

## RDM Newsletter

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December 2021

Dear all,

I would like to start by saying what a privilege and pleasure it has been to lead the department from its formation in 2012, and to have worked closely with so many of you. I have immense pride in our many scientific achievements and in the calibre of the researchers, teachers, administrative and support staff that make up our department.

As you will know, I will shortly be stepping down from my position as the Head of Department, to devote my time more fully to my own research for the last few years of my career in Oxford. This seems to be a good vantage point to survey some of the progress made by RDM since its formation.

Firstly, I'm delighted that each of our divisions has fared well despite the headwinds of a difficult funding climate and, over the last two years, the pandemic. We have seen a good number of high calibre recruitments, as well as internal appointments, to professorial positions across our divisions and this has refreshed and invigorated our leadership. I'm particularly pleased that the scientific power and focus of the MRC WIMM has been strengthened with the appointments of KJ Patel to lead the Institute and the MRC MHU, and Alison Simmons the MRC HIU. I think the excellence of the MRC WIMM is centrally important to Oxford medicine and it's been great to see collaborations develop with other parts of RDM; I'm sure there is potential for further development there.

It has been exciting to see new scientific programmes develop that have the potential for transformational change in coming years. I'd include here advances in stem cell biology, DNA repair, cell and gene therapy – including gene editing, and fundamental immunology, through to advances in clinical studies, imaging and patient phenotyping that provide sufficient precision to drive mechanistic insights. These same patient-based capabilities will be critical going forward for evaluation of novel therapies.

One of the places where the added value of the department has been most apparent is in graduate studies. The RDM Scholars programme has attracted international applicants of a higher calibre than many of the individual programmes used to see before. We initially had 96 graduate students, our current tally stands at 137. This has involved a lot of work (and funding!) but I hope will pay dividends for years to come.

Similarly, we have made major efforts to support candidates for externally funded fellowships. Over the last 6 years, 84 RDM researchers have made fellowship applications (some multiple – and I thank them for their persistence!) and 46% have been successful, with equal success rates for women and men. I think that is an exceptionally good number. We have worked hard to help research staff achieve the markers needed to enable promotion. Since RDM was formed, 55 new PIs have been appointed, of whom 37 were internal promotions, with senior postdocs and clinical fellows becoming PIs, for example through achieving URL or AP titles. Overall, this drive to bring in and support young researchers and their career development, in order to train a future generation of scientists, is perhaps what I am most proud of.

At the same time as striving for excellence, we have worked hard to try and make the department a supportive environment to work in. We launched the extremely popular mentoring scheme in 2014 and the Career Development Committee in 2015, both

championed by Alison Banham and Leanne Hodson, and obtained the all-important Athena Swan silver award in 2016 (renewed in 2019). Dedicated support with funding applications is now provided along with numerous training courses, a formal Environment and Culture working group was convened in 2018, and last year, we put together a Respectful Behaviours framework to provide official backing for the kind of working culture we want to build in the department. Sadly, in some areas we've still got a long way to go, not least to improve gender balance and diversity. The proportion of female PIs has nudged up from 23% to 26%; I would have liked faster progress. Nevertheless, I believe that RDM does have a reputation as a good place to work and we are seen within Oxford as leading the way in many aspects of culture and working environment, and so I'm hugely grateful to all of you who have driven these efforts.

While all of the above is about people – which for me is the key – buildings and facilities matter too. Looking forward, we have a number of exciting new infrastructure projects starting which should enhance our research and, particularly, its clinical impact. These include new clinical imaging capabilities, with cutting edge CT, machine learning and MR platforms, a new Therapy Acceleration Laboratory that will derive mechanistic insights from clinical samples from patients undergoing early phase trials, and an advanced cell and gene therapy unit to support development and delivery of novel therapies. You can read more about all of this in the 'Upcoming projects' section below.

Finally, I would like to offer my personal thanks to all of you who have helped with the running of a large, complex department with over 700 members. I am indebted to our Division Heads, and their admin teams, who have worked so hard to champion and support their parts of the department. Much as I value cohesion of the department as a whole, maintaining identity in its constituent units is necessary and important. I want to thank also those who have taken responsibility for Graduate Studies, within the divisions and, even more, across RDM as a whole, in particular, Deborah Gill and Marella de Bruijn. I have had amazing support from our RDM Strategic team, covering the building blocks of those areas of progress highlighted above: researcher support, graduate studies, EDI, communications, personnel and finance; it has been a pleasure to work with such a talented and committed team. While there are too many key individuals to name personally here, I would single out two close colleagues (with whom I've worked for many years!) without whom my task would have been impossible. Ruth McCaffrey, as most will know, has been the architect of RDM's approach to providing personal and career development support to researchers at all career stages. Lynn Clee has worked tirelessly, and (frankly) excessively, to help us all stay financially afloat and on track. Lynn has looked after our vitally important admin teams and been our key interface with the Medical Sciences Division and the central University; it is credit to her and the RDMS team that RDM enjoys its good reputation and the unwavering support of the Medical Sciences Division. So, sincere thanks to one and all.

I look forward to seeing what the department achieves in coming years, from the fortunate vantage point of a researcher within RDM.

With best wishes,

Hugh Watkins

# Congratulations

## Congratulations to our researchers awarded University titles

Congratulations first to our two PIs who were awarded the title of Full Professor through the Recognition of Distinction exercise this year. They are:

- Professor Anne Goriely (WIMM, NDCLS) - now Professor of Human Genetics
- Professor Simon Stanworth (NDCLS) - now Professor of Haematology and Transfusion Medicine

Many congratulations also to our 11 new Associate Professors:

[Ricardo Carnicer](#) (CVM), Associate Professor of Biomedical Science

[Yvonne Couch](#) (IMD), Associate Professor of Neuroimmunology, and now an RDM PI

[Nicola Curry](#) (NDCLS), Associate Professor of Haematology (in addition to being an NHS consultant), and now an RDM PI

[Gillian Douglas](#) (CVM), Associate Professor of Cardiovascular Science

[Lise Estcourt](#) (NDCLS), Associate Professor of Haematology and Transfusion Medicine (in addition to being an NHS consultant), and now an RDM PI

Katie Jeffery (NDCLS), Associate Professor of Microbiology and Hospital Epidemiology (in addition to being an NHS consultant), and now an RDM PI

[Usha Kini](#) (NDCLS), Associate Professor of Genomic Medicine (in addition to being an NHS consultant), and now an RDM PI

[Hashem Koohy](#) (MRC HIU, MRC WIMM, IMD), Associate Professor of Systems Immunology, and now an RDM PI

[Adam Lewandowski](#) (CVM), Associate Professor of Cardiovascular Science

[Bethan Psaila](#) (MRC MHU, MRC WIMM, NDCLS), Associate Professor of Haematology.

In addition, many congratulations to our researchers who became PIs in RDM in 2021:

[Dr Ed Morrissey](#) (MRC WIMM, NDCLS), [Dr Liz Ormondroyd](#) (CVM), [Dr Pavel Ovseiko](#) (IMD), [Dr Betty Raman](#) (CVM), [Dr Aleksandr Sahakyan](#) (MRC WIMM, NDCLS), [Dr Chris Toepfer](#) (CVM), and [Dr Simona Valletta](#) (MRC MHU, MRC WIMM, NDCLS).

There will be another call in 2022 for applications for PI status in RDM, as well as University calls for the title of Full Prof and the title of Associate Professor.

## Upcoming projects

### New CT facility at AVIC

In 2022, the Oxford Acute Vascular Imaging Centre ([AVIC](#), now led by [Professor Charis Antoniades](#)) will be getting a refresh, including a new name in due course, to reflect broadening capability in acute imaging and intervention. This will include a Siemens photon counting CT scanning system, the first of its kind in the UK. The installation of the new system, together with enhanced AI capability, will significantly increase research capacity at AVIC, allowing researchers to probe the cardiovascular system in greater detail.

### New MRI scanner at OCMR

The Oxford Centre for Clinical Magnetic Resonance Research (OCMR) will be installing a DT GE premier MRI scanner next year. The new system has a wide bore, to allow further research into obesity, diabetes and metabolic disease. It will also allow greater integration with the GE SpinLab Hyperpolarizer system in OCMR, enabling researchers to explore new avenues of work via the direct, in vivo assessment of metabolism in the human heart.

## Therapy Accelerator Laboratory at the MRC WIMM

A new Therapy Acceleration Laboratory (TAL) will be opening early in 2022 at the MRC WIMM and will be available to all PIs in Oxford. The TAL will analyse human samples from national and international Phase I to Phase III trials of novel targeted therapies that maximise patient impact, transform understanding of disease biology, dissect mechanisms of action of therapies and mechanisms of response. The laboratory will work with PIs and industry partners to add value to clinical trials, offering assays that allow patient selection at the start of a trial, patient stratification into different therapy arms during the trial, validation of secondary endpoints for more rapid trials and exploratory endpoints. It will offer a wide selection of next generation sequencing genetic and deep phenotyping assays on cells and tissues, work closely with the MRC WIMM single cell and imaging facilities and support long term bio-banking of nucleic acids and viable cells. Once operational, the TAL will be accredited to ISO-17025. Find out more on <https://www.imm.ox.ac.uk/research/tal>.

## The Oxford Centre for Advanced Cell Therapy

The Oxford Centre for Advanced Cell Therapy (OxACT) is being established under the leadership of [Professor Ronjon Chakraverty](#). OxACT aims to make use of advances in gene transfer, gene editing and advanced cell therapy to transform the treatment of patients with cancer, inherited disorders or other chronic disorders. Early work will focus on manipulation of haematopoietic stem cells. The vision is that the centre will provide capability from patient cell isolation and modification, to administration to patients, including proof of concept trials and first-in-human trials. OxACT aims to be operational by 2024.

# Staff news

## New appointments

- Professor Alison Simmons joined RDM upon her appointment as [Director of the MRC Human Immunology Unit](#) (MRC HIU) in January 2021. Alison was an existing member of the MRC HIU, formerly based in NDM. Her research is focused on understanding the mechanisms of intestinal immunity and how these go wrong in inflammatory bowel diseases, Crohn's disease and Ulcerative Colitis. She took over the Directorship from Professor Graham Ogg, who was appointed as Interim Director of HIU following the death of Professor Enzo Cerundolo. Many thanks to Graham for his leadership during this difficult period and congratulations to Alison for this distinguished appointment. Alison is also Head of the RDM Investigative Medicine Division.
- Dr Adam Wilkinson moved from Stanford University and is now a PI in the MRC MHU. He holds an Intermediate Fellowship from the Kay Kendall Leukaemia Fund (KKLF) and his research focuses on investigating blood stem cell self-renewal.
- Professor David Hodson has been appointed to the Robert Turner Chair of Diabetic Medicine in OCDEM, succeeding Professor Mark McCarthy. He will take up his appointment in February 2022 and is joining us from the University of Birmingham. His research focuses on understanding the regulation of hormone release from pancreatic islets in health and disease.



## Staffing updates

- Professor Martin Farrall (CVM) retired this year, and now holds Emeritus Professor status in RDM. Professor Farrall's research, on family and population-based studies to investigate the genetic components of complex cardiovascular and cerebrovascular diseases, has had a major impact in the field of cardiovascular genetics, and he has been a force for good in the Division of Cardiovascular Medicine within RDM.
- Professor Chris Newbold (MRC WIMM, IMD) has also retired, and now holds Emeritus Professor status in RDM. Professor Newbold's work was key to producing the first Plasmodium gene sequence, and he and his team studied the molecular immunology of gene families in *Plasmodium falciparum*. Professor Newbold also helped to establish what is now the KEMRI-Wellcome Trust Research programme in Kenya.
- Professor Tatjana Sauka-Spengler (MRC WIMM, NDCLS) will be moving to set up a new lab at the Stowers Institute for Medical Research, Kansas, USA. She will continue to have links with Oxford, and her lab based at the MRC WIMM is continuing.

## In the News

### New Clinical Trial to Test Drug for Diabetes in Reducing Risk of Alzheimer's Dementia

A [new study](#) led through a collaboration between the Diabetes Trials Unit (OCDEM) and the Department of Psychiatry at the University of Oxford, and the global healthcare company, Novo Nordisk, will examine whether semaglutide, a tablet used to treat diabetes, can change the course of the earliest changes that happen in the brains of people at risk of developing Alzheimer's dementia.

### Spin-out company Alethiomics launches

The [enterprise](#), co-founded by [Professor Adam Mead](#) and [Associate Professor Beth Psaila](#) (MRC MHU, MRC WIMM, NDCLS), aims to apply innovations in single-cell multi-omic analysis to the development of novel therapeutics for myeloproliferative neoplasms, a group of chronic blood cancers with poor prognosis.

### Patel group reveals 'stop-eating' response to DNA damage

Led by [Professor KJ Patel](#) (MRC MHU, MRC WIMM, NDCLS), new work published in the journal Nature [sheds light](#) on the mechanism by which DNA damage suppresses appetite, a finding with implications for understanding the appetite lowering side-effects of chemotherapy.



**Iron integral to the development of life on Earth – and the possibility of life on other planets** In an unusual collaboration with the Department of Earth Sciences, [Professor Hal Drakesmith](#) (MRC HIU, MRC WIMM, IMD) uncovers the likely mechanism by which iron influenced the development of complex life forms. [Read more](#) on the RDM website.

## NDCLS researchers in partnership to accelerate development of first-in-class gene therapy for cystic fibrosis patients

[Professors Deborah Gill](#) and [Steve Hyde](#) (both NDCLS) are founding members of the UK Cystic Fibrosis Gene Therapy Consortium, which has now teamed up with Boehringer Ingelheim, the IP Group and Oxford Biomedica, to work on the development of new treatment options for cystic fibrosis patients. [Read more](#) on the RDM website.

## Mechanism behind repair of cancer-inducing mutations discovered

In a new study published in *Nature*, [Associate Professor Ross Chapman](#) (MRC MHU, MRC WIMM, NDCLS) and his group uncovered the [precise mechanism](#) behind how the BRCA1 protein detects and engages with DNA breaks in the genome, helping to prevent the development of breast and ovarian cancers.

## Artificial intelligence breakthrough for faster, cheaper, and less invasive cardiac MRI scans

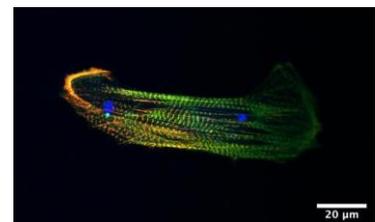
A cross-disciplinary team of researchers at the Oxford Centre for Clinical Magnetic Resonance Research (OCCMR) have combined MR images with novel AI algorithms to produce a replacement for late gadolinium enhancement, the current gold standard for imaging heart muscle disease. The [new method](#) does not need a contrast agent injected into the patient, instead using AI to predict what contrast-enhanced images would look like.

## Critical six-week window to 'reset' blood pressure after giving birth

Work led by [Dr Jamie Kitt](#) and Professor [Paul Leeson](#) at the Cardiovascular Clinical Research Facility (CCRF, CVM) finds that lowering a hypertensive mother's blood pressure within six weeks after giving birth could significantly cut their future risk of a heart attack or stroke. [Read more](#) on the RDM website.

## Tool to analyse heart calcium flow uncovers new disease mechanisms

In a paper published in the journal *Circulation Research*, [Dr Chris Toepfer](#) (CVM) and his team use a [new technique](#) to understand how genetic errors that contribute to a heart condition change the cells of the heart.



## Genetic breakthrough to target care for deadly heart condition

New genetic faults discovered in people with a heart condition that is sometimes inherited in families could transform the diagnosis and treatment of the hidden disease, according to [research](#) led by [Professor Hugh Watkins](#) (CVM).

## Shift workers at increased risk of asthma

An international team of scientists, including [Professor David Ray](#) (OCDEM), has found that shift workers, especially those working permanent night shifts, showed increased risks of asthma, especially moderate or severe asthma.

### **RDM researchers coordinate Oxford pilot to promote race equality in health research**

From August 2021, organisations delivering health research in higher education, local government, the NHS, the private sector and voluntary sector took part in a three-month reflective assessment of their delivery of race equality in health research led by the National Institute for Health Research (NIHR). Within Oxford, this [pilot](#) was coordinated by [Dr Pavel Ovseiko](#) (IMD).

## **COVID-19 research at RDM**

### **Strong cytotoxic T cell responses to an internal viral component are associated with mild COVID-19 disease**

A study from the [Dong Group](#) (formerly MRC HIU, MRC WIMM, IMD, now NDM) reveals [key differences](#) in the adaptive immune responses of patients with mild vs. severe COVID-19, highlighting a potential new vaccine target.

### **Study uncovers gene that doubles risk of death from COVID-19**

A *Nature Genetics* paper led by Professors [James Davies](#) and [Jim Hughes](#) (both MRC MHU, MRC WIMM, NDCLS) used a new technique developed in their laboratories to identify a gene responsible for doubling the risk of respiratory failure from COVID-19. Sixty percent of people with South Asian ancestry carry the high-risk genetic signal, but the gene appears to exert its effect via a pathway affecting cells lining the airways and the lungs, rather than the immune system. The researchers therefore expect that vaccination should be effective in those with the higher risk version of the gene as well. [Read more](#) on the RDM website.

### **RDM researchers test potential treatment for fatigue in long COVID patients**

[Dr Betty Raman](#) (OCMR, CVM) is leading a new phase 2a clinical [trial](#) to investigate whether a drug could treat the fatigue and muscle weakness experienced by many patients who have recovered from COVID. Dr Raman is also leading the [C-MORE study](#), which tracks COVID-19 patients discharged from hospitals to uncover the long-term effects of the disease, including persistent symptoms, as well as changes in lung and heart function.



### **COVID-19 recovery project 'highly commended' at Health Services Journal award**

The project, involving Oxford University Hospitals, Defence Medical Services (DMS), and the Radcliffe Department of Medicine (OCMR, CVM) was ['highly commended'](#) at the Health Service Journal Awards 2021.

## Researchers develop cheap, quick COVID-19 antibody test

An international research team led by [Professor Alain Townsend](#) (MRC HIU, MRC WIMM, IMD) has developed [a portable test for antibodies](#) that fight the novel coronavirus that causes COVID-19. The effort involved researchers across Oxford University and the Radcliffe Department of Medicine, including OCDEM's Professor [Fredrik Karpe](#).

## Prizes and awards

We're always keen to hear about your prize wins: please email [communications@rdm.ox.ac.uk](mailto:communications@rdm.ox.ac.uk) to let us know.

### 2021 RDM graduate prize winner

This year's [RDM graduate prize](#) goes to [Dr Joe Frost](#) (MRC HIU, MRC WIMM, IMD) from the [Drakesmith group](#). Many congratulations to Joe.

### 2021 RDM-MRC WIMM Sir Andrew McMichael Award for Excellent Supervision and Mentorship

This year, we have [combined the awards](#) for mentorship and supervision made by RDM and MRC WIMM into the RDM - WIMM Sir Andrew McMichael Award for Excellent Supervision and Mentorship. This award recognises those supervisors who have gone above and beyond what is required of them in terms of their mentorship and pastoral care of their students, post-docs and other lab members. We are very pleased to announce that the winner of this award for 2021 is [Associate Professor Bethan Psaila](#) (MRC MHU, MRC WIMM, NDCLS): many congratulations to Beth.



### Professor Antoniadis awarded British Heart Foundation Chair of Cardiovascular Medicine

[Professor Charalambos Antoniadis](#) (CVM) has been awarded a British Heart Foundation Chair of Cardiovascular Medicine. The award includes over £1.2 million in research funding over five years.

### Professor Graham Ogg elected a Fellow of the Academy of Medical Sciences

Fellows are selected for their exceptional contributions to the advancement of medical science through innovative research discoveries and translating scientific developments into benefits for patients and the wider society. [Professor Ogg](#) (MRC HIU, MRC WIMM, IMD) has led ground-breaking research into COVID-19 immune responses, as well as continuing with his research into the role of human cutaneous immune responses in mechanisms of disease, treatment and vaccination.

### Associate Professor Svetlana Reilly wins British Heart Foundation Fellow of the Year award

Many congratulations to [Professor Reilly](#) (CVM), who won [the award](#) at the British Cardiovascular Society conference in June this year.

### Associate Professor Lise Estcourt and Professor Dave Roberts win RCPATH Achievement Awards 2021

[Professors Estcourt](#) and [Roberts](#) (both NDCLS) received the Royal College of Pathologists award in the 'Significant contribution to specialist category', for their work testing COVID convalescent plasma (CCP) in two pivotal trials on RECOVERY and REMAP-CAP platforms. Prior to their [work](#), there was no definitive evidence for convalescent plasma use in COVID.

### **Awards for Dr Matthew Burrage and Dr Christos Kotanidis**

RDM researchers swept the board at the 2021 European Society for Cardiology (ESC) conference, with [Dr Matthew Burrage](#) (Ferreira group, OCMR, CVM) being awarded the ESC Young Investigator Award in Clinical Cardiology, and [Dr Christos Kotanidis](#) (Antoniades group, CVM) being awarded the ESC Young Investigator Award in Coronary Pathophysiology and Microcirculation. Dr Burrage was also awarded the American Heart Association Melvin Judkins Early Career Investigator Award.

### **Dr Chris Toepfer received two awards at American Heart Association 2021 conference**

[Dr Toepfer](#) (CVM) won two awards at the American Heart Association Basic Cardiovascular Sciences 2021 session: he won the 'Outstanding Early Career Investigator Award' after a live presentation competition, as well as the Paul Dudley White International Scholar award.

Many congratulations to all our winners!

## **Research funding**

Don't forget to visit the '[Find Funding](#)' section of the website to learn about the support that we can provide with your applications for fellowships and for internal funding. For any funding related queries, please contact the [RDM Research Strategy and Funding team](#) (Drs [Ruth McCaffrey](#), [Serena Briant](#) and [Kathleen Dolan](#)). Serena supports researchers based in the WIMM, NDCLS and IMD. Kathleen supports researchers based in CVM and OCDEM.

### **Fellowships**

[Prof Leanne Hodson](#) (OCDEM) renewed her BHF Senior Basic Science Research Fellowship. The funding will support her research into "Compartmentalisation of liver lipid flux determines atherogenic lipoprotein production and liver fat accumulation: the relevance of dietary macronutrient composition."

[Associate Professor Ladislav Valkovic](#) (OCMR, CVM) was awarded a Wellcome Sir Henry Dale Fellowship to develop "Novel multi-nuclear magnetic resonance spectroscopy approaches for the sensitive and robust assessment of human cardiac energetics".

[Dr Chris Toepfer](#) (CVM) was awarded a Wellcome Sir Henry Dale Fellowship focused on "Understanding the role of myosin super relaxation in cardiac health and disease".

[Dr Giulia Orlando](#) (MRC MHU, MRC WIMM, NDCLS) was awarded a John Goldman Fellowship from Leukaemia UK to support her research focused on "Dissecting the RAS signalling-driven epigenome in JMML".

[Dr Nicholas Crump](#) (MRC MHU, MRC WIMM, NDCLS) was awarded a KKL Intermediate Fellowship to develop his research "Probing the role of novel enhancer usage in acquired drug resistance".

[Dr Costas Christodoulides](#) (OCDEM) was awarded a 2 year extension to his BHF Intermediate Clinical Research Fellowship to enable him to continue "Dissecting the role of WNT signalling in the regulation of fat distribution and susceptibility to cardiometabolic disease".

[Associate Professor Hashem Koohy](#) (MRC HIU, MRC WIMM, IMD), is one of the 33 researchers across the University of Oxford to be named as an Alan Turing Fellow for the 2021-22 academic year. The Alan Turing Institute is the UK's national institute for data science and AI, with research spanning the theoretical foundations of data science, ethical issues, as well as cutting-edge applications of data and AI. Alan Turing Fellows are established scholars with proven research excellence in data science, artificial intelligence (AI), or a related field.

## External funding awards

*We had another successful year in securing external grant funding, despite the disruption due to Covid. Space does not permit listing all of the new grants but some particular highlights include:*

### **Renewal of funding for the Novo Nordisk – Oxford Fellowship programme**

Novo Nordisk have provided £7.3m to fund another 12 postdoctoral fellows over the coming 3 years, as part of the Novo Nordisk – Oxford fellowship programme (which is run by RDM). This brings the total investment by Novo Nordisk in the Fellowship Programme to £16.6m. The Novo Nordisk – Oxford Fellowship Programme is focused on research in diabetes, cardiometabolism, liver and renal disease. It aims to support the development of a new generation of exceptional early career researchers, who will become future leaders in the field, while further developing scientific excellence and ultimately improving the lives of patients. Further information can be found on the [RDM website](#).

### **Leducq Foundation**

[Professors Alastair Buchan](#) (IMD) and [David Ray](#) (OCDEM) are part of a new international research network which has received a total of US\$7m in funding from the Leducq Foundation to investigate the interactions between the biology of the body's internal clock and the disordered physiological processes associated with stroke. Professor Buchan is coordinating the European part of the network. Further information can be found on the [RDM website](#).

### **Division of Cardiovascular Medicine**

- [Professor Charalambos Antoniades](#) was awarded a BHF Chair of Cardiovascular Medicine.
- [Professor Keith Channon](#) renewed his BHF Chair (the Field Marshal Earl Alexander Professor of Cardiovascular Medicine).
- [Professors Damian Tyler](#), [Charalambos Antoniades](#) and [Ellie Tzima](#) were all awarded Programme Grants from the BHF.
- [Professor Paul Leeson](#) and [Associate Professor Adam Lewandowski](#) were awarded a joint programme grant from the MRC.
- [Professor Robin Choudhury](#) was awarded funding from the Chan Zuckerberg Initiative and from the Novo Nordisk UK Research Foundation.
- [Professors Charalambos Antoniades](#) and [Barbara Casadei](#) were awarded funding from Horizon 2020.
- In terms of industrial funding, [Professor Damian Tyler](#) received funding from Celgene, [Professor Ellie Tzima](#) and [Associate Professor Gillian Douglas](#) both received funding from Novo Nordisk, and [Associate Professor Oliver Rider](#) received funding from Imbria Pharmaceuticals.

### **Investigative Medicine Division (including MRC Human Immunology Unit)**

- [Professor Alison Simmons](#) and [Associate Professor Hashem Koohy](#) have been jointly awarded funding from the Chan Zuckerberg Initiative Paediatric Networks for the Human Cell Atlas grant. With this funding they aim to develop an open access spatiotemporal atlas of childhood intestinal development, with the team building a single-cell atlas of the paediatric intestine. This will help researchers and clinicians understand how the human intestine matures in childhood, as well as adult intestinal diseases.
- [Professor Simon Davis](#) was awarded funding from CRUK to investigate how tumour-cell killing by T cells is initiated.
- [Professor Graham Ogg](#) was awarded funding from Lab282.

### **Nuffield Division of Clinical Laboratory Sciences (NDCLS)**

- [Professor Simon Stanworth](#) was awarded a Blood and Transplant Research Unit grant of approximately £4m from the NIHR.

- [Associate Professor Nicola Curry](#) and [Professor Simon Stanworth](#) received funding from the NIHR to establish a data science platform and biobank to rationalise the investigation and treatment of major bleeding.

#### **MRC WIMM, NDCLS (including MRC Human Immunology Unit)**

- [Professor KJ Patel](#) received significant funding from the World Class Laboratory (WCL) Capital Equipment Fund from the MRC.
- [Professor Paresh Vyas](#) received significant funding from the Wolfson Foundation and the Jules Thorn charitable Trust to help establish the Therapy Accelerator Laboratory (TAL).
- [Professor Ronjon Chakraverty](#) was awarded a Blood and Transplant Research Unit grant of £4m from the NIHR.
- [Dr Christian Babbs](#) (Higgs group) was awarded funding from Action Medical Research and from Great Ormond Street Hospital Children's Charity.
- [Professor Anne Goriely](#) was awarded funding from the MRC and from the European Society of Human Reproduction and Embryology.
- [Professor Adam Mead](#) received industrial funding from Galecto Biotech AB and from Plexikon and [Professor Paresh Vyas](#) received funding from Celgene.
- [Associate Professor Bethan Psaila](#) received funding from CRUK as part of their Early Detection scheme.
- [Dr Onima Chowdhury](#) and [Professor Adam Mead](#) were awarded a CRUK Early Detection Primer award, to investigate the clinical application of single cell sequencing for early diagnosis and response prediction in myelodysplastic syndromes.

#### **Oxford Centre for Diabetes Endocrinology and Metabolism (OCDEM)**

- Professors [Patrik Rorsman](#), [David Ray](#) and [Jeremy Tomlinson](#) all received large funding awards from the MRC.
- [Professor Amanda Adler](#) was awarded funding from Innovate UK.
- [Professor Jeremy Tomlinson](#) was awarded funding from Wellcome.

#### **Internal funding awards**

##### **Oxford - Bristol Myers Squibb (BMS) Fellowships**

RDM researchers are leading two of the six Oxford – BMS fellowships that were awarded this year. [Professor Stefan Neubauer](#) and [Associate Professor Oliver Rider](#) (both OCMR, CVM) are leading a project entitled “Novel biomarkers of cardiopulmonary function in heart failure with preserved ejection fraction using exercise magnetic resonance” and Dr Roshan Xavier, has been appointed as the fellow on the project.

[Associate Professor Karthik Ramasamy](#) (NDCLS), together with researchers from NDORMS, is involved in a project entitled “Exploring Polycomb repressive complex as therapeutic targets in high risk multiple myeloma patient subsets” and a fellow, Dr Charlotte Palmer, has been appointed as the fellow on the project.

**John Fell Fund (JFF)** awards were made to: [Professor Hal Drakesmith](#) (MRC HIU, MRC WIMM, IMD), [Professor Patrik Rorsman](#) (OCDEM), [Professor Alison Simmons](#) (MRC HIU, MRC WIMM, IMD), [Associate Professor Craig Lygate](#) (CVM), [Dr Hamid Dolatshad](#) (NDCLS), [Professor Paresh Vyas](#) (MRC MHU, MRC WIMM, NDCLS), [Associate Professor Nicola Curry](#) (NDCLS) and [Dr Louise Johnson](#) (MRC HIU, MRC WIMM, IMD).

**Medical Sciences Internal Fund (MSID)** awarded pump priming funding to: [Dr Betty Raman](#) (OCMR, CVM), [Dr Guanlin Wang](#) (MRC MHU, MRC WIMM, NDCLS), [Dr Nicholas Crump](#) (MRC MHU, MRC WIMM, NDCLS), [Associate Professor Vanessa Ferreira](#) (OCMR, CVM), Dr Edward Tunnicliffe (MRC MHU, MRC WIMM, NDCLS), and [Dr Altar Munis](#) (NDCLS).

**The Covid Rebuilding Research Momentum Fund** made awards to the following researchers: Dr Andrew Lewis (CVM), [Dr Aaron Hess](#) (formerly OCMR, CVM, now NDCN), [Associate Professor](#)

[Svetlana Reilly](#) (CVM), Dr Natalia Sampaio (MRC HIU, MRC WIMM, IMD), [Dr Dilip Shrestha](#) (MRC HIU, MRC WIMM, IMD), [Dr Quan Zhang](#) (OCDEM), [Dr Caroline Scott](#) (MRC WIMM, NDCLS), [Dr Hamid Dolatshad](#) (NDCLS), [Dr Benoit Hastoy](#) (OCDEM), [Dr Mariolina Salio](#) (MRC HIU, MRC WIMM, IMD), [Dr Mira Kassouf](#) (MRC WIMM, NDCLS), and [Dr Shveta Monga](#) (OCMR, CVM).

**The Health Research Bridging Salary Scheme** made awards to the following researchers: [Dr Linford Briant](#) (OCDEM), [Associate Professor Mark Crabtree](#) (CVM), [Dr Steve Twigg](#) (MRC WIMM, NDCLS), [Dr Naveed Akbar](#) (CVM), [Dr Hamid Dolatshad](#) (NDCLS), and [Dr Giorgio Anselmi](#) (MRC MHU, MRC WIMM, NDCLS).

**The Returning Carers Fund** made awards to the following researchers: [Dr Shveta Monga](#) (OCMR, CVM), [Dr Grace Yu](#) (OCDEM), [Dr Marijana Todorcevic](#) (OCDEM), [Dr Giulia Orlando](#) (MRC MHU, MRC WIMM, NDCLS), [Dr Christina Rode](#) (MRC MHU, MRC WIMM, NDCLS), [Dr Clare Hardman](#) (MRC HIU, MRC WIMM, IMD), and [Dr Gurman Kaur](#) (MRC WIMM, IMD).

**Wellcome Institutional Strategic Support Fund (ISSF)** made awards to [Dr Liz Ormondroyd](#) (CVM) and [Professor Christian Eggeling](#) (MRC HIU, MRC WIMM, IMD).

*Congratulations to everyone who secured funding!*

## RDM Equality and Diversity news

### RDM Women in Science: Career stories at RDM

For the 2021 International Women's Day, we expanded on the Medical Sciences Division project '[100 Women of Oxford Medical Sciences](#)', by asking some of the women in RDM to reflect on their careers, their place in Medical Sciences and their vision for the next 100 years. You can read their stories on the [RDM website](#).

International Women's Day (IWD) is held on March 8<sup>th</sup> every year: if you have any IWD events or ideas you would like to see, please contact [Charlotte Smith](#).

### Respectful Behaviours Framework

The RDM Respectful Behaviours Framework has been put together based on surveys and conversations across the department. Its aim is to encourage and support good behaviour. Please do have a look at the [framework](#), ensure your own behaviours reflect the effective aspects of this framework and talk to colleagues to encourage feedback.

If you feel you are not treated as expected, we want to hear from you. You may approach your HR Manager; Divisional Head / Administrator; Line Manager or Harassment Advisor. This framework has been formulated following consultation across RDM, and has the full support of the Head of Department and RDM's leadership. It is to be included with further particulars for jobs and inductions, as well as being used in PDR conversations.

### Reconciling work, private and family life during the COVID-19 pandemic at the Radcliffe Department of Medicine

In September 2020, the RDM Environment and Culture working group surveyed RDM staff and students, to capture their experiences during the initial period of the COVID-19 pandemic, and to identify whether any lessons could be learnt.

We had a huge response and we were very thankful to the 354 people who took part; responses to individual questions ranged from several words to over 400.

We went through every response, and our analysis is available on the [RDM website](#). Some of our key findings are:

- People whose work requires access to laboratories or involves clinical research reported major impacts of COVID-19 restrictions on work
- Those on fixed-term contracts reported anxieties about the future
- Some reported an increase in workload since pandemic onset
- People with dependent children, and those new to RDM have experienced particular challenges
- The professional and social aspects of interactions with colleagues are highly valued
- Staff and students have made adaptations, such as re-prioritising work and using remote meetings
- Half of responses referred to a negative impact on work/life balance; developing a routine was considered key to maintaining a satisfactory work/life balance
- For some people, productivity was unchanged or even increased due to reduced commuting time, fewer distractions and greater flexibility
- Responses revealed a range of feelings and experiences regarding return to on-site working
- People have a very positive attitude towards flexible working options, envisaging future work patterns involving a blend of on and off-site working, and online and in-person meetings.

## Public Engagement with Research

### RDM official sponsor for IF 2021

After a relatively quiet 2020, RDM returned to public engagement with a bang, with seven separate online and in-person events at Oxford's IF Science+Ideas festival, which the department officially helped sponsor this year. Events included:

- The Gene Therapists: the Gill/Hyde group (NDCLS) presented hands-on activities that separate fact from fiction when it comes to gene therapy.
- 100 years of insulin: OCDEM researchers marked the 100th anniversary of the discovery of insulin with a science stall that explores how your body turns food into energy, the role of insulin, and what happens to the sugar in your food, plus [an interview](#) charting 100 years of insulin research at Oxford.
- [CureHeart](#): gene therapy for genetic heart diseases: Professor Hugh Watkins (CVM) gave an introduction to the CureHeart project, which aims to find a gene therapy cure for heart muscle diseases that can lead to sudden cardiac death.
- [Gene therapy for lung diseases](#): Professor Deborah Gill (NDCLS) gave a talk on how scientists and clinicians are working together to make gene therapy a reality for patients with cystic fibrosis.
- [Celebrating the centenary](#) of the discovery of insulin: Professor Katharine Owen (OCDEM) marked the centenary of insulin with a panel discussion featuring people who use insulin as a treatment, the clinicians who support them (including Professor Amanda Adler, OCDEM) and the scientists who continue to study insulin, a century after it was first discovered.
- [Dietary sugars and insulin](#): one size doesn't fit all. Professor Leanne Hodson (OCDEM) led OCDEM researchers in a talk and demo exploring the fruit sugar fructose, and what it does to your blood glucose levels.
- Fighting viral infections: Researchers from the Dong and Rehwinkel groups (both MRC HIU, MRC WIMM, IMD) joined forces to show visitors to their stall just how big a virus is (activity



pictured), how your body attacks viral invaders, and trains the immune system to recognise and kill infected cells.

### Major public engagement funding

[Dr Noemi Roy](#) (MRC MHU, MRC WIMM, NDCLS) was one of the seven projects to receive Public Engagement with Research funding from the Medical Sciences Division public engagement seed fund, for her project aimed at improving the lives of those living with sickle cell disease. Her team have been carrying out focus groups with members of the healthcare team, people living with sickle cell disease, members of the public of Black African and Afro-Caribbean ethnic origin, and an impartial professional moderator. These will explore attitudes and thoughts about whether and how racism exists in our service, how this impacts the health of the patients, their ability to access services and seek support and advice, how this harms the long-term relationship between the health care team and the patients and the general public, and what interventions could be put in place to reduce this. [Read more](#) about her work.

If you want to explore any ideas for engaging the public or patients with your work, please do get in touch with the RDM Communications and Public Engagement Manager [Dr Charvy Narain](#).

## Important Reminder

### RDM acknowledgement in publications and press releases

Please make sure that the department is acknowledged in publications, press releases and other media outreach as far as possible. Whenever you are writing your affiliation, in publications, on correspondence etc. it should be done as follows: Name of Unit/Centre/Institute (if applicable), Name of Division, Radcliffe Department of Medicine, e.g. Diabetes Trials Unit, Oxford Centre for Diabetes, Endocrinology & Metabolism, Radcliffe Department of Medicine.

In press releases, we would be grateful if you could give your RDM affiliation as part of a quote, e.g. "Dr Jane Smith from the Radcliffe Department of Medicine said..."

## Save the date

### Christmas closure dates

The official RDM Christmas closure dates this year are Monday 27 December 2021 to Monday 3 January 2022 (both days inclusive). Please do also check specific arrangements for your RDM division.

### RDM Annual Symposium 2022 Tuesday 5 April 2022

The RDM annual symposium returns to the Maths Institute in Oxford next year - we will provide further details closer to the time, but please put the date in your diaries!

## Congratulations to the following DPhil students on passing their vivas

Dr William Watson worked on the 'Effects of Energetic Substrate Manipulation on Myocardial Metabolism and Cardiac Function', and was supervised by Associate Profs Oliver Rider (OCMR, CVM) and Neil Herring (DPAG), and Prof Stefan Neubauer (OCMR, CVM)

Nazish Malik worked on 'Complement and Invariant NKT Cell Response', and was supervised by Dr Mariolina Salio and Professor Simon Davis (both MRC HIU, MRC WIMM, IMD), in association with Dr Martin Kolev ( Apellis Pharmaceuticals).

Janina Nahler worked on 'Investigating functions of human group 2 innate lymphoid cells in health and disease', and was supervised by Professor Graham Ogg and Dr Clare Hardman (both MRC HIU, MRC WIMM, IMD).

Dr Davide Carone worked on 'MRI biomarkers of recovery for acute stroke', and was supervised by Associate Professor James Kennedy (AVIC, IMD).

Helena Meyer-Berg worked on 'Gene Therapy for Surfactant Protein B Deficiency using Recombinant AAV Vectors', and was supervised by Professors Steve Hyde and Deborah Gill (both NDCLS).

Lucy Field worked on 'Optimising CRISPR for targeting of primary haematopoietic stem cells', and was supervised by Professor Irene Roberts (MRC MHU, MRC WIMM, Paediatrics) and Professor Adam Mead (MRC MHU, MRC WIMM, NDCLS).

Merve Aksoz worked on 'Applying single cell-based technologies to the characterisation of human haematopoietic stem cell heterogeneity', and was supervised by Professor Claus Nerlov (MRC MHU, MRC WIMM, NDCLS).

Liliana Barbieri worked on 'Quantitative biophysical methods to study immune cell mechanobiology', and was supervised by Professor Christian Eggeling and Dr Huw York (both MRC HIU, MRC WIMM, IMD) and Associate Professor Marco Fritzsche (The Kennedy Institute, NDORMS).

Sanja Brolih worked on 'Understanding the role of RNA nucleases in human disease', and was supervised by Professor Peter McHugh (MRC WIMM, Oncology) and Dr Christian Babbs (MRC WIMM, NDCLS).

Dr Marco Spartera worked on 'Investigating relationships between thromboembolic risk and left atrial structure, function, and haemodynamics as assessed with advanced magnetic resonance techniques', and was supervised by Professor Barbara Casadei, Associate Professor Vanessa Ferreira and Dr Rohan Wijesurendra (all CVM).

Dr Nicholas Fordham worked on the 'Role of EZH2 mutation in paediatric myelodysplasia', and was supervised by Professor Adam Mead (MRC MHU, MRC WIMM, NDCLS) and Professor Irene Roberts (MRC MHU, MRC WIMM, Paediatrics).

Thomas Kent worked on 'Exploring the factors and mechanisms involved in triggering the Alternative Lengthening of Telomeres Pathway', and was supervised by Professor Richard Gibbons (MRC MHU, MRC WIMM, NDCLS) and Dr David Clynes (MRC WIMM, Oncology).

Ullrich Leuschner worked on 'Modulation of T-Regulatory Cells by Small Molecules: Potential Therapy for GvHD', and was supervised by Professor David Roberts (NHSBT, NDCLS) and Dr Duncan Howie (EnaraBio).

Holly Sadler worked on 'Evaluation of a single cycle influenza virus as a candidate vaccine', and was supervised by Professor Alain Townsend (MRC HIU, MRC WIMM, IMD) and Dr Elma Tchilian (The Pirbright Institute).

Dr Andrew Apps worked on the 'Development and application of novel magnetic resonance spectroscopic and imaging techniques to assess cardiac energetics and substrate handling in the human heart', and was supervised by Associate Professor Oliver Rider and Professor Damian Tyler (both OCMR, CVM).

Jane Ellis worked on 'Human cardiac phosphorus Magnetic Resonance Spectroscopy at 7 T', and was supervised by Professor Christopher Rodgers (formerly OCMR, CVM, now at the University of Cambridge) and Dr Titus Lanz (RAPID Biomedical).

Rosie Munday worked on 'Investigating pseudotyped lentiviral vectors for gene delivery to the lung' and was supervised by Professor Deborah Gill (NDCLS), Dr Peter Jones and Dr Kyriacos Mitrophanous (Oxford Biomedica).

Evan Hann worked on 'Deep Ensemble Learning-Based Quality Control for Automatic Segmentation in Cardiovascular Magnetic Resonance Imaging' and was supervised by Associate Professors Vanessa Ferreira and Stefan Piechnik (both OCMR, CVM)

Affah Mohamed worked on 'Cardiovascular Phenotype and Response to Exercise Training in Preterm-Born Adults' and was supervised by Professor Paul Leeson and Associate Professor Adam Lewandowski (both CCRF, CVM).

Dr Niall Dempster worked on 'Investigating the effects of caloric restriction and bariatric surgery on non-alcoholic fatty liver disease' and was supervised by Professors Jeremy Tomlinson, Leanne Hodson and Dr Garry Tan (all OCDEM).

Claire Duff worked on 'Modelling Monogenic Diabetes Mutations Using Authentic Human Beta Cell Models' and was supervised by Professor Anna Gloyn (formerly OCDEM, now at Stanford University), Dr Benoit Hastoy (OCDEM), Dr Mattias Hansson and Dr Christian Honore (both Novo Nordisk).

Dr Henna Sau-yan Wong worked on 'The impact of ageing on trauma-related bleeding and coagulopathy' and was supervised by Professor Simon Stanworth (NHSBT, NDCLS), Associate Professor Nicola Curry (NDCLS) and Associate Professor Ly-Mee Yu (Primary Care Health Sciences).

Ruichong Ma worked on 'Dissecting the Immune environment in Glioblastoma' and was supervised by Professor Graham Ogg (MRC HIU, MRC WIMM, IMD), Associate Professor Puneet Plaha (NDCN), Dr Maria Rei and Dr Giorgio Napolitani (formerly MRC HIU, MRC WIMM, IMD, now at King's College London).

Edward Jenkins worked on 'T-cell interactions with second generation glass-supported lipid bilayers' and was supervised by Professors Simon Davis and Christian Eggeling (both MRC HIU, MRC WIMM, IMD).