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Training and Education Newsletter

Spring / Summer 2021

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Icons

To aid navigation, the following icons are shown throughout the newsletter to highlight clinical versus non-clinical researchers and related activities.



Editor: Dr Georgina Binnie

Graphic Design: Elizabeth Openshaw

Copy Editor: Dr Joe Clarke

Welcome



Prof. Rob Bristow, Director of the MCRC and CRUK Manchester Centre

Welcome to the first edition of the Manchester Cancer Research Centre and Cancer Research UK Manchester Centre's Training and Education Newsletter.

The MCRC and CRUK Manchester Centre are empowering the next generation of cancer leaders and championing cross discipline Team Science, offering individuals the opportunities to excel and become future cancer research leaders.

Our bi-annual newsletter provides a space to celebrate postgraduate and postdoctoral researchers' successes from across the Manchester cancer sciences training landscape, and celebrate the many academic and non-academic achievements from our students and alumni.

The newsletter is driven by your contributions, and we are grateful to those who have taken time to contribute items to this edition. We would welcome further submissions and suggestions for content for our Autumn/Winter 2021 edition to georgina.binnie@manchester.ac.uk.

The MCRC and CRUK Manchester Centre's Clinical Programmes are chaired by **Professor Andrew Renehan**. Our Non-Clinical Training Programmes are chaired by **Professor Dean Jackson**. The MCRC and CRUK Manchester Centre have a dedicated Training Office managed by **Rachel Chown**, Cancer Education & Professional Development Manager and supported by **Dr Georgina Binnie**, Recruitment and Training Officer, who facilitate the recruitment and retention of postgraduate researchers to CRUK-funded and other, leading cancer programmes. We support trainees across the postgraduate lifecycle. Our Training Office can provide guidance on funding and career development opportunities and are contactable at MCRCTraining@manchester.ac.uk.



Prof. Andrew Renehan



Prof. Dean Jackson



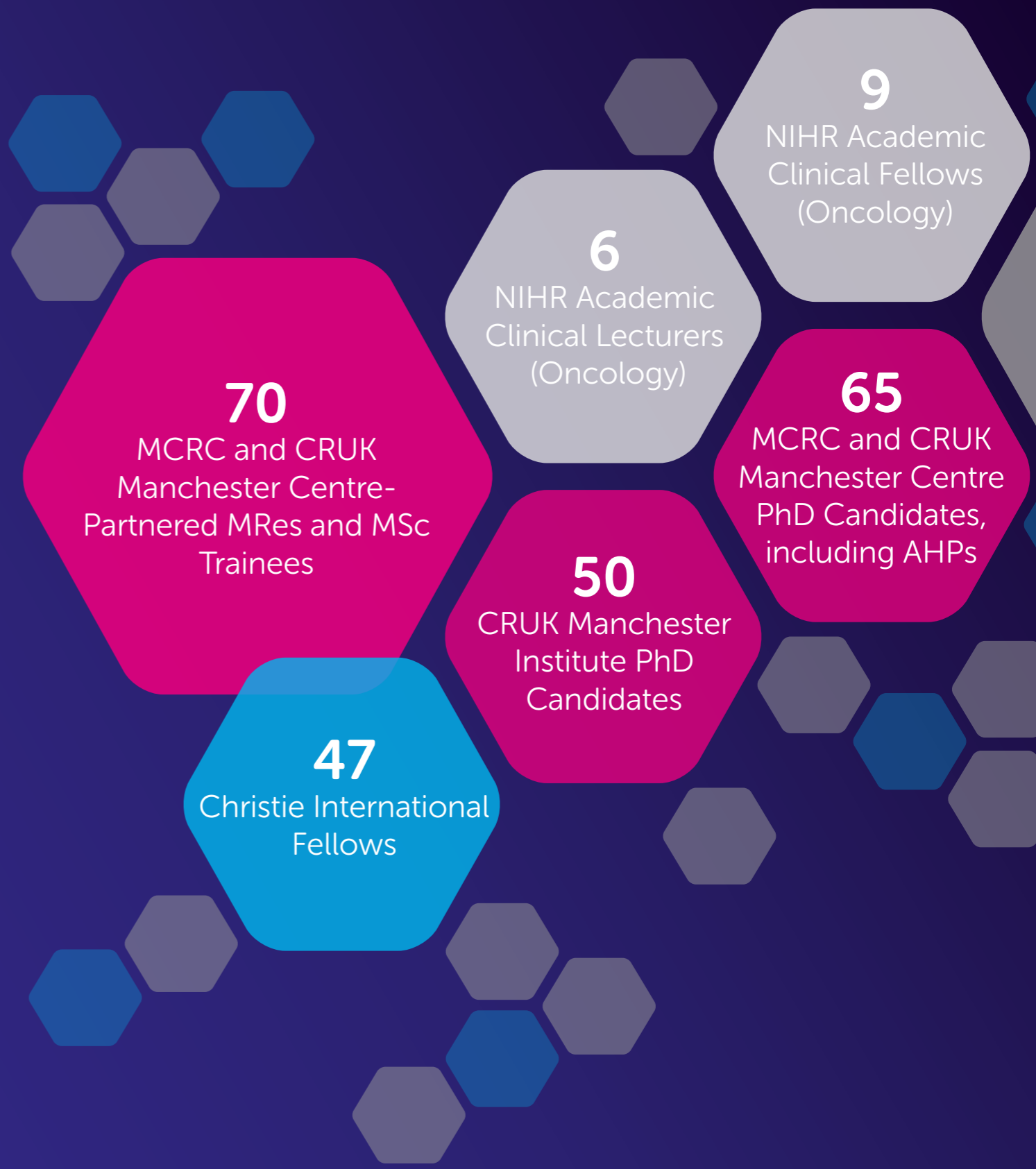
Rachel Chown



Dr Georgina Binnie

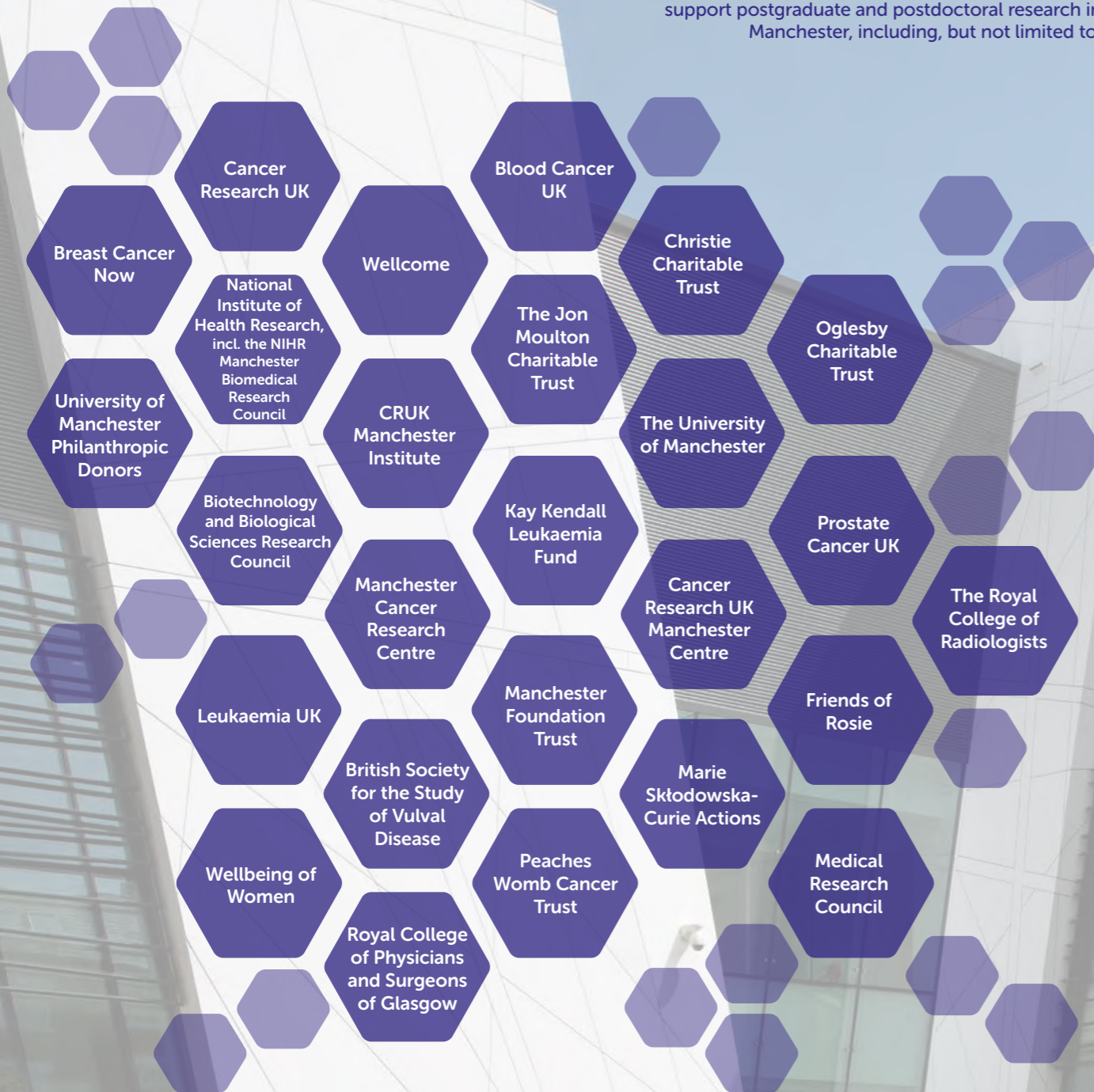
Empowering Future Leaders

Active Training Portfolio



Thank You to Our Funders

Thanks are due to the many funders who continue to support postgraduate and postdoctoral research in Manchester, including, but not limited to:



Engagement Opportunities

Cancer Postgraduate Researchers & Christie Fellows Virtual Coffee Catch-Up

Manchester cancer postgraduate researchers and Christie NHS Foundation Trust Fellows are warmly invited to join our monthly, virtual coffee catch-ups, next meeting on Friday 25 June 2021 at 09:30-10:00.

Attendees are placed in small, mixed breakout rooms to allow them to chat with one another and to meet postgraduate researchers and Fellows from across the Manchester cancer sciences landscape. There is no need to pre-register and attendees can join using the regular Zoom details.

When: Friday 25 June 2021 09:30-10:00 BST

Zoom: <https://zoom.us/j/91518486319> | **Meeting ID:** 915 1848 6319 | **Passcode:** MCRC2021

Any queries can be directed in advance to Georgina.Binnie@manchester.ac.uk.

Cancer Postgraduate Researchers & Christie NHS Foundation Trust Fellows

Virtual Coffee Catch-Up

Friday 25 June 2021
09:30 – 10:00

E: MCRCTraining@Manchester.ac.uk
E: the-Christie.fellowships@nhs.net



MANCHESTER CANCER RESEARCH CENTRE in collaboration with



Welcoming Our New Trainees

Since **January 2020**, we have welcomed **110 postgraduate researchers** to Manchester, including those based at the MCRC, CRUK Manchester Centre, CRUK Manchester Institute and on MCRC-partnered MSc and MRes programmes.

In the same period, the Division of Cancer Sciences welcomed **28 postdoctoral research associates and postdoctoral fellows** to Manchester. **39 Christie International Fellows** joined The Christie's Fellowship programme.

We spoke to some of our new researchers about what brought them to Manchester and their research projects and ambitions.

Postgraduate spotlight



Mairead Daly

CRUK RadNet Manchester Doctoral Academy Research Radiographer

Research Group: Advanced Radiotherapy

PhD Title: Evaluation of motion management strategies across multiple radiotherapy platforms

PhD Supervisors: Professor Ananya Choudhury, Dr Cynthia Eccles, Dr Alan McWilliam, Dr Ganesh Radhakrishna

"I joined the MCRC in October 2020, having previously worked as a therapeutic radiographer at University College London Hospitals NHS Trust. Undertaking doctoral study at the University of Manchester, which is a world-recognised institution, brings with it an exceptional opportunity to work on research that is at the forefront of cancer and radiotherapy development.

I am supervised by core members of the Allied Health Professionals (AHP) Academic Hub and colleagues from the Radiotherapy Related Research (RRR) group and Manchester Cancer Research Centre. My project focuses on the rapid translation of delivery of highly precise radiotherapy using advanced radiotherapy (RT) platforms, specifically the magnetic resonance guided linear accelerator (MR-Linac).

The ability to work on the MR Linac, the potential for future extension into proton beam therapy as well as the proposed supervisors being known leaders within their field internationally, all drew me to this project.

After completing my PhD, I intend to undertake a postdoctoral research post within my research area. Further along the line, I would like to work towards either a lead researcher role within an academic institution, whilst still maintaining a small portion of clinical practice, or a consultant radiographer post".

Postdoctoral spotlight



Dr Lana Lai

Postdoctoral Research Associate

Research Group: Diabetes and Cancer Research Group

Research Project: The association between body mass index and survival in patients with colorectal cancer: An individual participant data meta-analysis

"Manchester is home to world-leading expertise in cancer research and is at the forefront of many exciting new developments in colorectal cancer research, thus I was very excited to land my first post-doc role at the MCRC in February 2020. Prior to this, I was studying and working as a pharmacist/researcher across various continents, including Malaysia, Boston (USA) and Leeds. Despite being new to cancer research, I was blessed to have amazing colleagues, who helped me transition into this new role seamlessly.

studying the association between body mass index and survival in patients with colorectal cancer, using individual participant data of >13,000 patients from 9 randomized clinical trials. This project won the National Cancer Research Institute award in 2020; and we hope to incorporate our findings into routine clinical practice to improve the quality of care for patients with colorectal cancer.

I am currently working on the Obesity and Cancer TOgether imPact Upon Survival (OCTOPUS) project, funded by the World Cancer Research Fund. My work involves

After completing this project, I will be continuing to pursue my passion for working with big data in a new role as a Research Associate in Medical Statistics at the Division of Informatics, Imaging & Data Sciences at the University of Manchester".

Postgraduate Researcher Voices

Postgraduate researchers at the Manchester Cancer Research Centre and CRUK Manchester Centre are represented by PhD researchers at funder, School and Divisional levels. We asked postgraduate representatives to share how they are providing a platform for postgraduate researcher voices, and are driving opportunities for training and development.



Jade Talbot

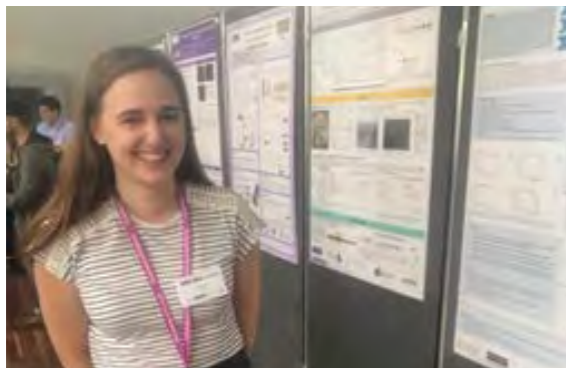
Postgraduate Researcher (Non-Clinical), UKRI Representative for Manchester, MRC Student Committee Co-Chair

Research Group: CSA (Cell Stress and Apoptosis)

PhD Title: Novel approaches to prostate cancer detection, diagnosis and stratification

PhD Supervisors: Professor Anthony Whetton, Professor Paul Townsend

Email: jade.talbot@postgrad.manchester.ac.uk



"As an already active member of the MRC student committee, during the first lockdown of 2020, the opportunity arose to become a **UKRI Representative** for the Manchester cohort. This role involves communicating important issues from the cohort to UKRI and vice versa, such as how we can improve Equality, Diversity and Inclusion, and more recently providing some clarity on extensions due to COVID-19. People can commonly become frustrated if there is a lack of communication and/or they feel assumptions are being made about PGRs. I help with the flow of information and enabling the PGR community to feel they're being listened to.

The chair of the **MRC Student Committee** stepped down after an amazing stint at the role and Ioana-Emily Mosneag and I became co-chairs of the committee so exciting times are ahead! Our chair role takes responsibility of the running of each meeting, facilitates the planning and execution of each group's plans and makes sure these are being progressed. I try and represent the voices of the PGR community, with both roles, but I can only feedback what I'm told, so I rely heavily on people contacting me via email, and I also take feedback from our student committee

meetings. These roles have equipped me with transferable skills in communication, organisation, and management. Any MRC funded student is welcome to the committee meetings (around every 6 weeks) with no commitment to carrying out a role expected, just come along and see what you think! If you're not receiving emails, please feel free to contact me.

As part of the **MRC Student Committee**, the conference team planned the UoM MRC Science Show on Twitter to showcase any online content about attendee's project or subject area. You can view the posts at #UoMMRCScienceShow, and the committee are planning another conference later in the year.

I try and represent the voices of the PGR community, with both roles, but I can only feedback what I'm told, so I rely heavily on people contacting me via email, and I also take feedback from our student committee meetings.

The MRC provide funding for their PhD students to participate in different initiatives, including taking part in the **YES competition (Young Entrepreneurs Scheme)**. The competition is developed to raise awareness about how ideas from science and engineering can be commercialised. The process involved creating a product and pitching it Dragons Den style to a panel of experts. In the run up to the pitch, we had regular meetings with our mentor, and attended a 3-day workshop learning about IP, marketing, investments and finance. Our company Canna-Biotic's unfortunately didn't win, but our team had a great time and learnt a lot!"

Equality and Diversity: International Women's Day

The MCRC and CRUK Manchester Centre is committed to ensuring equality, diversity and inclusion across the recruitment and retention of postgraduate and postdoctoral trainees, and to tackling health inequalities in our research projects. By encouraging diversity in our training programmes, we aim to ensure equality and equity in those entering the academic workforce, whilst actioning areas where we can address inequalities in the future.

Each issue we will hear from trainees who are putting equality, diversity and inclusion at the heart of their research. This issue, we spoke to Danielle Love, who was part of the MCRC's [International Women's Day 2021](#) celebrations. Danielle told us about her research and career ambitions, and how her laboratory provides a supportive and aspirational space for women researchers.



Danielle Love,

Postgraduate Researcher (Non-Clinical)

Research Group: **PRECISE**

PhD Title: The Biological Effect of Proton Beam Therapy in Non-Small Cell Lung Cancer Compared to Conventional Photon Radiotherapy

PhD Supervisors: Dr Mike Taylor, Dr Jamie Honeychurch, Dr Elham Santana.

"My name is Danielle Love and I am a second year non-clinical PhD student in the PRECISE group.

PRECISE focusses on the development of proton beam therapy research, a new radiation modality that delivers conformal radiation doses to tumours whilst minimising radiation-mediated normal tissue toxicity.

My research aims to determine whether proton radiotherapy induces alternative biological effects to photon therapy, specifically in non-small cell lung cancer. This is particularly exciting as the biological effects of proton radiotherapy remains poorly understood in literature. My photon research is being investigated at Alderley Park and the OCRB building. Proton research is being conducted in the proton research room at the Christie hospital, which is unique to the UK and one of only a few in the world.

I want to be a successful contributor to scientific research in cancer and I don't see why gender should stop me from achieving this. I am lucky to work in a laboratory with successful women who are also striving to contribute to the field. It's an empowering environment to thrive in.

Overall, I am very excited for the following months of my project which include the first experiments using the proton beam and the research room. Hopefully, this will contribute to aiding tailored treatments based on biological responses to differing radiation modalities, for non-small cell lung cancer. After my PhD, I aim to continue in the field of cancer sciences, with a specific focus on translational research and hope to further contribute to the incredible achievements already made by women researchers at the MCRC".



#ChooseToChallenge

Publications and Papers: Postgraduate Spotlight



Research Group: Endometrial Cancer (Team Womb)

Dr Helena O’Flynn, Doctoral Research Fellow and General Practitioner

PhD Title: The early diagnosis of endometrial cancer: overcoming barriers to presentation and developing non-invasive detection tools

PhD Supervisors: Professor Emma Crosbie, Professor Aneez Esmail, Professor Tanya Walsh

Nature Communications 2021, 12, 952

Helena O’Flynn, Neil A. J. Ryan, Nadira Narine, David Shelton, Durgesh Rana & Emma J. Crosbie

Diagnostic accuracy of cytology for the detection of endometrial cancer in urine and vaginal samples

This publication is the first report of a novel endometrial cancer detection tool that reliably distinguishes benign from malignant causes of postmenopausal bleeding using non-invasive urogenital sampling.

Our study investigated the use of urine and vaginal cytology in 103 women with known endometrial cancer and 113 women presenting with unexplained post-menopausal bleeding, achieving an overall combined sensitivity of 91.7% (95%CI 85.0%,96.1%) and specificity of 88.8% (95%CI 81.2%,94.1%) for gynecological cancer detection. Cytology identifies 91 endometrial, two fallopian tube and one cervical cancer from 103 known cancer cases. In women with unexplained postmenopausal bleeding, cytology identifies all four endometrial cancers and three others (cervical, ovarian and bladder), for a 12/107 (11.2%) false positive rate.

A non-invasive tool has the potential to transform the diagnostic pathway by enabling simple, quick and painless reassurance to healthy women whilst fast-tracking those with malignant underlying pathology for invasive diagnostic testing. Such a strategy would save many thousands of women every year from the psychological and physical sequelae of invasive tests and create substantial cost savings for healthcare systems, because only 5-10% women with postmenopausal bleeding have cancer.

The publication of the study was featured within 18 news outlets, including The Times as well as achieving an Almetric score of 259, within the 99th percentile (ranked 2,207th) of the 282,531 tracked articles of a similar age in all journals.



Dr Helena O’Flynn

Background image: Urine sample showing positive urine cytology (SurePath), demonstrating a single cluster of endometrial cells with malignant features, including enlarged hyperchromatic nuclei, coarse chromatin, prominent nucleoli, irregular nuclear outlines and high nuclear-to-cytoplasmic ratio

Publications and Papers: Postdoctoral Spotlight



Research Group: Breast Biology

Dr Bruno Simões, Postdoctoral Research Fellow

Dr Angélica Santiago-Gómez, Postdoctoral Research Associate

Dr Rachel Eyre, Postdoctoral Research Associate

Kath Spence, Senior Scientific Officer

Oncogene, 2020, 39 (25), 4896-4908

Bruno M. Simões, Angélica Santiago-Gómez, Chiara Chiodo, Tiago Moreira, Daniel Conole, Scott Lovell, Denis Alferez, Rachel Eyre, Katherine Spence, Aida Sarmiento-Castro, Bertram Kohler, Ludivine Morisset, Marilena Lanzino, Sebastiano Andò, Elisabetta Marangoni, Andrew H. Sims, Edward W. Tate, Sacha J. Howell and Robert B. Clarke

Targeting STAT3 signalling using stabilised sulforaphane (SFX-01) inhibits endocrine resistant stem-like cells in ER-positive breast cancer

Estrogen receptor (ER) positive breast cancer is frequently sensitive to endocrine therapy.

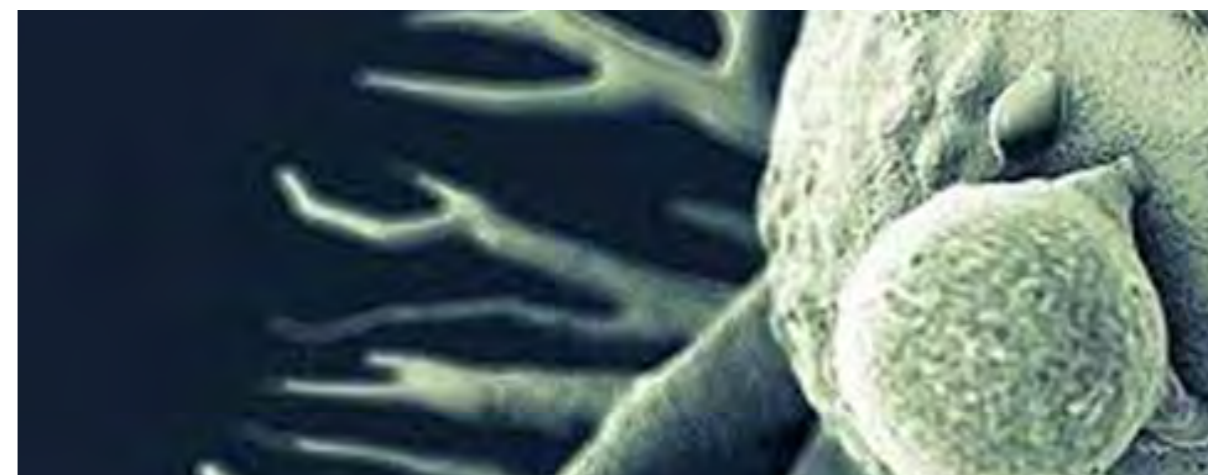
Multiple mechanisms of endocrine therapy resistance have been identified, including cancer stem-like cell (CSC) activity. Here we investigate SFX-01, a stabilised formulation of sulforaphane (SFN), for its effects on breast CSC activity in ER+ preclinical models. SFX-01 reduced mammosphere formation efficiency (MFE) of ER+ primary and metastatic patient samples.

Both tamoxifen and fulvestrant increased MFE and aldehyde dehydrogenase (ALDH) activity of patient-derived xenograft (PDX) tumors, which was reversed by combination with SFX-01. SFX-01 significantly reduced tumor-initiating cell frequency in secondary transplants and reduced the formation of spontaneous lung micrometastases by PDX tumors in mice.

Mechanistically, we establish that both tamoxifen and fulvestrant induce STAT3 phosphorylation. SFX-01 suppressed phospho-STAT3 and SFN directly bound STAT3 in patient and PDX samples. Analysis of ALDH+ cells from endocrine-resistant patient samples revealed activation of STAT3 target genes MUC1 and OSMR, which were inhibited by SFX-01 in patient samples.

Increased expression of these genes after 3 months’ endocrine treatment of ER+ patients (n = 68) predicted poor prognosis.

Our data establish the importance of STAT3 signaling in CSC-mediated resistance to endocrine therapy and the potential of SFX-01 for improving clinical outcomes in ER+ breast cancer.



Publications and Papers

With thanks to those who submitted research publications between 2020-21, we would welcome news of additional 2021 publications ahead of the next edition of our Newsletter.



Research Group: Breast Biology



Dr Rachel Eyre, Postdoctoral Research Associate

Dr Hannah Harrison, Postdoctoral Research Associate

Nathan Hull, Research Assistant

Matthew Roberts, Bioinformatician

Dr Angélica Santiago-Gómez, Postdoctoral Research Associate

Dr Bruno Simões, Postdoctoral Research Fellow

Kath Spence, Senior Scientific Officer

Cancers, 2020, 12 (6), 1397

Ana Lazaro-Carrillo, Macarena Calero, Antonio Aires, Aitziber L. Cortajarena, Bruno M. Simões, Alfonso Latorre, Álvaro Somoza, Robert B. Clarke, Rodolfo Mirand, Angeles Villanueva
Tailored Functionalized Magnetic Nanoparticles to Target Breast Cancer Cells Including Cancer Stem-Like Cells

Nature Communications, 2021, 12 (1), 1502

Karsten Bach, Sara Pensa, Marija Zarocsinceva, Katarzyna Kania, Julie Stockis, Silvain Pinaud, Kyren A. Lazarus, Mona Shehata, Bruno M. Simões, Alice R. Greenhalgh, Sacha J. Howell, Robert B. Clarke, Carlos Caldas, Timotheus Y. F. Halim, John C. Marionni, Walid T. Khaled
Time-resolved single-cell analysis of Brca1 associated mammary tumorigenesis reveals aberrant differentiation of luminal progenitors

Nature Genetics, 2021, 53(1):86-99

Xing Yi Woo et al., PDXNET consortium & EurOPDX consortium (Robert B. Clarke and Katherine Spence)

Conservation of copy number profiles during engraftment and passaging of patient-derived cancer xenografts.

Oncogene, 2020, 39 (25), 4896-4908

Bruno M Simões, Angélica Santiago-Gómez, Chiara Chiodo, Tiago Moreira, Daniel Conole, Scott Lovell, Denis Alferez, Rachel Eyre, Katherine Spence, Aida Sarmiento-Castro, Bertram Kohler, Ludivine Morisset, Marilena Lanzino, Sebastiano Andò, Elisabetta Marangoni, Andrew H. Sims, Edward W. Tate, Sacha J. Howell, Robert B. Clarke
Targeting STAT3 signaling using stabilised sulforaphane (SFX-01) inhibits endocrine resistant stem-like cells in ER-positive breast cancer

Stem Cell Reports, 2020, 15 (2), 307-316

Aida Sarmiento-Castro, Eva Caamaño-Gutiérrez, Andrew H. Sims, Nathan J. Hull, Mark I. James, Angélica Santiago-Gómez, Rachel Eyre, Christopher Clark, Martha E. Brown, Michael D. Brooks, Max S. Wicha, Sacha J. Howell, Robert B. Clarke, Bruno M Simões
Increased Expression of Interleukin-1 Receptor Characterizes Anti-estrogen-Resistant ALDH+ Breast Cancer Stem Cells

Oncogene, 2020, 39(12):2624-2637

Ran Ran, Hannah Harrison, Nur Syamimi Ariffin, Rahna Ayub, Henry J Pegg, Wensheng Deng, Andrea Mastro, Penny D Ottewell, Susan M Mason, Karen Blyth, Ingunn Holen, Paul Shore
A role for CBF in maintaining the metastatic phenotype of breast cancer cells



Research Group: Cancer and Thrombosis

Dr Emma Blower, Clinical Research Training Fellow

John Castle, Research Associate

Cancer Medicine, 2020, 9 (5), 1768-1778

Hudhaifah Shaker, Nigel J. Bundred, Göran Landberg, Susan A. Pritchard, Harith Albadry, Sarah L. Nicholson, Lauren J. Harries, Jing Y. E. Heah, John Castle, Cliona C. Kirwan
Breast cancer stromal clotting activation (Tissue Factor and thrombin): A pre-invasive phenomena that is prognostic in invasion

Clinical and Translational Oncology, 2020, 22, 870-877

Cliona C. Kirwan, Tine Descamps, John Castle
Circulating tumour cells and hypercoagulability: a lethal relationship in metastatic breast cancer

Trials, 2020, 21, 749

John Castle, Emma Blower, Nigel J. Bundred, James R. Harvey, Jecko Thachil, Andrea Marshall, Karina Cox, Silvia Cicconi, Chris Holcombe, Carlos Palmieri & Cliona C. Kirwan
Rivaroxaban compared to no treatment in ER-negative stage I-III early breast cancer patients (the TIP Trial): study protocol for a phase II preoperative window-of-opportunity study design randomised controlled trial

Best Practice & Research Clinical Obstetrics & Gynaecology, 2020, 65, 66-78

Kelechi Njoku, Joanna Abiola, Johanna Russell and Emma J. Crosbie
Endometrial cancer prevention in high-risk women

BJOG, 2021, 1-10

Kelechi Njoku, Chloe E. Barr, Leo Hotchkies, Nomondary Quille, Yee-Loi Wan, Emma J. Crosbie
Impact of socio-economic deprivation on endometrial cancer survival in the North West of England: a prospective database analysis

BMJ Case Reports, 2021, 14, e239723

Helen Clarke, Thomas McCormack, Emila Paul, Jonathan Ford
Arteriovenous malformation as a cause for acute confusion and gastrointestinal bleeding in a primigravida pregnancy

British Journal of Cancer, 2020, 122(1), 62-71

Vanitha N. Sivalingam, Ayşe Latif, Sarah Kitson, Rhona McVey, Katherine G. Finegan, Kay Marshall, Michael P. Lisanti, Federica Sotgia, Ian J. Stratford, Emma J. Crosbie
Hypoxia and hyperglycaemia determine why some endometrial tumours fail to respond to metformin

Cancers (Basel), 2021, 13(4), 718

Kelechi Njoku, Amy E. Campbell, Bethany Geary, Michelle L. MacKintosh, Abigail E. Derbyshire, Sarah J. Kitson, Vanitha N. Sivalingam, Andrew Pierce, Anthony D. Whetton, Emma J. Crosbie
Metabolomic Biomarkers for the Detection of Obesity-Driven Endometrial Cancer

Cochrane Database of Systematic Reviews, 2021, 1, 1-34

Kelechi Njoku, Helena O'Flynn, Eleanor R. Jones, Neal Ramchander, Helen White, Richard Macey and Emma J. Crosbie
Screening tests for endometrial cancer in the general population (Protocol)

European Journal of Cancer, 2020, 136, 169-175

Sarah J. Kitson, Cemsal Baflligil, Neil A. J. Ryan, Fiona Laloo, Emma R. Woodward, Richard D. Clayton, Richard J. Edmondson, James Bolton, Emma J. Crosbie, D. Gareth Evans
BRCA1 and BRCA2 pathogenic variant carriers and endometrial cancer risk: A cohort study



Research Group: Endometrial Cancer (Team Womb)

Cemsal Baflligil, Postgraduate Researcher (Non-Clinical)

Dr Chloe Barr, Clinical Research Training Fellow

Dr Helen Clarke, Clinical Research Training Fellow

Dr Helena O'Flynn, Doctoral Research Fellow and General Practitioner

Dr Eleanor Jones, Clinical Research Training Fellow

Dr Kelechi Njoku, Clinical Research Training Fellow

Dr Neal Ramchander, NIHR Academic Foundation Programme Doctor

Dr Vanitha Sivalingam, NIHR Academic Clinical Lecturer in Gynaecological Oncology

Dr Sarah Kitson, NIHR Academic Clinical Lecturer in Gynaecological Oncology

Dr Yee-Loi Wan, NIHR Academic Clinical Lecturer in Gynaecological Oncology

Frontiers in Immunology, 2020, 10, 3023
Neal C. Ramchander, Neil A. J. Ryan, Thomas D. J. Walker, Lauren Harries, James Bolton, Tjalling Bosse, D. Gareth Evans, Emma J. Crosbie
Distinct Immunological Landscapes Characterize Inherited and Sporadic Mismatch Repair Deficient Endometrial Cancer

Frontiers in Oncology, 2020, 10 (559016), 1-12
Kelechi Njoku, Davide Chiasserini, Eleanor R. Jones, Chloe E. Barr, Helena O'Flynn, Anthony D. Whetton and Emma J. Crosbie
Urinary Biomarkers and Their Potential for the Non-Invasive Detection of Endometrial Cancer

Journal of Medical Genetics, 2020, 57(9), 591-600
Cemsel Bafgilig, Deborah J. Thompson, Artitaya Lophatananon, Miriam J. Smith, Neil A. J. Ryan, Anie Naqvi, D. Gareth Evans, Emma J. Crosbie
Association between genetic polymorphisms and endometrial cancer risk: a systematic review

Metabolites, 2020, 10 (8), 314
Kelechi Njoku, Caroline J.J Sutton, Anthony D. Whetton and Emma J. Crosbie
Metabolomic Biomarkers for Detection, Prognosis and Identifying Recurrence in Endometrial Cancer

American Journal of Hematology
2020, 95 (7), 824-833
Juliana Schwaab, Nicole Naumann, Johannes Luebke, Mohamad Jawhar, Tim C.P. Somerville, Mark S. Williams, Rebecca Frewin, Philipp J. Jost, Felix S. Lichtenegger, Paul La Rosée, Nicola Storch, Torsten Haferlach, Hans-Peter Horny, Alice Fabarius, Claudia Haferlach, Andreas Burchert, Wolf-Karsten Hofmann, Nicholas C.P. Cross, Andreas Hochhaus, Andreas Reiter and Georgia Metzgeroth
Response to tyrosine kinase inhibitors in myeloid neoplasms associated with PCM1-JAK2, BCR-JAK2 and ETV6-ABL1 fusion genes

BMC Cancer, 2020, 20, 1075, 1-9
Mark S. Williams, Naseer J. Basma, Fabio M. R. Amaral, Gillian Williams, John P. Weightman, Wolfgang Breitwieser, Louisa Nelson, Stephen S. Taylor, Daniel H. Wiseman, Tim C. P. Somerville
Targeted nanopore sequencing for the identification of ABCB1 promoter translocations in cancer

Cell Death and Disease, 2020, 11 (10), 1-14
Roberto Paredes, James R. Kelly, Bethany Geary, Batool Almarzouq, Marion Schneider, Stella Pearson, Prakrithi Narayanan, Andrew Williamson, Simon C. Lovell, Daniel H. Wiseman, John A. Chadwick, Nigel J. Jones, Olga Kustikova, Axel Schambach, Terence Garner, Fabio M. R. Amaral, Andrew Pierce, Adam Stevens, Tim C. P. Somerville, Anthony D. Whetton and Stefan Meyer
EVI1 phosphorylation at S436 regulates interactions with CtBP1 and DNMT3A and promotes self-renewal

Journal of Clinical Investigation, 2020, 130 (3), 1217-1232
Mark S. Williams, Fabio M.R. Amaral, Fabrizio Simeoni, Tim C.P. Somerville
A stress-responsive enhancer induces dynamic drug resistance in acute myeloid leukemia

Leukemia 2020, 34, 1266-1277
Gauri Deb, Bettina Wingelhofer, Fabio M. R. Amaral, Alba Maiques-Diaz, John A. Chadwick, Gary J. Spencer, Emma L. Williams, Hui-Sun Leong, Tamara Maes and Tim C. P. Somerville
Pre-clinical activity of combined LSD1 and mTORC1 inhibition in MLL-translocated acute myeloid leukaemia

Molecular & Cellular Oncology, 2020, 7 (2), e1705730
Mark S. Williams and Tim C. P. Somerville
Dynamic induction of drug resistance through a stress-responsive enhancer in acute myeloid leukemia



Research Group: Lung Cancer Research

Dr Fabio Gomes, Consultant Medical Oncologist, The Christie NHS Foundation Trust

British Journal of Cancer, 2020, 123, 874-884
Fabio Gomes, Melisa Wong, Nicolò Matteo Luca Battisti, Tiana Kordbacheh, Mandy Kiderlen, Alastair Greystoke, Andrea Luciani
Immunotherapy in older patients with non-small cell lung cancer: Young International Society of Geriatric Oncology position paper

ESMO Open, 2021, 6 (1), 100042
Fabio Gomes, Paul Lorigan, Sharon Woolley, Philip Foden, Katy Burns, Janelle Yorke, Fiona Blackhall
A prospective cohort study on the safety of checkpoint inhibitors in older cancer patients – the ELDERS study

Lung Cancer, 2021, 153, 165-170
Fabio Gomes, Corinne Faivre-Finn, Hitesh Mistry, Andrea Bezjak, Nicolas Pourel, Pierre Fournel, Jan Van Meerbeeck, Fiona Blackhall
Safety of G-CSF with concurrent chemo-radiotherapy in limited-stage small cell lung cancer - Secondary analysis of the randomised phase 3 CONVERT trial



Research Group: Targeted Therapy

Dr Eleanor Cheadle, Postdoctoral Research Fellow

Dr Erminia Romano, Postdoctoral Research Associate

Dr Tiana Kordbacheh, Clinical Research Training Fellow (now Honorary Clinical Lecturer)

Dr Debayan Mukherjee, Postdoctoral Research Fellow

Madyson Colton, Research Technician (alumni)
Dr Shuhui Cheng, Clinical Research Training Fellow

Dr Richard Walshaw, Clinical Research Training Fellow

American Society of Clinical Oncology Educational Book, 2020, 40, 1-12
Mark G. Kris, Corinne Faivre-Finn, Tiana Kordbacheh, Jamie Chaff, Jia Luo, Anne Tsao, Stephen Swisher
Making Checkpoint Inhibitors Part of Treatment for Patients with Locally Advanced Lung Cancers: The Time is Now

Cancers, 2021, 13 (3), 457
Erminia Romano, Jamie Honeychurch, Timothy M. Illidge
Radiotherapy-Immunotherapy Combination: How Will We Bridge the Gap Between Pre-Clinical Promise and Effective Clinical Delivery?

Cancers, 2020, 12 (1), 2804
Debayan Mukherjee, Amy Popple, Adam Pickard, Jamie Honeychurch, Timothy Illidge, Charles M. Haughey, Rebecca E. Steele, Lara Dura-Perez, Mehjabin Patel, Suneil Jain, Paul B. Mullan, Rich Williams, Pedro Oliveira, Niamh E. Buckley, Simon S. McDade, Ian G. Mills, Sharon L. Eddie
Investigating Radiotherapy Response in a Novel Syngeneic Model of Prostate Cancer

Cancers, 2020, 12 (10), 2835
Shuhui Cheng, Eleanor J. Cheadle, Timothy M. Illidge
Understanding the effects of radiotherapy on the tumour immune microenvironment to identify potential prognostic and predictive biomarkers of radiotherapy response

International Journal of Radiation Oncology, Biology, Physics, 2020, 108 (1), 27-37
Richard C. Walshaw, Jamie Honeychurch, Ananya Choudhury, Timothy M. Illidge
Toll-like receptor agonists and radiotherapy combinations – an untapped opportunity to induce anti-tumour immunity and improve tumor control.

Radiation Oncology, 2020, 15 (1), 254
Madyson Colton, Eleanor J. Cheadle, Jamie Honeychurch, Timothy M. Illidge
Reprogramming the tumour microenvironment by radiotherapy: Implications for radiotherapy and immunotherapy combinations



Research Group: Leukaemia Biology (CRUK Manchester Institute)

Dr Bettina Wingelhofer, Postdoctoral Research Fellow

Dr Gary Spencer, Senior Scientific Officer

Dr Fabio Amaral, Bioinformatician

Naseer Basma, Postgraduate Researcher (Non-Clinical)

Dr Fabrizio Simeoni, Previous Postgraduate Researcher (Non-Clinical), Now Postdoctoral Scientist (The Francis Crick Institute)

Dr Emma Williams, Previous Postgraduate Researcher (Non-Clinical)

Dr John Chadwick, Previous Clinical Research Training Fellow

Dr Mark Williams, Previous Clinical Research Training Fellow, Now Senior Clinical Lecturer, FBMH Presidential Fellow

Dr Gauri Deb, Previous Postdoctoral Research Fellow

Dr Alba Maiques-Dias, Previous Postdoctoral Research Fellow



Research Group: Translational Oncogenomics (CRUK Manchester Institute)

Jack Ashton, Postgraduate Researcher (Non-Clinical)

BJR, 2020, 93, 111520200087
 Jack Ashton and Robert Bristow
 Bad neighbours: hypoxia and genomic instability in prostate cancer

Radiotherapy and Oncology, 2021, 158, 112-117

Christina Hague, Andrew McPartlin, Lipwai W, Lee, Christopher Hughes, Damian Mullan, William Beasley, Andrew Green, Gareth Price, Philip Whitehurst, Nick Slevin, Marcel van Herk, Catharine West, Robert Chuter

An evaluation of MR based deep learning auto-contouring for planning head and neck radiotherapy

Radiation Research, 2021, 195 (4), 324-333

Mairah T. Khan, Lingjian Yang, Elisabet More, Joely J. Irlam-Jones, Helen R. Valentine, Peter Hoskin, Ananya Choudhury, Catharine M. L. West

Developing Tumor Radiosensitivity Signatures Using LncRNAs

Scientific Reports, 10, 17258

Tim A. D. Smith, Omneya A. AbdelKarem, Joely J. Irlam-Jones, Brian Lane, Helen Valentine, Becky A. S. Bibby, Helen Denley, Ananya Choudhury and Catharine M. L. West

Selection of endogenous control genes for normalising gene expression data derived from formalin-fixed paraffin-embedded tumour tissue

British Journal of Cancer, 2020, 122 (4), 539-544

Anna Maria Tsakiroglou Martin Fergie, Ken Oguejiofor, Kim Linton, David Thomson, Peter L. Stern, Susan Astley, Richard Byers and Catharine M. L. West

Spatial proximity between T and PD-L1 expressing cells as a prognostic biomarker for oropharyngeal squamous cell carcinoma

Clinical Oncology, 2020, 32 (2), 84-88

James Price, Emma Hall, Catharine M. L. West, David Thomson

TORPEdO - A Phase III Trial of Intensity-modulated Proton Beam Therapy Versus Intensity-modulated Radiotherapy for Multi-toxicity Reduction in Oropharyngeal Cancer

Oral Oncology, 2021, 115, 105140

James Price, Catharine M. L. West, Hitesh Mistry, Guy Betts, Paul Bishop, Jason Kennedy, Lynne Dixon, Jarrod J. Homer, Kate Garcez, Lipwai Lee, Andrew McPartlin, Andrew Sykes, David Thomson

Improved survival prediction for oropharyngeal cancer beyond TNMv8

Posters and Presentations: Postgraduate Spotlight



Research Group: PRECISE

Bethany Rothwell,
 Postgraduate Researcher (Non-Clinical)

PhD Title: Closing the loop: understanding the parameter space for FLASH proton therapy
PhD Supervisors: Professor Karen Kirkby, Dr Amy Chadwick, Professor Norman Kirby, Dr Michael Merchant

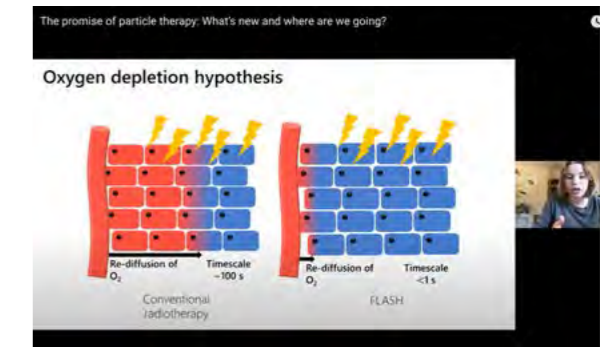
Transforming Radiotherapy in a FLASH meeting, London, February 2020



Bethany Rothwell delivered a 30 minute invited talk on modelling work for FLASH radiotherapy at the Transforming Radiotherapy in a FLASH meeting entitled, "Establishing the parameters for proton Flash and delivering it with spot scanning". This 1 day meeting was held at the Wellcome Trust in London and brought together over 100 international experts on Flash RT to provide a forum for learning and discussion. The event was attended by over 100 international delegates and was organised and funded by the National Institute of Cancer Research's Clinical and Translational Radiotherapy Working group (CTRad) workstream 4: New Technologies working in partnership with STFC Advanced Radiotherapy Network, EPSRC Proton Therapy Network, EU integrating action INSPIRE and CRUK Manchester RadNet, in collaboration with the Christie NHS Trust.

European Particle Therapy Network WP6 Workshop, Manchester, February 2020

NCRI Event – The Promise of Particle Therapy: What's new and where are we going? (Virtual) September 2020



Varian FLASH Forward Consortium Meeting (Virtual) February 2021

Bethany delivered further invited talks on her research at the above events, where she discussed FLASH radiotherapy. Bethany was invited due to her work on proton therapy, which involves the use of mathematical modelling techniques to investigate FLASH radiotherapy and cellular oxygen depletion. Her talk at the Varian FLASH Forward Consortium Meeting was entitled "Determining the parameter space for effective oxygen depletion for FLASH RT".

Posters and Presentations: Postdoctoral Spotlight



Research Group: Diabesity and Cancer Research
Dr Lana Lai, Postdoctoral Research Associate

National Cancer Research Institute (NCRI) Showcase, 2-3 November 2020

At the NCRI's Virtual Showcase, one of the abstract awards was issued to Dr Lana Lai and members of the Cancer Prevention and Early Detection group, including Clinical Research Training Fellow, Dr Corinna Slawinski. The group won the award for their work with (lack of) impact of elevated BMI on survival in patients with non-metastatic colorectal cancer. Their abstract was titled: "Body mass index does not impact survival in colorectal cancer: An individual participant data meta-analysis of 9333 patients from seven randomized controlled trials (OCTOPUS Consortium)".



Posters and Presentations:



Research Group: Breast Biology

Dr Angélica Santiago Gómez, Postdoctoral Research Associate

Metastatic Breast Research Conference, MBCRC2020, Hunstman Institute, Utah, USA, September 2020

Manchester Breast Centre Seminar Series, Manchester, UK, November 2020

Instituto de Investigaciones Biomédicas "Alberto Sols" (IIBM), Madrid, Spain, March 2021

Dr Angélica Gómez was an invited speaker at the Manchester Breast Centre Seminar Series and the Instituto de Investigaciones Biomédicas "Alberto Sols" (IIBM) and delivered a talk at the virtual Metastatic Breast Research Conference. Angélica's research focuses on understanding how dormant breast cancer cells survive in other organs and how their surroundings (cells from the secondary site) regulate their awakening.

Dr Bruno Simões, Postdoctoral Research Fellow

Edinburgh Breast Cancer Special Symposium Edinburgh, UK, February 2020

European Network for Breast Development and Cancer Seminar, December 2020

Interdisciplinary Breast Cancer Symposium, Birmingham, UK, 2020

Dr Bruno Simões delivered talks at the Edinburgh Breast Cancer Special Symposium and European Network for Breast Development and Cancer Seminar. He presented a poster at the second Interdisciplinary Breast Cancer Symposium entitled "SFX-01 targets STAT3 signalling to reverse endocrine resistance in ER+ breast cancer".



Research Group: Cancer and Thrombosis

John Castle, Research Associate

10th International Conference on Thrombosis and Hemostasis Issues in Cancer (ICTHIC), April 2021

John Castle delivered a presentation entitled "Potential for new trial endpoint: success of functional mammosphere assay in Thrombin Inhibition Preoperatively (TIP) Trial in Early Breast Cancer".



Research Group: Endometrial Cancer (Team Womb)

Dr Kelechi Njoku, Clinical Research Training Fellow

PhD Title: Developing tests for endometrial cancer detection

PhD Supervisors: Professor Emma Crosbie, Professor Anthony Whetton

Informatics and Data Science/Biomarkers NIHR Manchester Biomedical Research Centre (BRC) Strategic Advisory Board (SAB) Meeting, March 2021

Dr Kelechi Njoku delivered a presentation on "Proteomic and Metabolomic Biomarkers for endometrial cancer detection" at the Informatics and Data Science/Biomarkers NIHR Manchester Biomedical Research Centre BRC Strategic Advisory Board (SAB) Meeting.

Dr Helen Clarke, Clinical Research Training Fellow

PhD Title: Defining the feasibility and molecular impact of total diet replacement in endometrial and breast cancer prevention.

PhD Supervisors: Professor Robert Clarke, Professor Emma Crosbie, Dr Michelle Harvie, Professor Anthony Howell

NCRI Endometrial and Cervix Workstream, December 2020

NCRI Virtual Showcase, November 2020

Dr Helen Clarke presented on "Defining the molecular impact of total diet replacement in endometrial and breast cancer prevention (ProBE-TDR Trial)" at the NCRI Endometrial and Cervix Workstream.

Helen also delivered an ePoster Presentation with on "Defining the molecular impact of total diet replacement in endometrial and breast cancer prevention (ProBE-TDR Trial)" at the NCRI Virtual Showcase 2020.

NCRI Virtual Showcase, November 2020

Division of Imaging, Informatics and Data Sciences Symposium, University of Manchester January 2021



Research Group: Diabetes and Cancer Research

Nadin Hawwash, MB-PhD Candidate

PhD Title: Adolescent and adulthood BMI and Cancer risk using obese-year metrics (ABACus 2)

PhD Supervisors: Professor Andrew Renehan, Dr Glen Martin, Dr Matthew Sperrin

Nadin Hawwash presented an e-Poster on "Adolescent and adulthood BMI And Cancer risk using obese-year metrics: the ABACus 2 project" at the NCRI Virtual Showcase. Nadin also discussed the ABACus2 project at

the Division of Imaging, Informatics and Data Sciences Symposium the MB-PhD Meet the Cancer Researchers Showcase, December 2020 and spoke on life as a Cancer Research UK MB-PhD student at the recent MB-PhD - Training the Next Generation of International Clinician Scientists event.



Research Group: Translational Oncogenomics (CRUK Manchester Institute)

Alexandru Suvac, Postgraduate Researcher (Non-Clinical)

PhD Title: The role of PTEN and hypoxia in Prostate Cancer Progression
PhD Supervisors: Professor Robert Bristow, Professor Magnus Rattray and Professor Stephen Taylor

Jack Ashton, Postgraduate Researcher (Non-Clinical)

PhD Title: The role of BRCA2 and hypoxia in prostate cancer progression
PhD Supervisors: Professor Robert Bristow and Professor William Newman.

AACR Radiation Science and Medicine Virtual Conference, March 2021

Alexandru Suvac presented a virtual poster at the AACR Radiation Science and Medicine Virtual Conference on "Understanding the role of hypoxia and PTEN loss in driving prostate cancer progression".

Jack Ashton delivered a short presentation at the same event entitled "Mechanistic studies of hypoxia as a driver of genomic instability in prostate cancer".



Research Group: Targeted Therapy

Dr Debayan Mukherjee, Postdoctoral Research Fellow

EACR-AACR-ASPIC Tumor Microenvironment conference, Lisbon, Portugal, March 2020

Dr Debayan Mukherjee presented a poster at EACR-AACR-ASPIC Tumor Microenvironment conference entitled "Agonistic anti-CD40 antibody overcomes myeloid-cell mediated immune suppression and enhances the therapeutic efficacy of radiotherapy in prostate cancer".

Researcher Engagement: Charity



Research Group: Endometrial Cancer (Team Womb)

Dr Chloe Barr, Clinical Research Training Fellow
Dr Helen Clarke, Clinical Research Training Fellow
Dr Helena O'Flynn, NIHR Doctoral Research Fellow and General Practitioner
Dr Eleanor Jones, Clinical Research Training Fellow

Peaches Womb Cancer Trust was founded during the COVID-19 pandemic in 2020 by a team of enthusiastic and dedicated researchers, doctors and nurses based at St. Mary's Hospital in Manchester, who work alongside Professor Emma Crosbie.

In their first year, they are proud to announce they have raised a total of £10,000 which has enabled them to launch a new website, sponsor research presented at an academic meeting and facilitate an awareness day planned for May 2021.

Peaches Womb Cancer Trust's aim is to preserve the health and improve the experience of those with or at risk of womb cancer and their families. They intend to do this by carrying out research into endometrial cancer, raising awareness of the condition, training health care professionals and providing patient education and support resources.

In addition to Professor Emma Crosbie, the clinical Trustees include postgraduate researchers' Dr Chloe Barr, Dr Helen Clarke, Dr Eleanor Jones and Dr Helena O'Flynn who are all undertaking PhD studies in Gynaecological Oncology at University of Manchester. Anne Lowry, Clinical Nurse Specialist St. Mary's Hospital and Rosemary Pike (non-medical Trustee) make up the Peaches Womb Cancer Trust Team.



Website: <https://www.peachestrust.org>
Email: admin@peachestrust.org





Research Group: Cancer and Thrombosis

John Castle, Research Associate

Congratulations are due to John Castle, who completed the Cancer Research UK Stockport Virtual Relay for Life on 11-12 July 2020. The Relay For Life celebrates the power of community fundraising in the fight to beat cancer. Teams of family and friends fundraise for life-saving cancer research then unite as a community to celebrate and remember everyone who has been affected by cancer.



Researcher Engagement: Science Communications



Research Group: Breast Biology

Dr Angélica Santiago Gómez, Postdoctoral Research Associate



Research Centre's website to mark Breast Cancer Awareness Month and Wear-It-Pink Day on 23 Oct 2020).

Angélica also took over the Division of Cancer Sciences Twitter account (@UoM_DCS) on 10 November 2020 as part of #TakingOverTuesday to see out Breast Cancer Awareness Month and to discuss her work on breast cancer metastatic dormancy. Those interested in taking part in a Twitter takeover can contact Sam Littler on twitterDCS@manchester.ac.uk- a personal Twitter account is not required.

Dr Angélica Santiago Gómez contributed a blog post on "But...what about secondary breast cancer?" to the Manchester Cancer

Teaching and Widening Participation



Research Group: Breast Biology

Dr Bruno Simões, Postdoctoral Research Fellow

In March 2020, Dr Bruno Simões delivered interactive cell biology presentation to primary school students at Beaver Road Primary School in Didsbury, Manchester.

Dr Hannah Harrison, Postdoctoral Research Associate

Dr Hannah Harrison was elected as School Governor through the University of Manchester's School Governor Initiative. The scheme contributes to the leadership and improvement of state schools by engaging staff and alumni in creating the largest growth of school governors of any organisation in the UK.



Research Group: Cell Division

Dr Lenka Halova, Postdoctoral Scientist

Dr Lenka Halova achieved the status of Fellow (FHEA) of AdvanceHE (formerly the Higher Education Academy). This is in recognition of her attainment against the UK Professional Standards Framework for teaching and learning support in higher education.

Achievements and Awards: Postgraduate Researchers



Research Group: Experimental Cancer Medicine Team



Dr Matt Church, MRes Experimental Medicine (Cancer) Recent Graduate

Dissertation Titles: Investigating the utility of circulating tumour cell counts for predicting mortality in patients with small cell lung cancer

Clinical utility of ctDNA in the early phase trial setting

Dissertation Supervisors: Dr Louise Carter, Dr Donna Graham

Matt Church (pictured) was awarded the "Andrew Hughes award for outstanding achievement in Experimental Cancer Medicine" in November 2020. He was the highest scoring student in the 2019/20 intake for the MRes in Experimental Medicine.

Dr Ann Tivey, MRes Experimental Medicine (Cancer) Recent Graduate

Dissertation Titles: Remote monitoring of patients at risk of sepsis: REACT

Analysis of cerebrospinal miRNAs in primary CNS lymphoma

Dissertation Supervisors: Professor John Radford and Dr Kim Linton

Ann Tivey, who recently graduated from the MRes Experimental Cancer Medicine programme is leading on RECAP, a pilot study looking at using wearable sensors for monitoring of heart rate, temperature, respiratory rate and oxygen levels in cancer patients with Covid-19 being treated on an ambulatory pathway. She designed the protocol as part of her research project on the MRes.

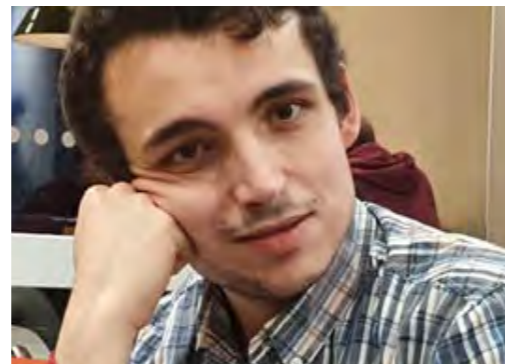


Research Group: Translational Radiobiology

Conrado Guerrero Quiles, Postgraduate Researcher (Non-Clinical)

Research Project: Proteomic profiling in cancer patients undergoing radiotherapy

PhD Supervisors: Professor Catharine West, Professor Ananya Choudhury, Dr Jonathan Humphries, Professor Anthony Whetton



Conrado Guerrero Quiles, a PhD student at the Manchester Biomedical Research Centre was awarded the British Institute of Radiobiology Nic McNally Radiobiology Travel Award, a conference travel bursary awarded to a radiobiology researcher. This was presented to Conrado for his paper entitled "Proteomic profiling of hypoxia-induced changes in cell derived extracellular matrix from bladder cancer cell lines" and presented at the National Cancer Research Institute Conference.

Achievements and Awards: Postdoctoral Researchers



Research Group: Breast Biology

Dr Hannah Harrison, Postdoctoral Research Associate

Dr Hannah Harrison was awarded the FBMH International Travel Fund, in February 2020, to attend the European Network for Breast Development and Cancer (ENBDC) annual conference. She received £500 toward the travel and registration fees and was able to present her work as a poster and get ideas and input from a supportive network of scientists from across Europe. The scheme is open all year round to academic and research staff <https://www.staffnet.manchester.ac.uk/bmh/research/funding-and-applications/funding-opportunities/researcher-development-funding>.

Hannah applied to FBMH Facilitating Excellence Fund in January 2021. Her goal was to develop her research ideas and produce strong preliminary data for future applications. Hannah's research aim was to investigate the interactions between breast cancer and typical metastatic sites. In collaboration with Dr

David Knight, she developed a plan to identify proteins on the surface of my cells of interest (breast cancer) which were unique to them, and not expressed on cells at the metastatic site (lung/bone/brain/liver). She was awarded £3,500 to cover the cost of specialised kits and Mass Spectrometry runs which were essential for this work. The **Facilitating Excellence Fund** provides funds to use the core research facilities at a subsidised rate (up to £5,000). The aim of this fund is to "facilitate excellence", by improving Faculty of Biology, Medicine and Health outputs generated, e.g. publications, grant applications and innovative ideas. Contact Lorna Tittle (lorna.tittle@manchester.ac.uk) for more information.

Dr Angélica Santiago Gómez, Postdoctoral Research Associate

Congratulations are due to, Dr Angélica Santiago Gómez was awarded a Christie NHS Foundation Trust Award (May 2020) for her work on "Investigating stromal regulation of breast cancer stem cell dormancy".

Research Group: Leukaemia Biology (CRUK Manchester Institute)



Dr Mark Williams, Senior Clinical Lecturer, FBMH Presidential Fellow

Dr Mark Williams was awarded the prestigious FBMH Presidential Fellowship for Clinicians at The University of Manchester last year, which recognises creative and ambitious clinicians keen to develop transformative research. He has been appointed as a Senior Clinical Lecturer for a period of two years where he will undertake research looking at the mechanisms underlying relapse following stem cell transplantation, whilst maintaining his clinical practice.



Dr Bettina Winkelhofer, Postdoctoral Research Fellow

Dr Bettina Winkelhofer was successful in her application for a Leukaemia UK John Goldman Fellowship 2020 for her project 'Identification of leukaemia-specific functionally active enhancers for future therapeutic targeting in acute myeloid leukaemia'. This projects helps us to understand how the complex network of interactions between enhancers and genes work, allowing us to identify novel regulators of acute myeloid leukaemia (AML) which could be used for therapeutic targeting with the aim of saving more patients from this devastating condition.

Dr Bettina Wingelhofer shares her tips for those consider applying for postdoctoral fellowships:

- Start early! Take your time thinking about your ideas, writing the application and plan in some time for revisions and improvements.
- Get lots and lots of feedback from your peers and senior researchers also outside your research area.
- Practice the interview multiple times with people that will ask you the really tough questions, you will get lots of confidence presenting your application and you will not be surprised by any questions in the real interview.
- In the interview, be optimistic, enthusiastic, and confident about your application. If you want to convince the reviewers to fund you, you have to show them that you believe in yourself and your ideas.
- Lastly, don't be disappointed by a rejection. Most of the time this is not due to the quality of your application or your qualification but what funding panels are interested in at the time and the huge amount of applications they are getting. Get some feedback from the funding organisation on why your application wasn't successful and try to use this in the next one.



Research Group: PRECISE



Dr Amy Chadwick, Postdoctoral Research Associate



Friends of Rosie has awarded a grant of £70,000 to kickstart promising new research into the use of Proton Beam Therapy (PBT) to treat sarcomas in children.

Dr Amy Chadwick from The University of Manchester and Professor Karen Kirkby from The University of Manchester and The Christie are leading the project, which began in 2020.

Speaking about the award, Amy revealed, "Many paediatric patients benefit from radiotherapy as part of their treatment for sarcoma. The most common type of radiotherapy uses X-rays. Although this type of radiation is highly effective, it can cause collateral damage to the healthy tissue that surrounds the tumour, which can result in serious side effects. The developing tissues in children are particularly sensitive. But there is still a lot to learn about how PBT affects both tumour cells and those of normal tissues. This funding from Friends of Rosie will allow us to undertake the first and most comprehensive study of PBT in paediatric sarcoma cells using the dedicated research room at The Christie. The Friends of Rosie funding will allow the first steps in identifying new treatment combinations, which may ultimately make PBT more effective and kinder to children with sarcoma."

Research Group: Translational Radiobiology



Dr Mairah Khan, Postdoctoral Research Associate



PhD Title: Role of non-coding RNAs as functional regulators and biomarkers in cancer (CRUK Manchester Institute)

PhD Supervisors: Professor Catharine West, Dr Claus Jorgenson, Dr Michela Garofalo

Dr Mairah Khan has been accepted as a postdoctoral fellow in Joshua Meek's lab in the department of urology at Northwestern university in Chicago to start June 2021. She will be working on immunotherapy and epigenetic based therapies in bladder cancer.

During her PhD, Mairah established a lncRNA radiosensitivity signature in bladder cancer and developed a microRNA hypoxia signature in bladder cancer that would predict which patients would benefit from being given hypoxia modification therapy along with radiotherapy. This work has led to two first author publications (Khan et al, RadRes 2021; Khan et al; BJC 2021 [accepted]). Apart from her own PhD project she contributed to work done in the lab on mRNA hypoxia signatures in lung adenocarcinoma and sarcoma.



Dr Laura Forker, NIHR Clinical Lecturer in Clinical Oncology (previous MCRC and CRUK Manchester Centre Clinical Research Training Fellow)



PhD Title: Development of a hypoxia biomarker for soft tissue sarcoma

PhD Supervisors: Professor Catharine West, Professor Ananya Choudhury

Dr Laura Forker successfully defended her PhD in 2020 (main supervisor Catharine West) and won the best poster for British Sarcoma Group conference 2020. Laura shared her advice to Clinical Research Training Fellows considering applying for an NIHR Clinical Lectureship in future:

"It is useful to use the CRTF to determine which aspects of research you enjoy the most, which you are best suited to and where there is an important unmet clinical need, so that you have an idea of what type of research you would like to pursue in your own lab in the future. It is also worth considering whether there are specific areas in which you feel you need more experience. I am hoping to use the Clinical Lectureship to address these questions to be in a strong position to apply for independent funding in the future".

Congratulations Class of 2020

for successfully completing your cancer research studies

Congratulations are due to the 10 MRes Experimental students and 42 PhD researchers who graduated from the Division of Cancer Sciences and CRUK Manchester Institute last year, receiving their degree certificates in July and December 2020.

Dr Mark Williams (CRUK Manchester Institute, supervised by Professor Tim Somerville), Dr Colin Hutton (CRUK Manchester Institute, supervised by Dr Claus Jorgensen) and Dr Constanza Panaino (supervised by Dr Mike Taylor) were all awarded their degrees without the need for any corrections to their theses, an excellent achievement.

#DAGraduation2020



Alumni Destinations

Research Group: Targeted Therapy



Dr Swati Pendharkar,
Clinical Research Training Fellow

PhD Title: Investigating the impact of radiotherapy combinations with DNA-damage pathway modification in the generation of anti-cancer immunity

PhD Supervisors: Professor Timothy Illidge, Professor Ian Stratford

Dr Swati Pendharkar is taking up a post-doctoral position in Professor Tim Humphrey's Chromosome Integrity group, Medical Sciences Division at the University of Oxford in May 2021.



Dr Federica Monaco,
Previous Postgraduate Researcher (Non-Clinical)

PhD Title: Investigating radiotherapy-induced immunogenic cell death in lymphoma

PhD Supervisors: Dr Jamie Honeychurch and Professor Timothy Illidge

Dr Federica Monaco has taken up a position in Professor Ann Ager's group, Division of Infection and Immunity and Systems Immunity Research Institute at University of Cardiff.

Alumni Achievements

Research Group: Cancer Thrombosis



Dr Hud Shaker,
Surgical Trainee in General (Abdominal) and Breast Surgery, Health Education North West, Previous Clinical Research Training Fellow



PhD Title: Thrombin pathway activation in breast cancer
PhD Supervisors: Professor Cliona Kirwan, Professor Nigel Bundred, Professor Göran Landberg (now at University of Gothenburg)

Dr Hud Shaker completed his PhD in cancer and thrombosis 2014 and continues to be active in cancer and surgery research. He has so far published two papers from his PhD research. His lab-based work on Tissue Factor and Stem cells was published in *Oncotarget* in 2017, and his clinical work on 320 early breast cancer patients was published in *Cancer Medicine* in 2020. His clinical work won the best prize at the 2018 Association of Breast Surgery conference. In addition to his breast surgical work, he is active on Instagram and YouTube promoting his keen interest in healthy eating and fitness. He also managed a TV appearance on BBC's *Junior Doctors* too!



Dr Adam Rees,
Previous Clinical Research Training Fellow



PhD Title: The role of extrinsic clotting pathway activation in the colorectal cancer microenvironment
PhD Supervisors: Professor Cliona Kirwan, Ms Sarah Duff, Dr Rebecca Lamb

Dr Adam Rees continues his involvement in research whilst coming towards the end of his surgical training. In the last 12 months he has been awarded Associate PI status for the SUNRRISE trial, has had a paper accepted by the *British Journal of Surgery* on the development of PPE during the COVID crisis. He is currently leading on the DAMASCUS study at the Royal Bolton Hospital.

British Journal of Surgery, 2021, znanb008, 1-2
Peter A. Rees, S. Watson, J. Corcoran, D. A. J. Slade, O. Pathmanaban, A. Bibi, G. L. Carlson
Powered air-purifying respirators: a solution to shortage of FFP3 filtering facepiece respirators in the operating theatre

Alumni Profile

Research Group: Cell-matrix Biology and Cancer Research



Dr Harry Warner,

Postdoctoral Research Associate at the Membrane Trafficking in Immune Cells Laboratory, University of Groningen, Netherlands, Previous Postgraduate Researcher (Non-Clinical)

PhD Title: RhoA Signalling in Ovarian Cancer

PhD Supervisors: Dr Patrick Caswell, Professor Henry Kitchener, Dr Saladin Sawan



Graduation

In July 2019 I completed Bachelors and Master's degrees at the University of Bristol, before moving to Manchester to begin a PhD with Dr Patrick Caswell.

My PhD project used mass spectrometry based proteomics to characterise the Rho-family GTPase RhoA in ovarian cancer cells. Specifically, my PhD focussed on identifying both general RhoA interactors as well as RhoA interactors that drive invasive migration in response to the up-regulated endocytic recycling of the $\alpha 5 \beta 1$ integrin. This RhoA signalling is thought to be critical in vivo, as overexpression of the $\alpha 5 \beta 1$ integrin is correlated with a poor prognostic outcome in patients. I identified numerous novel RhoA interactors, which may drive epithelial ovarian cancer metastasis.

Career Development

During the third year of my PhD, I attended a national Cancer Research UK meeting for postgraduate researchers. Here, the speakers recommended that I contact group leaders that I wanted to work with as a postdoc, rather than waiting for advertised roles. This proved invaluable to job hunting and during the final year of my PhD, I contacted various group leaders.

The majority didn't currently have funding but those that did were willing to interview me, as they knew I wanted to work with them directly, rather than only contacting them about a specific post.

Dr Patrick Caswell encouraged me to give a departmental talk in the final year of my PhD which involved practicing giving a presentation and delivering this to an audience who weren't already familiar with my work. This meant that by the time I got to my postdoctoral interview, I was confident presenting my work to my current group.

Working as a Postdoctoral Research Associate

I now work in Professor Geert van den Bogaart's Membrane Trafficking in Immune Cells Lab at the Department of Molecular Immunology and Microbiology, University of Groningen, where I've been based since January 2019. I am using a range of proteomic, imaging and biophysical techniques to understand the trafficking and cytoskeletal processes that underpin dendritic cell activation. Dendritic cells are the interface between the innate and adaptive immune system, thus it is essential to improve their function in persistent infections and dampen their activity in auto-immune diseases.

Specifically, I am trying to understand how dendritic cell endosomes regulate cytokine secretion and how dendritic cells interact with the extracellular matrix.

Our lab is primarily funded by the European Research Council (ERC). My work is also supported by an EPIC XS grant, which funds our collaboration with Jesper Olsen's group (University of Copenhagen).

As a PhD researcher, I learnt a lot of lab techniques that are useful to cancer but aren't usually applied to immune biology, so being able to bring these to the lab has been an asset.

My work here involves researching mechanisms of dendritic cell activation and combines my PhD and postdoctoral interests in allowing me to investigate similar cellular systems but in different contexts. I will be trying to get various projects published during my postdoc.

The Netherlands isn't culturally that different from the UK, but the scientific culture is, and often involves planning more experiments much further in advance, with numerous collaborators. I've been trying to learn Dutch, as I've found that whilst my lab will communicate in English, joining peripheral conversations often involves being able to understand their language.

During my PhD, I used to try and setup elaborate experiments, with lots of different aspects, only to find that simpler experiments work better. Now I work with primary cells, I have learned to set up smaller projects and begin to scale these up once I've tested that they actually work.

Professor van den Bogaart is open to letting me work on things that are outside of his core interests, which has enabled me to develop research independence. My postdoctoral position is funded until at least the end of 2022 and I'd love to establish my own research group in the future, hopefully remaining in the Netherlands.

Funding Opportunities: Postgraduates

Faculty of
Biology, Medicine and Health

DOCTORAL ACADEMY

Doctoral Academy Conference Support Fund

The Doctoral Academy's conference fund aims to support postgraduate research students to attend a national or international academic conference to disseminate their findings. This competitive fund available for Faculty of Biology, Medicine and Health postgraduate research students to present (oral or poster presentation) at a national or international conference.

Individual awards will be made, up to a maximum of £500.

For eligibility criteria, please see: <https://www.bmh.manchester.ac.uk/doctoral-academy/essential-information/conference-fund/>.

Applications should be sent to Iqra Habib at iqra.habib@manchester.ac.uk

Doctoral Academy Society Membership Fund

The Doctoral Academy subsidise the cost of one annual membership fee to a relevant academic society for each postgraduate research student over the period of their programme through our society membership fund. This fund is to enable students to access travel awards and other benefits that may be available to society members.

Individual awards will pay £50 towards one annual membership fee during the period of the programme only.

For further details see <https://www.bmh.manchester.ac.uk/doctoral-academy/essential-information/society-membership>.

Funding Opportunities: Postdoctoral

Translational Research Call for Early Career Researchers

Between April and November 2021, the Centre for Academic Researcher Development (CARD) is partnering with Translation Manchester to fund translational research projects within the Researcher Development Schemes; Research Collaboration Fund (up to £5k) and Research Dissemination Fund (up to £500).

Applications submitted to these two funds that have a translational research focus may be eligible for the ring-fenced budget contribution by answering the relevant question in the application form. This is a unique opportunity for early-career researchers to secure independent funding to pursue collaborative projects, fund proof of principle studies, attend external training and visit collaborators as well as public engagement activities. Please visit this page - [Translational Research Call](#) - to read more about what qualifies as translational research, examples of what activities can be funded and eligibility criteria.

Research Collaboration Fund

Applicants can apply for costs up to a maximum of £5000 to explore opportunities for future collaborative funding bids with a cross-disciplinary partner.

Research Dissemination Fund

Applicants can apply for the cost of dissemination activities up to a maximum of £500. Individual awards will be made on a first come first served basis, up to a maximum of £500 per applicant, until the allocated budget for the Faculty is exhausted.

THE KAY KENDALL LEUKAEMIA FUND

The KKLf Fellowship Programme – Junior Research Fellowships (3 years)

The objective of the Kay Kendall Leukaemia Fund Junior Research Fellowship programme is to support outstanding individuals wishing to pursue research into haematological malignancies.

The Fellowships are expected to cover a period of 3 years and are to be undertaken on a full-time basis in a recognised university, hospital, or other equivalent institution.

Designation of posts

The incumbents will be designated Kay Kendall Leukaemia Fund Junior Research Fellows. There will be up to 3 such Junior Fellowships awarded annually, generally at least one from each of the following categories:

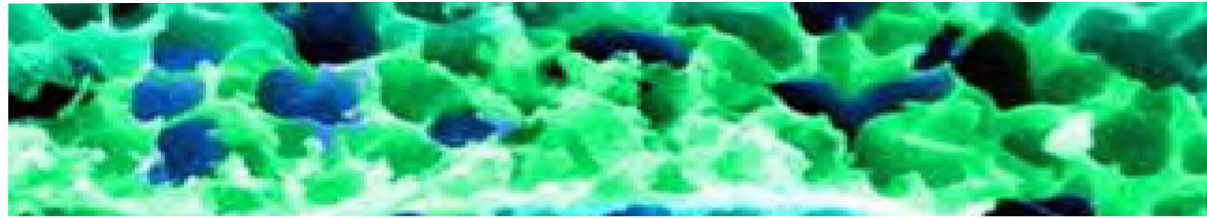
- Scientific Fellow
- Clinical Research Fellow

Invitations for applications and application deadlines

The deadline for applications for the Junior Fellowships 2022 (ie any awarded are anticipated to start in 2022) is 1 July 2021 for consideration at the November 2021 meeting.

Interviews for shortlisted candidates are likely to be in October/November 2021.

For further information and/or an application form please visit <http://kklf.org.uk/fellowships/> or contact info@kklf.org.uk. Intermediate Fellowships are also offered.



PROSTATE CANCER UK

Prostate Cancer UK Travelling Prize Fellowships

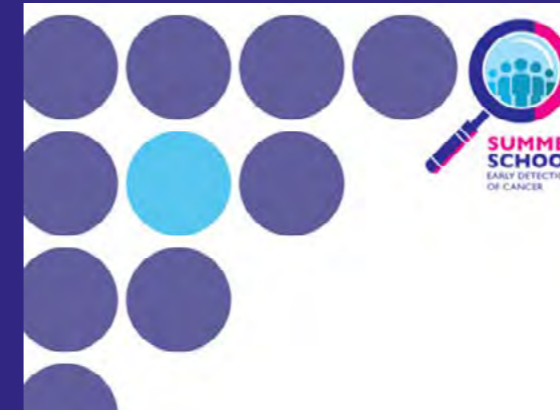
The latest round of Prostate Cancer UK Travelling Prize Fellowships is now open for applications! These Fellowships provide a unique opportunity for the most outstanding early career researchers to begin to develop their independent research careers, working in the best research environments in the UK and overseas. Applicants should demonstrate the potential to be an independent researcher, and these Fellowships will help to accelerate the career trajectories of successful recipients and ultimately ensure they make the biggest impact for men affected by prostate cancer.

Please carefully read the [Guidance Notes](#) for this scheme for further details about these fellowships, as well as for the eligibility criteria.

The deadline for submissions is 12pm (noon), 24 June 2021.



Training Opportunities



ACED VIRTUAL SUMMER SCHOOL 2021
Precision Early Detection for All

9th - 12th August 2021

We invite you to join us for the **Third Annual ACED Summer School**, where we will delve into the topics of early detection science in a COVID-19 impacted world pandemic.

Date: 9 - 12 August 2021 16:00 - 19:00 BST. Hosted virtually.
Registration is now open.

In this year's Summer School, we will delve into the topics of early detection science set against the backdrop of the COVID-19 pandemic and the wider health inequalities it has highlighted.

The Summer School will cover themes including:

- The science and technology behind cancer early detection innovations and diagnostics
- Case studies of early detection in healthcare systems
- Health inequalities and the effects on early detection
- The barriers in implementing precision early detection initiatives.

NIHR | Manchester Biomedical
Research Centre

TranslationManchester

Innovator Training Scheme



#MCRinnovator

25 March 2021

Essentials for innovation and industry engagement

20 April 2021

Developing an entrepreneurial mindset

18 May 2021

Identifying IP, when and why to protect

15 June 2021

Building your network and the value of teams

20 July 2021

Communicating your research to commercial audiences

20 September 2021

Commercialisation as a route to clinical impact

19 October 2021

Collaborate to innovate

16 November 2021

Pitching to innovation

The Innovator Training Scheme (ITS) is a joint programme between the [NIHR Manchester Biomedical Research Centre \(BRC\)](#) and [Translation Manchester](#). It supports research-active staff to explore and develop innovations and routes to clinical impact, alongside industry partners, and exploit their research for the benefit of patients.

Monthly online events guide attendees through the essential skills for innovation, with the next event in July on '[Communicating your research to commercial audiences](#)'. You can book on to further events, as well as watch back previous sessions and read key tips from each session via the regular 'Innovator Insights' blogs, over on the [ITS webpage](#).

Keeping in touch



Visit our website
www.mcrc.manchester.ac.uk



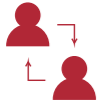
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