Radcliffe Department of Medicine

RDM Newsletter

December 2020

Dear all,

The RDM newsletter marks the many achievements of RDM staff and students, and this newsletter comes at the end of what is probably the most extraordinary year that any of us has lived through. The fact that this newsletter is as full as ever is a testament to the hard work that so many have put in across the department.

In particular, thanks are due to our lead administrators, HR, student and finance staff, lab, safety and facilities managers and many others who have kept the department going since March. It is down to the commitment of this group that so many of us were supported to work from home, while those who needed to work on-site were still able to come in safely and continue to produce high-quality scientific work.

This work includes crucial efforts in the fight against the COVID-19 pandemic: from understanding the immunology of the response to the novel coronavirus to understanding its long-term effects, RDM researchers have been prominent in contributing to Oxford's remarkable scientific effort against this disease. You can read about their work in a special 'COVID research' section in this newsletter, and a section on the RDM website is now dedicated to this ongoing strand of research. Many thanks to all of these researchers.

Thanks are also due to each and every one of you: together with the immense behind-the-scenes work detailed above, your efforts in following safe working guidance means that we have so far not had a single case of a COVID-19 transmission from on-site working in our labs or offices. Please continue to follow this safety guidance carefully, and do work from home wherever possible.

With the announcement of high efficacy for multiple vaccine candidates, we hope to be able to welcome everybody back to our buildings in the near future. We probably won't escape our current restricted pattern of on-site working at least for the first few months of 2021, but there is at last light at the end of the tunnel. Despite this, I appreciate that the effects of the pandemic are far-reaching, and the lost time and extra pressures that this year has brought will continue to affect us, and the research landscape, for some time. I encourage everybody to make use of the specific COVID support that the University has put together for both students and staff members. We also recognise that many of you might like to continue with some form of working from home even when we are all allowed back on site; there may indeed be new ways of working post-COVID.

Many of you may therefore have questions about how you will be working, and what the department plans are. With this in mind, I will be leading an online 'Town Hall' meeting open to everybody in RDM on Monday 11 January 2021 at 10 am. Whether you're a researcher, a student, or support staff, please do come along to this meeting, and please send us your questions in advance. I will be joined by representatives of senior leadership teams across RDM, and we hope to cover as many of your questions as we can, as we talk about our plans for 2021.

Many new colleagues joined us, despite the challenges this year has thrown up: a very warm welcome to all, and especially to Professor KJ Patel, the new MRC WIMM Director and new Director of the MRC Molecular Haematology Unit, and to Associate Professor Ross Chapman and Professor Ronjon Chakraverty, who join us as PIs from NDM and UCL

respectively. At the same time, we have lost some key contributors to the Department and I would particularly like to acknowledge the vital contributions of Professor Doug Higgs and Professor Alison Banham, both of whom helped me hugely in getting RDM established.

Many of our academics gained new titles: warm congratulations to our new Professors, Associate Professors, and University Research Lecturers, about whom there are more details further in our newsletter.

This year has also brought sad news, including the death of Professor Vincenzo Cerundolo at the beginning of the year. Enzo, as he was universally known, was the Director of the MRC Human Immunology Unit (HIU), a world-class scientist, and a much-missed friend and colleague.

But at the end of this year, I am cheered by the news that over 30 new DPhil students will have joined us by January 2021 – a very warm welcome to you all. You were our first cohort with an online induction, complete with hand-delivered brownies instead of the tea and cakes we usually lay on for the day.

At the end of this unusual and challenging year, I am very grateful and proud for all that everybody at RDM has done.

With best wishes for Christmas and the New Year.

Hugh Watkins

Professor Vincenzo Cerundolo FRS 1959-2020

Professor Vincenzo Cerundolo (universally known as Enzo) was the Director of the MRC Human Immunology Unit (MRC HIU) at the MRC Weatherall Institute of Molecular Medicine (WIMM), Fellow of the Royal Society, Fellow of the Academy of Medical Sciences, Head of the Investigative Medicine Division, Radcliffe Department of Medicine, and Fellow of Merton College. He died of cancer in January of this year, leaving behind a seminal body of work in his field of immunology, as well as a legacy of collaboration and fostering talent. He is greatly missed by his friends, collaborators, colleagues and students.

Enzo worked tirelessly and passionately for the benefit of the MRC HIU and built on the work of Andrew McMichael FRS to create a strong collaborative environment with a positive and inclusive culture which has directly contributed to its success. Professor Graham Ogg is currently interim Director of the MRC HIU, and a new Director for the unit will be announced very shortly.

Save the date

Christmas closure dates

The Radcliffe Department of Medicine (RDM) will be formally closed from Wednesday 23 December to Friday 1 January, both days inclusive. This includes the fixed closure dates announced by the Vice Chancellor earlier this year. Individual divisions will provide more information about their local arrangements for this period, only a skeleton service is expected to operate across RDM.

Head of Department 'Town Hall' meeting 10-11.00 am, Monday 11 January 2021

Please join us online for a short talk by Head of Department Professor Hugh Watkins about the department's plans for 2021, followed by a Q&A with a panel of RDM Senior Leaders. We hope the content of the talk will be very much driven by what staff and students want to know about, so please send us any questions/subjects you'd like to be discussed in the meeting to communications@rdm.ox.ac.uk, with the subject heading 'HoD Town Hall Meeting'. More details will be provided in the RDM weekly bulletin closer to the time.

RDM Annual Symposium 2021

The RDM Annual Symposium returns in 2021, in an online format, with a half-day of talks and discussion on the afternoon of Tuesday 23 March. All students and staff (including those who are not researchers) are invited and encouraged to attend. The event will begin with a broad overview of research across RDM. More details closer to the time.

Important Reminder

RDM acknowledgement in publications and press releases

Please do 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 release, 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…"

Congratulations

Congratulations to our researchers awarded University titles

Congratulations to our new Full Professors: Ellie Tzima, Professor of Cardiovascular Biology (CVM); Jan Rehwinkel, Professor of Innate Immunology (MRC HIU, MRC WIMM, IMD); and Tatjana Sauka-Spengler, Professor of Developmental Genomics and Gene Regulation (MRC WIMM, NDCLS) .

Congratulations also to our new Associate Professors: Masliza Mahmod (OCMR, CVM) and Tim Betts (CVM), both of whom are now Associate Professors of Cardiovascular Medicine; Mark Crabtree (CVM), who is now Associate Professor of Cardiovascular Biochemistry; Svetlana Reilly (CVM) who is now Associate Professor of Cardiovascular Science; David Sims (MRC WIMM, NDCLS), who is now Associate Professor of Computational Genomics (all 5 previously held the title of University Research Lecturer); James Davies (MRC MHU, MRC WIMM, NDCLS), who is now Associate Professor of Genomics; and Karthik Ramasamy (MRC WIMM, NDCLS), who is now Associate Professor of Haematology.

In addition, Dr Ladislav Valkovic (OCMR, CVM) has been awarded the title of University Research Lecturer and becomes a PI in RDM.

Many congratulations to all our researchers.

Prizes and awards

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

2020 RDM graduate prize winners

Many congratulations to Alba Rodriguez-Meira from the Mead group (MRC MHU, MRC WIMM, NDCLS) and Ioannis Akoumianiakis from the Antoniades group (CVM), who are the 2020 winners of the RDM graduate prize.

2020 RDM 'Excellent Supervision' Awards

Dr Adam Lewandowski (CCRF, CVM) and Professor Adam Mead (MRC MHU, MRC WIMM, NDCLS) are this year's winners of this award, which is nominated by students.

Jonathan Gamwell wins funding for Doctoral Exchange scheme

Jonathan Gamwell from the Karpe, Hodson & Christodoulides group (OCDEM) has been awarded funding from the UK-Canada Globalink Doctoral Exchange Scheme.

Dr Jillian Simon awarded 2020 British Cardiovascular Society Young Investigator Award

Dr Simon (CVM), a postdoctoral researcher in the Casadei group, has identified a novel mechanism through which PKA, in its oxidized form, protects the heart from ischemia reperfusion injury by regulating lysosomal calcium release.

Dr Simon has also been selected by the American Heart Association as one of the finalists for the Melvin L. Marcus Early Career Award in Cardiovascular Medicine.

Paul Dudley White International Scholar Award and Melvins Judkins finalists

Christos Kotanidis (CVM), a DPhil student in the Antoniades group, has been awarded the Paul Dudley White International Scholar Award for the Highest Ranked Abstract from the United Kingdom at Scientific Sessions 2020.

In addition, Christos and Dr Andrew Lewis (OCMR, CVM) from the Tyler group were also both finalists for the Melvin Judkins Early Career Clinical Investigator Award.

Dr Mayooran Shanmuganathan awarded graduate scholarship prize

Dr Mayooran Shanmuganathan (CVM), currently a Clinical Research Fellow as well as a DPhil student within the Piechnik and Ferreira groups, has been awarded the Alison Brading Memorial Graduate Scholarship in Medical Science by Lady Margaret Hall, to continue his DPhil study at the college.

Researchers selected to participate in prestigious haematology training programme

Congratulations to Dr Simona Valletta and Dr Sarah Gooding (both MRC MHU, MRC WIMM, NDCLS), who were selected for the Translational Research Training in Hematology Program, a year-long training and mentoring experience by the American Society of Hematology and the European Hematology Association.

Fredrik Karpe gives annual British Endocrine Society Prize Lecture

Professor Fredrik Karpe (OCDEM) was awarded the 2020 Clinical Endocrinology Trust Lecture.

Professor Jeremy Tomlinson awarded 2021 Society of Endocrinology medal

The medal is awarded every year to a British endocrinologist in recognition of outstanding studies. This marks the second year that an OCDEM researcher has been awarded this prestigious Society of Endocrinology medal, with Professor David Ray (OCDEM) winning the 2020 medal. Professor Tomlinson (OCDEM) will be giving the Society Medal Lecture in 2021.

Tatjana Sauka-Spengler wins 2020 Cheryll Tickle medal

Professor Tatjana Sauka-Spengler (MRC WIMM, NDCLS) is this year's winner of the Cheryll Tickle medal, which is awarded annually to a mid-career female scientist for outstanding achievements in the field of developmental biology research.

Raj Thakker wins European Calcified Tissue Society (ECTS) Award

Professor Rajesh Thakker (OCDEM) has been awarded the ECTS Philippe Bordier Award for 2020, for his significant clinical contributions to the field of bone and calcified tissue.

Many congratulations to all our award-winning staff and students!

In the News

Professor Hugh Watkins shortlisted for £30m British Heart Foundation research prize

A project led by Professor Hugh Watkins (CVM) is one of the four research projects shortlisted for a single £30 million award from the British Heart Foundation. The charity says it is one of many radical

new approaches needed to address a frightening mismatch in research funding compared with the burden of heart and circulatory diseases. Read more on the RDM website.

The Lancet Diabetes Commission report published

The Lancet Diabetes Commission was launched in 2016 with Professor Rury Holman (OCDEM) as one of the 21 commissioners. After four years of data gathering, modelling and discussions, the report was published just ahead of World Diabetes Day on 14 November, and makes four key recommendations on how the gaps in diabetes prevention, professional knowledge, diabetes care and data can be closed.

Bone hormone could provide new treatment for heart rhythm disorder

Associate Professor Svetlana Reilly (CVM) has published a study in *Nature* which demonstrates that a hormone which helps regulate bone mass is also produced by the heart. This finding could help treat people with a dangerous heart rhythm disorder: read more on the RDM website.

Study shows that funding gender equity incentives work

An analysis led by Dr Pavel Ovseiko (IMD) finds that linking research funding to Athena SWAN gender equality action plans has been associated with a rise in the number of women in mid-level leadership positions and the proportion of funding going to women. The study was published in the BMJ, and you can find out more about it on the RDM website.

Role-playing computer game helps players understand how vaccines work on a global scale

Professor Hal Drakesmith (MRC HIU, MRC WIMM, IMD) and his colleagues conceived the idea for The Vaccination Game, created by researchers at the MRC WIMM: the game challenges players to figure out how they can deploy limited doses of the vaccine to best control a disease modelled on influenza. Find out how you can play the game on the RDM website.

Unexpected eating turns on liver clock genes

The study, led by Professor David Ray (OCDEM), finds that clock-target genes in mice livers become clock controlled only when the animals eat at unexpected times. Find out more on the RDM website.

Researchers target previously unknown ‘genetic vulnerability’ in breast cancer cells

In a study published in *Nature*, Associate Professor Ross Chapman (MRC MHU, MRC WIMM, NDCLS) and his team report on a genetic vulnerability in nearly 10% of breast cancer tumours, which could be targeted to selectively kill cancer cells. Read more on the RDM website.

Common diabetes drug helps reverse diabetic patients’ heart disease risk

A new study led by Professor Charalambos Antoniades (CVM) finds that insulin itself can cause oxidative damage to human arteries, contrary to what has previously been found in mouse and cell studies. But their study also finds that a commonly used category of anti-diabetic tablets (which inhibit a key enzyme known as dipeptidyl peptidase 4 (DPP4)) can ameliorate this effect, restoring blood vessel health.

Study uncovers molecular 'first responder' that triggers heart-attack causing plaques

A study led by Professor Ellie Tzima (CVM) has discovered the molecular ‘first responder’ which detects disturbances in the flow of blood through the arteries, and responds by encouraging the formation of plaques which can lead to serious problems, including heart attack, stroke and even death. The study, published in the journal *Nature*, found that mice without this molecule in its right shape don’t have clogged arteries, even when they eat an unhealthy high fat diet.

COVID research at RDM

RDM researcher leads major COVID-19 convalescent plasma programme

Professor David Roberts (NDCLS), who is also Associate Medical Director, NHS Blood and Transplant, is co-leading an NHS Blood and Transplant programme to collect convalescent plasma from people who have recovered from COVID-19 to support a national clinical trial. Read more on the RDM website.

Diabetes Trial Unit leads on UK trial sites testing potential COVID-19 preventatives

The Diabetes Trial Unit (DTU) is managing the UK sites for a global study (the COPCOV trial) testing if either chloroquine or hydroxychloroquine can prevent COVID-19 in vital frontline healthcare workers. Find out more on the RDM website.

Tracking the longer-term impact of COVID-19

Dr Betty Raman and Professor Stefan Neubauer (both OCMR, CVM) are co-leading the C-MORE study, which assesses the effects of COVID-19 on multiple vital organs including the lungs, heart, brain, liver and kidneys (as assessed by magnetic resonance imaging) for up to twelve months. The study will also explore the impact of COVID-19 on functional capacity and quality of life for people who are affected by the illness.

The C-MORE study is also part of the UK wide £8.4 million PHOSP-COVID study, which is tracking longer-term effects of COVID-19 in patients across the UK.

Initial findings from the C-MORE study are that a large proportion COVID-19 patients discharged from hospital were still experiencing symptoms of breathlessness, fatigue, anxiety and depression two to three months after contracting the virus. Read more on the RDM website.

Rapid haemagglutination test for SARS-CoV-2 serology and vaccine/therapy development

Professor Alain Townsend (MRC HIU, MRC WIMM, IMD) and his team have developed a rapid haemagglutination test for SARS-CoV-2 serology which is now being provided to many countries worldwide for collaborative research. His team is also developing new approaches to vaccination and treatment.

Professor Townsend's team is also identifying and characterising monoclonal antibodies from patients who have recovered from COVID-19 with a view to the development of future therapeutics. In the longer term, he is working with Professor Mark Howarth in the Department of Biochemistry in Oxford to make a protein aggregate vaccine based on the spike protein. Overall, this work will contribute to vaccine and therapeutic developments.

COVID-19 pathogenesis, diagnostics and vaccines

Drs Giorgio Napolitani and Mariolino Salio (both MRC HIU, MRC WIMM, IMD) are focussing on T cells which have the capacity to kill other cells infected with viruses. They will identify which parts of the virus these T cells recognise which will help us to generate tools to understand whether patients with COVID-19 or individuals vaccinated with candidate vaccines against this disease develop SARS-CoV2-specific T cells capable of protecting against infection. In addition, these tools will also support the development of diagnostics. In collaboration with Dr Hashem Koohy (MRC HIU, MRC WIMM, IMD), they will be using bioinformatic approaches to predict which parts of the virus might be recognized by T cells.

Understanding T cell responses to SARS-CoV-2

Professor Tao Dong (MRC HIU, MRC WIMM, IMD) and her team are studying the COVID-19 immune response, with a particular focus on T cell biology. They have shown that there is a strong T cell response in recovered COVID-19 patients, and that patients with elevated levels of a marker for T cell activity go on to develop only mild symptoms, suggesting that T cell responses may be key to fighting off COVID-19. Professor Dong was interviewed about her work on BBC Radio 4's *Today* programme, and her work is being extended towards the development of a T cell diagnostic test (currently filed with Oxford University Innovation).

Professor Dong has long-term collaborations in China Beijing's You'an and Ditan Hospitals, and is also collaborating with Chinese colleagues at Chinese Academy of Medical Sciences and Nankai University.

Screening platforms to identify infections

Professor Jim Hughes and Associate Professor James Davies (both MRC MHU, MRC WIMM, NDCLS), in collaboration with Nucleome Therapeutics, are leading an initiative to develop new, faster and larger screening platforms that will help identify infected individuals in the population.

Wider healthcare effects of the COVID-19 pandemic

Professor Barbara Casadei (CVM) is the senior author on a study that found that about 5,000 heart attack sufferers in England missed out on lifesaving hospital treatment due to the COVID-19 pandemic. The study, published in *The Lancet*, used data regularly collected by NHS Digital from NHS Hospital Trusts to document a reduction in admissions with heart attack in England at the start of the COVID-19 pandemic, by comparing weekly rates in 2020 with those observed in 2019.

Using AI to measure cardiovascular risk in COVID-19 patients

Professor Charalambos Antoniades (CVM) and his team are extending the AI methods they have developed to spot heart disease risk from CT scans, for use in COVID-19 patients. This project is one of only six new NIHR-BHF projects, and involves collaborators from across the UK.

Varying risk of COVID-19 to health workers revealed

Professor Fredrik Karpe (OCDEM) is one of the researchers involved in a study at Oxford University Hospitals (OUH) NHS Foundation Trust which has revealed the different levels of risk faced by healthcare workers dealing with the COVID-19 pandemic.

This study is the first to comprehensively investigate all staff groups across an institution, and combines data from both symptomatic and asymptomatic staff testing programmes: in a major collaboration with the University, almost 10,000 staff members were tested for SARS-CoV-2 as well as antibodies to the virus.

Serum iron may be a useful biomarker to identify COVID-19 disease severity

An ongoing collaboration between OUH ICU academic clinicians and Professor Hal Drakesmith (MRC HIU, MRC WIMM, IMD) finds that intensive care COVID-19 patients with very low levels of serum iron had severe respiratory failure. Professor Drakesmith's group now plans further investigations as part of a larger programme within the International Severe Acute Respiratory and emerging Infection Consortium, which is evaluating samples from hospitalised patients. The investigations are part of an NIHR Oxford BRC-funded study evaluating blood cell-related biomarkers associated with adverse outcomes in COVID-19 infections.

Oxford-Sri Lanka study to compare COVID-19 immune response

Professor Graham Ogg (MRC HIU, MRC WIMM, IMD) is co-leading a study that will compare T cell and antibody responses to uncover the role of 'background' immunity to virus strains already in

circulation, including infections with similar coronaviruses. Professor Ogg and his collaborators will be analysing blood samples from the general population, as well as current and recovered COVID-19 patients in both the UK and Sri Lanka, to track how different kinds of existing immunity affect disease.

How research on ticks could offer potential COVID-19 breakthrough

Professor Shoumo Bhattacharya (CVM), whose work has previously shown that tick saliva could potentially yield many new drugs, is now working with ILC Therapeutics to examine the use of tick evasins as a potential COVID-19 treatment option for patients whose lungs are badly damaged by the virus and face a critical juncture in recovery. Read more on the RDM website.

COVID-19 Research Response Fund (**CRRF**) awards were made to:

- Professor Amanda Adler (OCDEM) for a project entitled *'Preventing infection with coronavirus (COVID-19) in health care workers exposed to COVID-19; clinical and cost effectiveness of hydroxychloroquine'.*
- Professor Graham Ogg (MRC HIU, MRC WIMM, IMD) for acquisition of a *'Category 3 FACS Sorter, 10x Chromium, Rhapsody'.*
- Professor Paul Leeson (CVM) for a project entitled *'COVID-19 Learning from Echocardiography and AI Resource (CLEAR)'.*
- Professor Alain Townsend (MRC HIU, MRC WIMM, IMD) for a project entitled '*Development of virus like particle subunit vaccine for SARS-CoV2'.*
- Professor Charalambos Antoniades (CVM) for a project entitled *'The UK COVID-19 Cardiovascular Risk Assessment Consortium (UK C19-CRC)'.*
- Professor Deborah Gill (NDCLS) for a project entitled *'SARS-CoV2 in Oxfordshire: Rapid tracking of viral lineages via Nanopore sequencing'.*

Congratulations to the following DPhil students on passing their vivas

Anna Katharina Glück worked on '*The role of G protein alpha 11 in calcium and glucose Homeostasis*', and was supervised by Dr Kate Lines and Professor Rajesh Thakker (both OCDEM).

Alba Rodriguez-Meira worked on '*Genetic and molecular basis of myeloid neoplasms at single-cell resolution*', and was supervised by Professor Adam Mead and Professor Sten Eirik Jacobsen (both MRC MHU, MRC WIMM, NDCLS).

Antje Kristin Grotz worked on '*Identifying genes involved in beta cell dysfunction using high-throughput genetic and genomic approaches*', and was supervised by Professor Anna Gloyn (OCDEM) and Dr Daniel Ebner (NDM).

I-Jun Lau worked on '*The role of MYB in MLL-AF9 leukaemia*', and was supervised by Associate Professor Thomas Milne and Professor Paresh Vyas (both MRC MHU, MRC WIMM, NDCLS).

Ahmad Moolla worked on '*Novel non-invasive markers, imaging and interventions for the diagnosis, characterisation and treatment of non-alcoholic fatty liver disease*', and was supervised by Professor Stefan Neubauer (OCMR, CVM) and Professor Jeremy Tomlinson (OCDEM).

Andrew Robert Harper worked on '*The genetic aetiology of hypertrophic cardiomyopathy*', and was supervised by Professor Martin Farrall, Professor Hugh Watkins and Dr Anuj Goel (all CVM).

Arjun Narayan Ajmer Jayaswal worked on '*Stratification of disease severity in patients with liver fibrosis, cirrhosis and portal hypertension using novel multiparametric magnetic resonance imaging techniques*', and was supervised by Professor Stefan Neubauer (OCMR, CVM), Professor Eleanor Barnes (NDM), Dr Matt Kelly (Perspectum Diagnostics) and Professor J. Michael Brady (Oncology).

Evangelos Oikonomou worked on '*Computed tomography phenotyping of perivascular adipose tissue for cardiovascular disease diagnosis and risk stratification*', and was supervised by Professor Charalambos Antoniades (CVM) and Dr Jemma Hopewell (NDPH).

Klemen Ziberna worked on the '*Role of diabetes mellitus in atrial fibrillation and potential new treatments*', and was supervised by Dr Ricardo Carnicer-Hijazo and Professor Barbara Casadei (both CVM).

Dominic Owens worked on '*Elucidating the cis-regulatory logic of Runx1 during developmental haematopoiesis*', and was supervised by Professor Marella De Bruijn and Professor Jim Hughes (both MRC MHU, MRC WIMM, NDCLS).

Yiangos Psaras worked on '*Modified traction force microscopy for simultaneous single cell acquisition of force and calcium*', and was supervised by Dr Matthew Daniels (CVM, now at Manchester University) and Associate Professor Edmond Walsh (Engineering).

Xiaopeng Fu worked on the '*Role of CD1a-restricted T cells in the immune responses to Staphylococcus aureus*', and was supervised by Professor Graham Ogg and Professor David Jackson (both MRC HIU, MRC WIMM, IMD).

Alice Lightowlers worked on '*Method development for the generation and selection of precise genomic edits in human cells*', and was supervised by Dr David Knapp (MRC MHU, MRC WIMM, NDCLS), Professor Tudor Fulga (MRC WIMM, NDCLS, now at Vertex Pharmaceuticals) and Professor Jim Hughes (MRC MHU, MRC WIMM, NDCLS).

Susan Yangshan Yu worked on '*Second generation superagonistic anti-PD-1 antibodies*', and was supervised by Professor Simon Davis (MRC HIU, MRC WIMM, IMD).

Megat Abd Hamid worked on '*Mechanisms of co-stimulatory and inhibitory receptors in human cancer-specific cytotoxic T cells*', and was supervised by Professor Tao Dong and Dr Yanchun Peng (both MRC HIU, MRC WIMM, IMD).

Martyna Lukoseviciute worked on '*Tackling chromatin dynamics and bimodal foxd3 mechanism on neural crest gene regulation* in vivo', and was supervised by Professor Tatjana Sauka-Spengler (MRC WIMM, NDCLS).

Adrienne Grace Siu worked on '*Modelling the Short-T2*Signal in the Liver with Ultrashort Echo Time Magnetic Resonance Imaging (UTE MRI)*', and was supervised by Dr Matthew Robson (OCMR, CVM, now at Perspectum Diagnostics) and Dr Luca Biasiolli (OCMR, CVM).

Ross Upton worked on '*Detection of prognostically significant coronary artery disease in stress echocardiography using artificial intelligence*', and was supervised by Professor Hugh Watkins (CVM) and Professor Paul Leeson (CCRF, CVM).

Max Jamilly worked on '*Genetic screening to investigate treatment resistance in MLL-rearranged leukemia*', and was supervised by Professor Tudor Fulga (MRC WIMM, NDCLS, now at Vertex Pharmaceuticals) and Professor Thomas Milne (MRC MHU, MRC WIMM, NDCLS).

Sven Jaeschke worked on '*Motion estimation using radiofrequency scattering of a parallel transmit coil for cardiac magnetic resonance*', and was supervised by Dr Matthew Robson (OCMR, CVM, now at Perspectum Diagnostics) and Dr Aaron Hess (OCMR, CVM).

Joe Neal Frost worked on '*Iron controls the adaptive immune response*', and was supervised by Professor Hal Drakesmith (MRC HIU, MRC WIMM, IMD) and Dr Oliver Bannard (NDM).

In addition, **Einas Elmahi** passed their viva for MSc (Research), and worked on 'The impact of pregnancy and its complications on maternal cardiovascular structure and function in later life', and was supervised by Professor Paul Leeson (CCRF, CVM) and Dr Alexander Jones (Paediatrics).

Many congratulations to all our students!

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 grant applications. Details of all RDM internal deadlines can also be found there. For any funding related queries, please contact the RDM Research Strategy and Funding team (Drs Ruth McCaffrey, Serena Briant and Kathleen Dolan).

External funds

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:

Dr Yvonne Couch (IMD) has received a research fellowship from Alzheimer's Research UK (ARUK) to investigate how stroke can cause vascular dementia.

Dr Sarah Howles (OCDEM) was awarded a Wellcome Trust Clinical Research Career Development Fellowship.

Dr Sumana Sharma (MRC HIU, MRC WIMM, IMD) was awarded a Sir Henry Wellcome Fellowship to work with Prof Simon Davis.

Dr Adam Wilkinson, currently at Stanford University, was awarded an Intermediate Fellowship from the Kay Kendall Leukaemia fund (KKLF) to join the WIMM, MHU and undertake research to investigate blood stem cell self-renewal.

Dr Susie Shapiro was awarded an MRC Clinical Academic Research Partnership Fellowship to work with Prof Adam Mead (MRC MHU, MRC WIMM, NDCLS) looking at improving cardiovascular outcomes in polycythaemia by risk stratification and targeted therapy.

Dr Nicola Curry was awarded an MRC Clinical Academic Research Partnership Fellowship to work with Prof Robin Choudhury (CVM) looking at the role of endothelium in traumatic coagulopathy.

Professor Robin Choudhury (CVM) was awarded funding from the Chan Zuckerberg initiative for a study using single cell RNA sequencing (SC-Seq) and computational biology inflammatory cells to understand regenerative versus non-regenerative models post-myocardial infarction.

Associate Professor Anne Goriely (MRC WIMM, NDCLS) received a Wellcome Investigator Award for a research programme focusing on selfish selection, promoting clonal expansion of pathogenic *de novo* mutations in human testes/male germline.

Professor Ellie Tzima (CVM) was awarded a BHF Programme Grant to study novel mechanotransducers involved in atherosclerosis and vascular remodelling.

Professor Doug Higgs (MRC WIMM, NDCLS) was awarded an MRC Programme Grant to further investigate gene expression in haematopoiesis and management of anaemia.

Prof Andrew Wilkie (MRC WIMM, NDCLS) was awarded an MRC Programme Grant.

Dr Pavel Ovseiko (IMD) was awarded Horizon 2020 funding as part of a multi-country consortium for a project called ALLINTERACT about widening and diversifying citizens' engagement in science.

Many others received project grants, industrial funding, studentships and capital funding. Congratulations to all.

Internal funds

Dr Andrew Armitage (MRC HIU, MRC WIMM, IMD) has received funding from the Internal Research England GCRF support fund for *'How does iron influence immune development in infants?'*.

Professor Jeremy Tomlinson (OCDEM) has received funding from OCMS Internal Pump Priming fund for his project "*The gut microbiome and the treatment of NAFLD*".

Human Immune Discovery Initiative (HIDI) awards were made to**:** Ullrich Leuschner (NDCLS), Dr Yi-Ling Chen (MRC HIU, MRC WIMM, IMD).

Medical and Life Sciences Translational Fund (MLSTF) awards were made to**:** Professor Adam Mead (MRC MHU, MRC WIMM, NDCLS), Professor Paresh Vyas (MRC MHU, MRC WIMM, NDCLS), and Professor Ellie Tzima (CVM).

Medical Sciences Internal Fund (MSIF) pump priming awards were made to: Dr Claudia Giuda (OCDEM), Dr Andrew Lewis (CVM), Dr Naveed Akbar (CVM), Dr Yi-Ling Chen (MRC HIU, MRC WIMM, IMD).

Wellcome Institutional Strategic Support Fund (ISSF) awards were made to: Associate Professor Svetlana Reilly (CVM), Dr Adam Lewandowski (CVM), Dr Quan Zhang (OCDEM).

John Fell Fund (JFF) awards were made to: Associate Professor Svetlana Reilly (CVM), Dr Costas Christodoulides (OCDEM), Dr Susan Shapiro (NDCLS), Stephen Taylor (MRC WIMM, NDCLS), Dr Filipa Simões (MRC WIMM, NDCLS), Dr Pavel Ovseiko (IMD), Professor Alain Townsend (MRC HIU, MRC WIMM, IMD), Professor Sten Eirik Jacobsen (MRC MHU, MRC WIMM, NDCLS), Associate Professor Stefan Piechnik (CVM).

This year, funding from the Returning Carers' Fund has been awarded to Dr Andrea van Dam (OCDEM) in the Karpe and Christodoulides labs.

RDM Initiatives

Teaching at RDM

The Tutorial Teaching Mentoring Programme organised by the RDM Education Working Group will be launched in Hillary term. The RDM Education Working Group was established this year to support and promote teaching across the department. This new course has the objective of improving the quality of teaching in the department by helping RDM staff to design their first teaching classes. Participants will have first-hand experience on how to prepare and run a tutorial by participating in a practical session and creating their own sessions with the help and feedback of RDM senior tutors.

Draft RDM Respectful Behaviours Framework

Over recent months, the RDM Strategic Team have been working on developing a Respectful Behaviours Framework for all in RDM. The framework was initiated in response to earlier staff and student survey results; conversations across RDM; work from the Environment and Culture Working Group; and discussions with Harassment Advisors. This information was combined with desk research which looked at how other organisations have been tackling behavioural questions. Then using this material, we put together a draft framework, which we have primarily focussed as a guide of good behaviours.

The draft framework is available now (SSO login needed), and we are currently looking through the comments that you have sent us on this draft. Once finalised, the framework will supplement the

University policy on anti-bullying and harassment and be included with further particulars for jobs and inductions, used in PDR conversations, and will be available in 2021 for all to read and act upon.

Staff news

New starters and appointments

- Professor KJ Patel (MRC MHU, MRC WIMM, NDCLS) joins us from the MRC Laboratory for Molecular Biology at Cambridge, taking over from Professor Doug Higgs as the new Director of the MRC WIMM and the MRC MHU.
- Professor Deborah Gill (NDCLS) takes over from Professor Alison Banham as the Head of NDCLS.
- Associate Professor Ross Chapman (MRC MHU, MRC WIMM, NDCLS) joins as a new PI, moving from the Nuffield Department of Medicine at the University of Oxford to the MRC WIMM.
- Professor Ronjon Chakraverty (MRC MHU, MRC WIMM, NDCLS) joins us as a new PI, moving from University College London to the MRC WIMM.
- Dr Bethan Psaila (MRC MHU, MRC WIMM, NDCLS) is now a PI within RDM, and a CRUK Advanced Clinician Scientist.
- Dr Benoit Hastoy (OCDEM) is now a PI within RDM, and a Diabetes UK RD Lawrence Fellow.
- Associate Professor James Davies (MRC MHU, MRC WIMM, NDCLS), Associate Professor Karthik Ramasamy (MRC WIMM, NDCLS) and Dr Ladislav Valkovic (OCMR, CVM) are all also new PIs within RDM.

Leavers and new Emeritus Professors

- A special thanks to Michaëlla Smart (NDCLS), who has so ably led the RDM mentoring scheme since its inception. Michaëlla leaves to pursue other interests in France.
- Professor Alison Banham (NDCLS), former head of NDCLS, is now Emeritus Professor within RDM, and her important contributions to the RDM Career Development and Athena SWAN committees will continue.
- Professor Doug Higgs (MRC MHU, MRC WIMM, NDCLS), the former Director of the MRC WIMM and MRC MHU, is also now an Emeritus Professor within RDM, and continues to be research active.
- Associate Professor Veronica Buckle (MRC MHU, MRC WIMM, NDCLS) has also now formally retired.
- Professor Terence Rabbitts has now moved to the Institute of Cancer research, while Professor Anna Gloyn is now at Stanford University.