brain?
- Extracellular Vesicles in Health and Disease
- Vascular Pharmacology

This course is for students of:

Medicine, Life and Biosciences, Genetics, Psychology, Public Health, Pharmacology and other related fields.

Proposed List of Lecturers (Partial)

Prof. Graham Richards

Fellow of the Royal Society, First Chairman of Chemistry at the University of Oxford. He also founded Oxford Molecular, a scientific software company that at its peak was worth £450m and helped set up Oxford University Innovation, Oxford's technology transfer company that has brought approximately 60 spin-out companies into existence.

Prof. Mike Brady

Fellow of the Royal Society, Fellow of the Royal Academy of Engineering, Fellow of the Academy of Medical Sciences, Professor in the Department of Oncology. Professor Brady was Deputy Chairman of Oxford Instruments plc from 1994 to 2014. He was awarded the Faraday Medal for the year 2000, and a Third Millennium medal of the IEEE.

Prof. Sir Walter Bodmer

Fellow of the Royal Society, Honorary Fellows of the Royal Society of Chemistry, Fellow of the Academy of Medical Sciences, Professor of Genetics in the Department of Oncology (Medical Sciences Division) at the University of Oxford, and Head of the Cancer and Immunogenetics Laboratory at the MRC Weatherall Institute of Molecular Medicine, Oxford.

Prof. Sonia Antoranz Contera

Professorial Fellow of Green Templeton College, and a Professor of Biological Physics at the University of Oxford Physics Department. Her work lies at the interface of physics, biology, and nanotechnology. She was the founder, director and co-director of the Oxford Martin Institute of Nanoscience for Medicine at the Oxford Martin School.

Prof. George Leeson

Professorial Fellow at the Institute for Population Aging, University of Oxford; Fellow of the Galton Institute; Senior Research Fellow at Kellogg College, University of Oxford; and Visiting Professor of Demography at the University of Guanajuato-Leon in Mexico; co-editor of the Journal of Population Ageing and Population Horizons.

Prof. Stephen Evans

Fellow of the Royal College of Physicians, Professor of Pharmacoepidemiology at the London School of Hygiene and Tropical Medicine (LSHTM), European Commission appointed independent Expert member of the Pharmacovigilance (Drug Safety) and Risk Assessment Committee at the European Medicines Agency.

Prof. Robert Carlisle

Fellow of St Cross College, Associate Professor in Biomedical Engineering, Director of MSc in Nanotechnology for Medicine and Healthcare, Associate Director of Synthetic Biology CDT. The majority of Bob’ s work has been concerned with achieving systemic delivery of anti-cancer agents for the treatment of metastatic cancer.

Dr. Natalia Gromak

Science Research Fellow in Biochemistry at St John's College, University of Oxford. She was awarded a Royal Society University Research Fellowship. Dr Gromak's research is focused on studies of transcription in humans, especially the regulation of transcription termination and interplay between transcription and various RNA processing reactions in the cell.

Prof. Chrystalina Antoniades

Official Fellow of Reuben College, Associate Professor of Neuroscience in the Nuffield Department of Clinical Neurosciences at the University of Oxford, the Chair of the Clinical Neurosciences Society. Professor Chrystalina Antoniades' interest lies in examining the neurobiological relationship between visual perception and art.

Dr. Sarah Nurmohamed

Research Scientist and John Goldman Fellow for Future Science in the Division of Structural Biology at the Nuffield Department of Clinical Medicine, University of Oxfor. Her research aims to understand the processes of blood development and the pathology of blood-related diseases, such as leukaemia.

Prof. Dame Frances Ashcroft

Dame Commander of the Order of the British Empire, Fellow of the Royal Society, Fellow of the Academy of Medical Sciences, Research Professor in the Department of Physiology, Anatomy and Genetics at the University of Oxford, Professorial Fellow of Trinity College, University of Oxford. Her research focuses on ATP-sensitive potassium (KATP) channels.

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