

RDM Quarterly Newsletter

December 2017

Dear Colleagues,

Welcome to the Michaelmas edition of the RDM Newsletter, which will now be published on a termly basis. I would like to start by welcoming all our new DPhil students to the department. I hope that you enjoy your time here in Oxford. The University is a wonderful place to pursue your academic careers and we wish you every success – at both an academic and personal level.

We have had a number of outstanding achievements over the last few months. In particular, I would like to congratulate the 2017 Graduate Prize Winners: Huw Colin-York, Quentin Ferry and Thomas Riffelmacher. You can read more about their successes in this newsletter.

Preparations have begun for our annual symposium (**19 March 2018**) and we will be opening registration in the New Year. Please do register to take part in the day as it is a unique opportunity to interact with colleagues across the department and forge new collaborations.

Within this newsletter you will also find details of our new RDM Learning and Development programme, which we launched in mid-October. We are committed to enhancing the professional development of all our staff and students and this programme is part of a suite of initiatives we are rolling out to meet this goal. The sessions have been designed on the basis of feedback from staff and students about their learning needs and we encourage you to make time for professional development within your working week.

Please get in touch with [Dr Emma O'Brien](#) if you have any news you would like to share with the department – from fundraising and athletic feats to poster prizes and awards, we want to hear your stories.

I wish you all a wonderful break over the festive season.

Best wishes,

Prof Hugh Watkins, FRS

Head of Department

Awards and success stories

Congratulations to our new Professors!



Congratulations to [Prof Charalambos Antoniades](#) (Professor of Cardiovascular Medicine), [Prof Marella de Bruijn](#) (Professor of Developmental Haematopoiesis) and [Prof Deborah Gill](#) (Professor of Gene Medicine), who were all conferred the title of full professor in the recent Recognition of Distinction Exercise. This is a huge achievement and reflects not only their research achievements but commitment to teaching and 'good citizenship' within the department and beyond. [Read more.](#)

Congratulations to our new University Research Lecturers!

We are pleased to announce that we have three new University Research Lecturers within RDM. [Dr Costas Christodoulides](#) (OCDEM), [Dr Masliza Mahmood](#) (CVM) and [Dr Arash Yavari](#) (CVM) are now all Principal Investigators in the department. The title of University Research Lecturer is given in recognition of substantial independent research achievement, along with a contribution to teaching and to the general academic life of the Medical Sciences Division and the department.

RDM Graduate Prize

Congratulations to **Huw Colin-York**, **Quentin Ferry** and **Thomas Riffelmacher** who are the winners of this year's RDM Graduate Prize.

Dr Colin-York completed his DPhil with [Prof Christian Eggeling](#) and Marco Fritzsche (IMD-WIMM), investigating biophysical forces in immune cells by combining force measuring techniques with super-resolution microscopy. He was awarded the Prize for developing a methodology which may lead to changes in the field and establishing a valuable collaboration within the field. [Learn more about his work here.](#)

Dr Riffelmacher completed his DPhil with [Prof Sten Eirik Jacobsen](#) (NDCLS-WIMM) and [Katja Simon](#) (NDORMS). He explored the role that autophagy, a cellular recycling pathway, has during the differentiation of blood and immune cells. He was awarded the Prize for establishing a new mechanism by which autophagy controls differentiation and for his entrepreneurial spirit. [Learn more about his work here.](#)

Dr Quentin Ferry completed his DPhil with [Associate Prof Tudor Fulga](#) (NDCLS-WIMM), employing RNA-engineering to develop novel inducible CRISPR/Cas9 systems, whose activity can be conditioned on genetically encoded, or externally delivered, triggers. He was awarded the Prize for

developing and applying new methods in genome editing, which promise to progress the field.
[Learn more about his work here.](#)

Teaching Excellence Awards 2017

Staff across RDM have been recognised in the Medical Sciences Division's Teaching Excellence Awards 2017. The Teaching Excellence Awards scheme recognises and rewards excellence in teaching, the organisation and development of teaching, and support for teaching and learning.

Congratulations to [Felicity Bennett](#) (NDCLS), Laboratory Medicine Course Administrator, who has been recognised for her excellence in learning support. NDCLS deliver the [Laboratory Medicine course](#) to approximately 160 University of Oxford medical students in their fourth year of the Oxford University Medicine Degree Programme. The course aims to provide students with the knowledge and understanding of disease processes to enable them to diagnose patients' disease, including planning and interpreting the results of laboratory-based investigations. Felicity's award reflects her continuous adaptability and willingness to take on new tasks. Felicity has shown exceptional commitment by taking on a workload and responsibility significantly beyond the expectations of her grade and job description after the retirement of a key member of staff.

[Dr Deborah Hay](#) (NDCLS), who leads the Laboratory Medicine Course, has been awarded funds to undertake a *Pilot assessment of interactive in-lecture question technology in the Laboratory Medicine Course*. The award will enable the Laboratory Medicine Course team to make an informed decision about future investment in interactive in-lecture technology.

Elsewhere in the department [Associate Prof Leanne Hodson](#) and [Prof Marella De Bruijn](#) were awarded funds for '*Confident Personal Impact Training for Women: a pilot study*'. This award will enable piloting of a 2-day workshop around the theme of confident personal impact training, for a number female DPhil students who have passed transfer of status.
[Read more.](#)



Marella and Leanne receiving their award from Gavin Screatton, Head of Medical Sciences Division

DPhil vivas

Congratulations to all our DPhil students who have recently passed their vivas.

Simon Brooks (supervised by Dr Duncan Gascoyne and Prof Alison Banham) for his work on 'The functional role of the transcription factor NFIL3 in haematological malignancy'.

Natasha Davie (supervised by Prof Richard Barker and Prof Deborah Gill) for her work on 'Academia-Industry Collaboration in Translational Medicine'.

Michael Mackley (supervised by Prof Hugh Watkins and Dr Liz Ormondroyd) for his work on 'A clinical and ethical evaluation of secondary findings in the era of clinical whole-genome sequencing'.

Timothy Rajakumar (supervised by Associate Prof Tudor Fulga) for his work on 'Constructing RNA based genetic circuits for the detection of endogenous microRNAs'.

Ka-liong Tan (supervised by Prof Francesco Pezzella and Dr Oreste Acuto) for his work on the 'Translational Relevance of AIPL1 and NUB1 in Cancer'.

Lucy Wheatley (supervised by Associate Prof Tatjana Sauka-Spengler) for her work 'Investigating the Genome-Wide Regulatory Circuitry Controlled by Scl during Early Haematopoietic Development in Zebrafish Embryos'.

Research funding



Congratulations to the following researchers who have secured funding over the last few months. If you are looking for funding opportunities, please consult the [RDM Funding Bulletin](#) and [RDM Funding Database](#), compiled by [Dr Serena Briant](#) and [Dr Ruth McCaffrey](#). Ruth and Serena [also coordinate and support all external fellowship applications](#), including internal peer review and mock interviews – please make use of this invaluable source of support.

Dr Niels Asger Jakobsen (NDCLS-WIMM) has been awarded a Clinical Research Training Fellowship from the MRC to work with [Prof Paresh Vyas](#) and [Prof Doug Higgs](#) on the 'Molecular and Cellular Basis of Clonal Dominance in Myeloid Malignancy'

Congratulations to [Dr Lisa Ayers](#) (CVM), who has been awarded a Chief Scientific Officer's WISE Fellowship. Now in its second year, the Chief Scientific Officer's WISE Fellowship is a unique opportunity for mid-career female healthcare scientists to gain invaluable leadership experience. [Read more](#).

[Prof Alison Banham](#) (NDCLS) has received an MRC Confidence in Concept award, entitled 'T-cell receptor-like antibodies targeting p53'.

[Dr Rob Beagrie](#) (NDCLS-WIMM) has secured a Sir Henry Wellcome Fellowship for his work 'Exploring mechanisms of enhancer action in erythropoiesis.'

Dr Melinda Czeh (NDCLS-WIMM) has been awarded a Clinician Scientist Fellowship from Cancer Research UK to work with [Prof Claus Nerlov](#) on 'The role of haematopoietic stem cell bias in acute leukaemia initiation'.

[Dr James Davies](#) (NDCLS-WIMM) has been awarded a MRC Clinician Scientist Fellowship for his work on the 'Development of highly sensitive methods for defining off target mutations to enable safe gene editing of haematopoietic cells for transplantation'.

[Prof Deborah Gill](#) (NDCLS) has received funding from the Children's Liver Disease Foundation to investigate 'Gene editing liver organoids for treatment of liver disease'

Well done to [Dr Katja Gehmlich](#) (CVM) and [Dr Rui Monteiro](#) (WIMM-NDCLS) who were both awarded two year extensions to their BHF Intermediate Basic Science Research Fellowships.

[Prof Doug Higgs](#) has been awarded a Wellcome Trust ISSF grant to support the 'Oxford Quantitative Biology Training Programme'. Doug was also awarded funding from the Wellcome Trust to support public engagement activities around the Royal Society Summer Science Exhibition

and beyond. If you want to apply for public engagement funding, please get in touch with [Dr Emma O'Brien](#).

[Dr Paul Holloway](#) (IMD) has received funding from the Royal Commission for the Exhibition of 1851 to conduct a Research Fellowship entitled 'Evaluation of the melanocortin receptor system in ischemia-reperfusion induced leukocyte endothelium interactions in the brain microcirculation'. He will be working with Prof Alastair Buchan.

[Prof Fredrik Karpe](#) (OCDEM) was awarded a Proposal Development Travel grant from the Medical Research Council for his project 'The PRIMORDIAL Study'.

[Dr Adam Lewandowski](#) (CVM) has been awarded a BHF Intermediate Basic Science Research Fellowship for his work on 'Cardiac remodelling in preterm-born offspring: defining the importance of early postnatal changes and potential for neonatal dietary interventions to reduce longterm risk'.

Congratulations to [Dr Beth Psaila](#) (WIMM-NDCLS), who has been awarded a L'Oréal-UNESCO UK and Ireland Fellowship For Women In Science. She was one of five scientists to receive the highly competitive award. [The award](#) provides £15,000 of flexible financial support for outstanding female postdoctoral researchers to continue research in their fields. [Read more](#).

[Prof Patrik Rorsman](#) (OCDEM) has received funding from The Leona M. and Harry B. Helmsley Charitable Trust for the project 'Pilot studies to understand alpha cell dysfunction and correct glucagon secretion in type 1 diabetes'.

[Dr Noemi Roy](#) (NDCLS-WIMM) has been awarded a grant from 'Reuben and Friends' – a charitable funder dedicated to supporting research into red cell aplasia.



Dr Beth Psaila

[Dr Jack \(Tiong\) Tan](#) (NDCLS) has been awarded an EIT Health Doctoral Transition Fellowship 2017 Silver prize for the 'Development of low-containment compatible surrogate pandemic influenza and Ebola viruses.

[Prof Raj Thakker](#) (OCDEM) has received support from CRUK Oxford Centre Development Fund to investigate 'Peptide radionuclide imaging and therapy for pancreatic neuroendocrine tumours'.

[Dr Akshay Shah](#) (Clinical Research Fellow and DPhil student, NDCLS) has secured an NIHR Doctoral Research Fellowship for 'Understanding the role of intravenous iron to treat anaemia in survivors of critical illness.'

[Dr Cynthia Wright-Drakesmith](#) (IMD) has been awarded a Daphne Jackson Fellowship - a scheme that supports researchers returning to academic research after a career break.

Your News

Anneliese Dodds MP visits MRC WIMM

The MRC Weatherall Institute of Molecular Medicine (MRC WIMM) invited Oxford East MP Anneliese Dodds to find out about cutting edge research taking place in her constituency and learn more from scientists about the challenges they face.

Speaking about the visit, Anneliese Dodds said:

‘It was wonderful to see the innovative ways in which researchers right here in Oxford are tackling some of our biggest medical

challenges. Some of the work being undertaken at the MRC WIMM is mindblowing in terms of how it could improve outcomes not just for patients but for society as a whole. I am committed to working closely with scientists and researchers in Oxford to make the case for great British science like that being undertaken at the MRC WIMM. In particular, Brexit is a cause for concern for both established researchers and those just starting their careers, both from a funding and immigration viewpoint. It is important that we seek clarity as soon as possible, so as not to hinder scientific progress.’



Anneliese Dodds taking a virtual reality tour of DNA with Associate Prof Jim Hughes. Image credit: Bob Mahoney.

Microscopy workshop fosters UK-Turkey collaborations

Researchers at the MRC Human Immunology Unit organised a collaborative imaging workshop, which aims to build scientific links between early career researchers in Turkey and the United Kingdom.

In its third edition, the Cellular Imaging Techniques course is a successful joint initiative between the MRC WIMM and the Izmir Biomedicine and Genome Center (iBG-Izmir). The course is jointly organized by [Dr Erdinc Sezgin](#) and [Prof Christian Eggeling](#) (WIMM-IMD) and Gunes Ozhan from iBG-Izmir, and took place in Turkey in October.

Research highlights

Have you donated blood recently? [Prof David Roberts](#) *et al* (NDCLS) have published the results of INTERVAL – a study involving 45,000 people that aimed to define the optimal interval between blood donation sessions. They showed that allowing donors to give blood more frequently boosted the supply of blood to the NHS without having a major impact on their health. The [results were published in The Lancet](#).



Image credit: Shutterstock

[Dr Lynn Quek](#), [Prof Paresh Vyas](#) (WIMM-NDCLS) and international colleagues have published promising new data from a Phase I clinical trial of Enasidenib in people with acute myeloid leukaemia. Rather than killing leukaemia cells, Enasidenib reprogrammed them into functional members of the immune response. The drug was effective in 40% participants in this initial trial. The [results were published in Blood](#). You can read more about acute myeloid leukaemia, [in an article written](#) by DPhil students Catherine Garnett and Conor Sweeny in The Conversation.

DPhil student [Toni Baeumler](#) and [Associate Prof Tudor Fulga](#) (WIMM-NDCLS) have developed a new technology platform, based on CRSPR/cas9, that allows them to alter the way that cells respond to external signals. The research was [published in Cell Reports](#) and you can learn more on the [Oxford Science Blog](#).

[Prof Mark McCarthy](#) (OCDEM) and colleagues have found a causal link between bone mineral density and risk of type 2 diabetes. The research, which looked at SNPs in nearly 120,000 people, was published in [Wellcome Open Research](#).

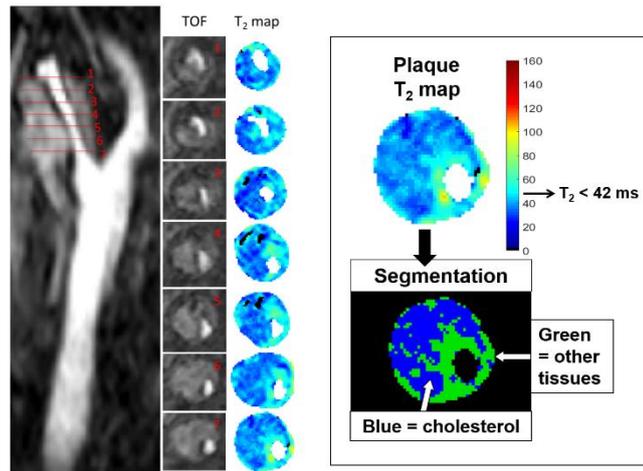
[Dr Sant-Rayn Pasricha](#), [Associate Prof Hal Drakesmith](#) (WIMM- IMD) and colleagues have published new findings into the mechanism underpinning hepcidin gene regulation. The research highlighted the role of epigenetic regulation by HDAC3 and [was published in Nature Communications](#).

Proteins found in tick saliva could be used to treat a potentially fatal form of heart disease, according to new research led by [Prof Shoumo Bhattacharya](#) (CVM) and his team. The research was [published in Scientific Reports](#) and featured on [BBC Online](#).

[Prof Angelyn Bethel](#), [Prof Rury Holman](#) and colleagues in the Diabetes Trials Unit (OCDEM) have published the results of two mega-trials, involving over 20,000 participants and 36 countries, shedding new light on the impact of diabetes drugs on the cardiovascular system. The results of the the EXSCEL trial (**EX**enatide **S**tudy of **C**ardiovascular **E**vent **L**owering) and The ACE trial (Acarbose Cardiovascular Evaluation) were published in [New England Journal of Medicine](#) and [Lancet Diabetes Endocrinology](#) respectively.

[Associate Prof Jan Rehwinke](#) and his team (WIMM-IMD) have published new insights into viral RNA sensing. The research was published in [EMBO Journal](#) and you can read more in [this WIMM blog](#) from DPhil student [Loyal Liverpool](#).

[Dr Luca Biasioli](#), [Prof Robin Choudhury](#) (CVM) and colleagues have developed a new imaging technique to predict stroke risk. The scan, developed in the [Acute Vascular Imaging Centre](#) (IMD), measures the amount of cholesterol in fatty plaques, order to predict the risk of rupture. The research was published in [JACC Cardiovascular Imaging](#).



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Carotid plaque lipid quantification by T2 mapping.

Update from the RDM Career Development Committee

The [RDM Career Development Committee](#) has welcomed three new members recently. [Charlotte Smith](#) (RDM Athena SWAN co-ordinator), [Dr Betty Raman](#) (Clinical Research Fellow, CVM) and [Dr Matt Neville](#) (Biobank co-ordinator, OCDEM), will help give new perspectives to the ongoing work of the Career Development Committee.

The CDC are currently working a number of initiatives to improve the professional development of our staff and students. If you have any questions or suggestions for the CDC, please email cdc@rdm.ox.ac.uk.

RDM Learning and Development Programme

We have recently launched an RDM-wide Learning and Development Programme. The aim of the [RDM Learning and Development programme](#) is to provide opportunities for all RDM staff and students to take advantage of courses that will enhance their learning and professional development. It has been developed by the [RDM Career Development Committee](#) in consultation with the Oxford Learning Institute. Courses have been selected with all our staff and students in mind, and we hope that the programme provides a framework to help guide decisions about your training needs.

The programme will offer a number of courses delivered by the Oxford Learning Institute, and some bespoke events delivered by external specialists and RDM staff. These courses fall into four broad themes: Career Development; Communications; Working Relationships and Management and Supervision. For your convenience, these sessions will take place across the JR and Old Road Campus/Churchill sites.

The programme began with the RDM Career Day on 7 November. This was an opportunity to learn more about careers inside and outside academia from professionals working in a variety of sectors. The day was a huge success, with nearly 100 delegates and eight speakers from a variety of professions. Thank you to all involved in organising this fascinating day: Dr Naveed Akbar; Dr Linford Briant; Associate Prof Vanessa Ferreira; Dr Adam Lewandowski; Dr Jillian Simon, Dr Yan Zhou, Dr Serena Briant; and Dr Ruth McCaffrey.

Other Updates

Pilot Professional Development Strategy

The RDM Learning and Development Programme will be further enhanced by the pilot Professional Development Strategy, which is being trialled within parts of RDM. The purpose of the professional development strategy is to move towards encouraging individuals, in partnership with their manager/supervisor/mentor, to plan, reflect and take the lead in developing themselves using a diverse range of workplace learning strategies. This pilot will run throughout 2018 and if positive feedback is received, it will be rolled out across RDM.

Online PDR System

We are currently trialling an online PDR system in some RDM Divisions, and if initial results are positive, and if the system is proven to provide a more effective experience, it will be rolled out across RDM in 2018/2019.

RDM Mentoring Scheme

We will also soon moving onto a new Mentoring Platform, which will reduce administrative overheads and enable the Mentoring Committee to ensure the programme is a valuable and effective experience for Mentees and Mentors.

What is the RDM Mentoring Scheme? The aim of the scheme is to assist staff and students to achieve personal and professional growth through a mentoring relationship that provides support as they progress and develop within the University. 24% of RDM staff have taken part in the scheme since its launch and participants find the experience overwhelmingly useful.

[Read more about the scheme.](#)



Public Engagement with Research

The summer was a busy period for public engagement throughout the department. Well done to everyone who got involved. If you would like to learn more about public engagement, or have an idea you'd like to discuss, please get in touch with [Dr Emma O'Brien](#).

Oxford Hands on Science

Congratulations to [Corinna Kulicke](#) (DPhil student with Prof Vincenzo Cerundolo, WIMM-IMD) who secured £2,000 funding from the Medical Research Council to support Oxford Hands on Science (OxHOS) Roadshow 2017. [Oxford Hands-On Science](#) (OxHOS) is a student-led society that thrives on visiting schools and public venues, spreading enthusiasm for science to children and their families through interactive activities. Over the course of four weeks, the team visited 16 schools and held/took part in five family events, including the Oxfordshire Science Festival. Well done to Corinna and all those from the department who took part.



Young visitors exploring the causes of allergy and eczema at the MRC Festival of Medical Research.

Science in the Supermarket

Our two MRC-funded units, the MRC Human Immunology Unit and the MRC Molecular Haematology Unit, took part in the MRC Festival of Medical Research (17 to 23 June) – an annual celebration of cutting edge research. They took a road trip around supermarkets in Oxfordshire and Buckinghamshire, with activities for passing shoppers about genetic susceptibility to common diseases. The team of over 20 volunteers engaged with more than 1000 shoppers, and several people have got in touch after the Festival to say how much they enjoyed the stand. Thank you to everyone involved!

DNA Origami: How do you fold a genome?

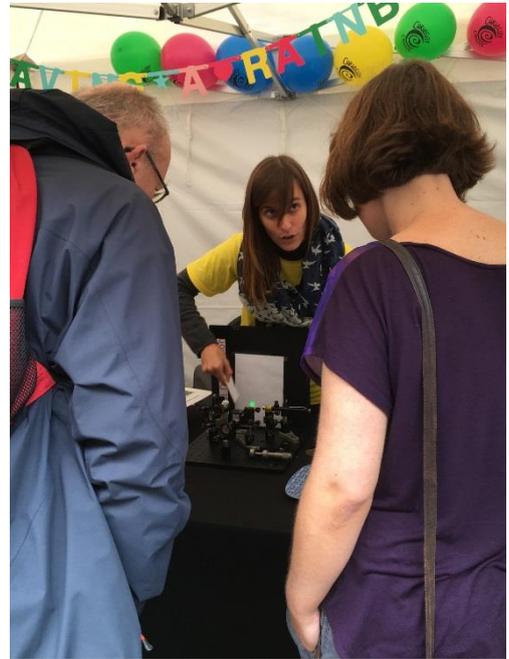
Over 40 members of RDM took part in the Royal Society Summer Science Exhibition (3-9 July), blending virtual reality with hands-on activities about gene regulation. The exhibition was a huge success, with fantastic feedback from visitors young and old. A particular thanks to the working group, led by [Dr Damien Downes](#) (Hughes lab, WIMM-NDCLS). Learn more about the exhibition [here](#).

Rainbows, blood, virtual reality and dance – RDM hits the Curiosity Carnival

The Curiosity Carnival rolled into town on 29 September for a festival of all things research. Over 30 researchers from across RDM took part in the largest public engagement event Oxford has ever staged.

From the magic of rainbows through to dance performance art about irregular heart rhythms, there was something for everyone at Curiosity Carnival. You can learn more about the huge range of activities that RDM researchers were involved in [here](#). Our teams were stationed across the Botanic Gardens, Broad Street, the Ashmolean and the Museum of Natural History, engaging with

hundreds of visitors. From dancing [heart rhythms](#) to a [blood factory full of hormones and immune cells](#), RDM engaged with thousands of visitors across the evening. Well done to everyone involved!



Silvia Galiani (IMD-WIMM) talking all things microscopy with visitors on broad street.

Fundraising

Bakers across the department took part in the Macmillan coffee morning on 29 September. Well done to the team in OCDEM who raised £255 and to Zahra Aboukhalil who organised a cake sale in the WIMM and raised £163.

There have been some great feats of endurance amongst RDM staff! Congratulations to [Polly Whitworth](#), [Linda Arnold](#), [Lisa Gaughran](#) and [Will Whitworth](#) (Polly's son), who scaled Mount Kilimanjaro for [CRY](#) – an organisation working to prevent young sudden cardiac death. They all reached the summit, after a challenging overnight climb in very chilly conditions. They raised £3,000 for the charity and made memories for life!

[Dr Jyoti Patel](#) took part in a 55K endurance challenge across the South Coast of England, from Eastbourne to Hove Park. She was raising money for the BHF.

[Dr Adam Lewandowski](#) took part in the Blenheim half-marathon and raised £1,150 for the BHF.

