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Director’s Update

Season’s greetings to you all!

During 2022, the influence of COVID significantly reduced and we were able to celebrate together at the immensely popular DIIRM Christmas party and the BSI congress in Liverpool. Manchester was well represented at the BSI amongst an attendance that reached over 1700 participants: the largest yet! The BSI’s own infographic below shows that the majority attended in person. The next BSI Congress will take place in Belfast from Monday 4th to Thursday 7th December 2023. You can check out the confirmed plenary sessions here. Follow @bsicongress on Twitter and keep an eye on #BSI23 to stay up to date.

This year the presidency of the BSI also transferred from Arne to me! Arne Akbar expertly steered the BSI through the challenging period of the pandemic when the importance of immunology was demonstrated clearly. During my tenure as president, I will be focussing on trying to develop a defined career structure for postdoctoral scientists. Plans are already underway with the Office of Life Sciences and the Institute of Biology. I will also be promoting the role that senior academics need to play in ensuring British Immunology remains world leading in the future. This initiative is based on inclusion of, and generosity to, early career fellows in the programme of work conducted by others.

2022 also saw success in the National Institute of Health Research (NIHR) Biomedical Research Centre (BRC) application. Manchester BRC brings together world-leading researchers based at the University with three of our NHS Trusts to drive health improvements and lasting change. The Lydia Becker Institute will provide immunology consultancy to all BRC areas, standardise flow cytometry protocols so that we can define common mechanisms across diseases and provide new fundamental insights into disease progression and pathogenesis. Our goal ultimately is to spin this out as a new company in collaboration with the University of Manchester Innovation Factory.

There are many other cross faculty bids ongoing including Cancer, Eco and context-specific immunology and Immuno-matrix (basement membranes) – all are cross faculty. More about these in 2023. In the meantime, hope you had a great Christmas and see you in the new year!

Best wishes,

Professor Tracy Hussell.
Bill Ford Food (BFF)

In honour of Professor Ford, the Bill Ford Chair of Cellular Immunology was created at the University. The role was recently held by Professor Werner Muller, prior to his retirement, and is currently held by Professor Richard Grencis. Bill Ford started the first immunology seminar series in Manchester and so it is fitting that our weekly lunchtime meeting for scientific discussions on anything immunological is named after him – Bill Ford Food (BFF). The group meet each Thursday for lunch at 1 pm in Room 4.005 in the AV Hill Building.

Previous discussions have ranged from what are the next emerging fields in immunology, global health opportunities in Manchester and of course COVID19. If any PIs would like to join, please contact Mr Ameur Bayar via ameur.bayar@manchester.ac.uk to be added to the list of BFF members.

Congratulations

FBMH Researcher of the Year Award 2022 – Dr Matt Hepworth

Congratulations to Immune-tolerance Branch Lead Dr Matt Hepworth on being awarded FBMH Researcher of the Year as part of the university’s Distinguished Achievement Awards.

Presenting the award, Professor Melissa Westwood remarked “Matt is an internationally renowned researcher in Immunology and a leader in his field. He has made fundamental insights into how the immune system is controlled, with three stand out studies in 2021 that have changed the way we think about immune regulation. Identifying novel therapeutic targets for disease, specifically looking at immune cell type ILC3 how their dysregulation can cause inflammatory disease, such as asthma and bowel inflammation.

Matt is an extremely collegiate and collaborative researcher, helping to drive new research directions.”
FBMH Postgraduate Student of the Year Award 2022 - Halima Ali Shuwa

Congratulations to PhD Student Halima Ali Shuwa from the Hussell Lab who was awarded FBMH Postgraduate Student of the Year at the Distinguished Achievement Awards ceremony.

Professor Melissa Westwood stated that “Halima won a prestigious scholarship from her home country, Nigeria, to undertake PhD studies here in the UK. During the COVID-19 pandemic Halima volunteered to assist and devoted a huge amount of her time to help define the trajectory of the immune response in the blood of hospitalised Covid patients, the first to publish the long-term changes associated with ongoing breathlessness and fatigue in patients who subsequently developed Long Covid and a critical member of the team that defined immune problems which informed on therapeutic selection and delivery.

Halima is a great team player and has helped train graduate students in her department and although very early in her career Halima already has seven publications which is a remarkable achievement for someone about to write up their thesis.”

Doctoral Academy SBS Postgraduate Research Student of the Year Award 2022 - Halima Ali Shuwa

In addition to her Distinguished Achievement Award Halima was also the recipient of the Doctoral Academy’s School of Biological Sciences Postgraduate Research Student of the Year Award 2022.

Halima remarked “I am absolutely thrilled and honoured to be awarded Postgraduate Research Student of the Year by the FBMH Doctoral Academy and big thanks to Professor Tracy Hussell and Dr Madhvi Menon for making me the scientist I am today!”
Clarivate Highly Cited Researchers 2022 – Professor Judi Allen

Congratulations to our Immuno-matrix Branch Lead Professor Judi Allen who has been named as a highly cited researcher for the 4th year in a row as part of Clarivate’s Highly Cited Researchers 2022.

Highly Cited Researchers demonstrate significant and broad influence reflected in their publication of multiple highly cited papers over the last decade. Of the world’s population of scientists and social scientists, Clarivate Highly Cited Researchers are 1 in 1,000!

FBMH Academic Promotions 2022

Congratulations to the following Becker affiliates who have recently gained promotions:

<table>
<thead>
<tr>
<th>Name</th>
<th>Promoted To</th>
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<tbody>
<tr>
<td>Kevin Couper</td>
<td>Chair (Professor of Immunology)</td>
</tr>
<tr>
<td>Cyrill Bussy</td>
<td>Senior Lecturer</td>
</tr>
<tr>
<td>Joanne Konkel</td>
<td>Senior Research Fellow</td>
</tr>
<tr>
<td>James Parkinson</td>
<td>Research Associate</td>
</tr>
<tr>
<td>Andrew Higham</td>
<td>Research Fellow</td>
</tr>
<tr>
<td>Ashraf Kitmitto</td>
<td>Chair Professor of Cardiovascular and Metabolic Sciences</td>
</tr>
<tr>
<td>Nicholas Barnes</td>
<td>Senior Lecturer</td>
</tr>
<tr>
<td>Claus Jorgensen</td>
<td>Chair</td>
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Congratulations – PhDs

Congratulations to Alicia Galdon (MacDonald Lab) for passing her PhD viva on the 8th of July
Lydia Becker Institute Summer Symposium – 7th June – The Whitworth

On the 7th June the Lydia Becker Institute held its Summer Symposium at the Whitworth Art Gallery which featured a range of talks from Becker members to update invitees on the institute’s activity since its launch back in 2018, including; the institute’s dynamic/innovative work on Covid-19, providing national/international visibility for the considerable immunological expertise at the university and to outline what the future holds for the institute.

Institute Director Professor Tracy Hussell opened proceedings with an update on the Becker’s activity since the Launch Event in October 2018 at the Science and Industry Museum. Professor Hussell outlined the evolution of the Becker since that time, with the addition of Eco-immunology and context-specific immunology and Immuno-informatics branches and the launch of the Geoffrey Jefferson Brain Research Centre which was borne out of collaborations via the Becker’s Neuro-immunology branch. Prof Hussell also mentioned the success of the Wellcome Trust Immunomatrix in Complex Disease PhD Programme, provided an overview of the Coronavirus Immune Response and Clinical Outcome (CIRCO) Study, links with the NIHR Manchester BRC and outlined what the future would hold for the Becker including; exploring linked diseases, common mechanisms in fibrosis, disease flare, experimental medicine trials, biomarker translation work and developing an exciting methodological arm of the Becker to help standardise Immunology across different diseases.

Professor Kathryn Else formally launched the new Eco-immunology and context-specific immunology branch of the Becker, which aims to explore how the immune system is shaped and how it operates in natural settings as opposed to under highly controlled laboratory conditions. This new branch of the Becker brings benefits to multiple fields including public health, animal health, wildlife management and conservation.

Three PhD students from our Wellcome Trust Immunomatrix in Complex Disease PhD Programme also gave talks at the symposium. Georgia Baldwin supervised by Judi Allen, Tony Day and Pedro Papotto gave a talk entitled ‘How do Ym1 and Ym2 regulate communication between the immune system and the extracellular matrix’.
Next Kathryn Lowles supervised by Joan Chang, Karl Kadler, Tracy Hussell, and Mark Travis presented her talk ‘How macrophages and circadian clocks affect homeostasis of collagen’.

Finally, Megan Priestley supervised by Amy Saunders, Doug Dyer and Rachel Lennon gave her talk ‘The role of the endothelial glycocalyx in psoriasis-like skin inflammation’.

Additional speakers included Professor Dan Davis, Professor Craig Smith from the Geoffrey Jefferson Brain Research Centre, Presidential Research Fellow Dr Madhvi Menon and to close Author Joanna M. Williams gave a talk about our namesake Lydia Becker entitled ‘Who is this Miss Becker’ - outlining her work as the unofficial leader of the women’s suffrage movement in the 19th century and as a tireless campaigner for women’s rights.

You can watch recordings of all the talks via the Lydia Becker Institute YouTube channel.

A big thank you to Professor Mark Travis and Professor Andrew MacDonald who acted as Chairs, ensuring that speakers kept to time and facilitating Q&A sessions.
Poster Competition and Book Signing

After our speakers finished their talks, attendees then moved to the South Gallery Space of the Whitworth Art Gallery to view fourteen posters presented as part of our Lydia Becker Institute Summer Symposium Poster Competition.

The posters demonstrated the broad, interdisciplinary nature of the institute’s research, including cross-faculty projects such as PhD student Grace Mallet’s poster which looked at the use of nanomaterial graphene oxide as promising delivery platform for cancer immunotherapy.
Third prize went to Rebecca Dodd for her poster ‘IL-13-induced hyaluronan accumulation in the lungs’

Rebecca remarked “I had a great time at the symposium sharing our early data on IL-13 and its roles in regulating hyaluronan and I got useful feedback on future experiments from the discussions. It was a very nice surprise to win a poster prize! Thank you!”

Second prize went to Sarah Harbach for her poster ‘The nose: a non-invasive source of lung cancer biomarkers for screening’

Sarah stated “I’m grateful for the opportunity to present (and received a prize for!) a poster summarising my work on nasal sampling for early detection of lung cancer at the LBIII Summer Symposium and to celebrate the many people who were essential to this projects’ success. Thank you to the organisers for a wonderful event.”

Finally, first prize went to Urszula Cytlak for her poster entitled ‘How radiotherapy affects the immune system’.
Here’s a full list of posters presented at the symposium:

<table>
<thead>
<tr>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determining the effect of airborne particulates on epithelial cell function.</td>
<td>George Adams, Sheena Cruickshank, David Topping, David Brough</td>
</tr>
<tr>
<td>How do Ym1 and Ym2 regulate communication between the immune system and the extracellular matrix?</td>
<td>Georgia E. Baldwin, Kathryn Malpas, Hannah Murphy, James E. Parkinson, Holly L. Birchenough, Douglas P. Dyer, Thomas A. Jowitt, Pedro H. Papotto, Anthony J. Day, Judith E. Allen</td>
</tr>
<tr>
<td>Use of the nanomaterial graphene oxide as promising delivery platform for cancer immunotherapy</td>
<td>Grace Mallett, Helen Parker, Sorayut Chattrakarn, Rebecca Dookie, Kiana Arashvand, Alexandra Thawley, Kostas Kostarelos and Andrew MacDonald</td>
</tr>
<tr>
<td>CLPs: Master regulators of ECM remodelling in the lung.</td>
<td>Hannah E Tompkins, James E Parkinson, Judith E Allen &amp; Tara E Sutherland</td>
</tr>
<tr>
<td>EcolImmunology as a holistic approach to investigate environmental drivers of immune variation</td>
<td>I Mair, J Fenn, A Bennett, A Muir, A Lowe, JE Bradley, A Harris, S Shultz, KJ Else</td>
</tr>
<tr>
<td>Nanoscale clusters of TIGIT and the TCR overlap at the immune synapse upon ligation</td>
<td>Jonathan D. Worboys, Roseanna K. Hare, Margherita Bertuzzi, Ashley R. Ambrose, Khodor S. Hazine, Stipan Jonjic, Tihana Lenac Rovis, Gillian M. Tannahill, Jeremy D. Waight, Gabriela Dos Santos Cruz De Matos and Daniel M. Davis</td>
</tr>
<tr>
<td>CD200R1 is required for efficient wound healing in middle aged mice</td>
<td>Joshua Cox, Kimberly Mace, Sheena Cruickshank, Amy Saunders</td>
</tr>
<tr>
<td>Natural killer cells with a tissue-resident phenotype are increased in human lung tumours</td>
<td>Miriam Franklin, I. Hsuan Lin, Angela Leek, MCRC Biobank Team, Tracy Hussell</td>
</tr>
<tr>
<td>Investigating the role of ILCs in tissue remodelling in the context of Type-2 immunity</td>
<td>Rachel E. Finlay, Antonn Cheeseman, Michael Haly, Tara E. Sutherland and Matthew R. Hepworth</td>
</tr>
</tbody>
</table>

A massive thank you to everyone who presented a poster and to those of you who helped to organise the competition. And congratulations again to our three prize winners!

Author Joanna M. Williams also signed copies of her recently published book chronicling the life of Lydia Becker entitled ‘The Great Miss Lydia Becker: Suffragist, Scientist and Trailblazer’

Joanna’s book is available now for purchase at all good book retailers.
Invited Seminars and Events

Emerging Themes in Barrier Immunity Symposium

On the 18th May the inaugural Weill Cornell/Lydia Becker Institute symposium entitled ‘Emerging Themes in Barrier Immunity’ was held online via Zoom. The symposium was organised by Professor Mark Travis, Professor Richard Grencis and Dr David Artis (Weill Cornell)

The symposium included talks from keynote speakers Professor! Yasmine Belkaid (NIH) and Professor Bart Lambrecht (Ghent) and talks from Junior PI/trainee Researchers at both Cornell and Manchester on the theme of Barrier Immunity.

The focus of the symposium was to stimulate discussion, initiate interactions and provide a platform for developing collaborations.

Organising Committee member Mark Travis remarked “The talks were all fantastic and I have received nothing but positive comments. Hopefully this can be a springboard for future interactions and collaborations!”

Parliamentary Links Day

As part of a group of BSI representatives Professor Tracy Hussell attended the Houses of Parliament on the 28th of June for Parliamentary Links Day.

The event was organised by the Royal Society of Biology with the aim to strengthen dialogue with Parliament and to provide MPs with a more rounded understanding of the scientific issues we face.
BSI Congress 2022

From the 5th to the 8th of December the British Society for Immunology held their annual congress at the ACC Liverpool.

It included a Keynote presentation from Dr Gitta Stockinger from the Crick Institute, plenaries on neuroimmunology, tropical diseases, immunodeficiency, tissue immunology, immunotherapy and systems immunology and ‘Bright Sparks in Immunology’ lightening talks.

The 2022 Congress also marked the start of Becker Institute Director Professor Tracy Hussell’s term as President of the BSI. Tracy was welcomed as their new President at the Annual General Meeting, held on the 6th December. Tracy was elected earlier in the year and takes over the role from outgoing President, Arne Akbar.

She will hold the role for a term of four years and as the chief ambassador for the BSI, Tracy will play a key role in representing the UK immunology community’s interests to its stakeholders. As President she will also provide strategic leadership and work with the BSI Board and senior officers to create long-term goals, plans and policies.

Commenting on the role Tracy said “I am incredibly honoured to start my role as the new President and Chair of the Board of Trustees of the BSI. The pandemic has highlighted the importance of immunology to the world and, in my four-year tenure as President, it will be my mission to ensure the BSI continues to be a positive force and voice for immunology.

The BSI plays a critical role connecting and supporting our immunology community, as can be seen this week at BSI Congress. Building on the fantastic work of Professor Arne Akbar, the outgoing BSI President, I look forward to working together with the BSI Trustees, committees, and our wonderful membership to continue advancing the Society’s mission. A huge thank you to Arne for all he has done for the BSI through his strong leadership.”
The Becker was well represented at Congress, with numerous PhD students/researchers presenting posters – including Gart Chattrakarn, Megan Priestley, Hannah Tompkins, Alicia Galdon, Shaun Wright, Lili Zhang, James King, Erez Uzuner, James Parkinson, Madeleine Hurry, Rebecca Dodd, Nabina Pun, Urszula Cytlak, Roser Tachó Piñot, Pedro Papotto, Rachel Finlay (and many more). Here are some #BeckeratTheBSI highlights via Twitter:
Upcoming Seminars, Meetings and Events

One Health and Eco-Immunology: Exploring Interactions between health, environmental challenges and disease – 9th June 2023

On 9th June 2023 the ‘Eco-immunology and context-specific Immunology’ branch of the Lydia Becker Institute, joint with the Manchester Environmental Research Institute and Healthy Futures within Sustainable Futures are holding a one-day symposium entitled “One Health and Eco-Immunology: Exploring Interactions between health, environmental challenges and disease”.

The event will take place in the at the University of Manchester in Engineering Building A: Blended Theatre 1 - GA.056 and the conveners are Kathryn Else, Sheena Cruickshank, Susanne Shultz, Holly Shiels and Iris Mair.

**Background:** Interdisciplinary approaches are essential to identify and mitigate interactions between disease processes, environmental change, and population-level morbidity. This meeting will bring together research groups from across the university and beyond, with interest in aspects of environmental health (encompassing ecosystems, biodiversity resilience, human health and immune responses). Building networks that can address these issues are particularly timely as we exit from the catastrophic impacts of a global pandemic and grapple with pervasive social inequality in co-morbidity measures.

**Main sessions are:**

- Eco-immunology
- Pollution and Contaminants and Health
- Policy and Social Science: applications and impact

**Confirmed Keynote speakers include:**

Professor Andrea Graham (Princeton University, USA)

Andrea Graham | Ecology & Evolutionary Biology (princeton.edu)

Dr Mark Miller (University of Edinburgh, UK)

Mark Miller (BSc, PhD) | The University of Edinburgh

Dr James Hassell. James Hassell | Smithsonian's National Zoo (si.edu)

Further details to follow via email in the new year!
MIG Seminar Series

The MIG seminar series for 22/23 is currently underway with a variety of internationally renowned speakers. The seminars are hybrid and details are circulated weekly.

Please contact Andy Greenhalgh andrew.greenhalgh@manchester.ac.uk or Lisa Mcclair lisa.mcclair@manchester.ac.uk if you would like to be added to the MIG seminar mailing list.

MION Network

The Manchester Immuno-Oncology Network (MION) fosters interactions between Clinicians and Scientists with an interest in immuno-oncology within Manchester, with an aim to bring people together to maximise collaborations and provide educational opportunities.

MION hosts quarterly interactive workshops covering topics such as:

• T cell immuno-oncology
• Pre-clinical models
• Immuno-oncology biomarkers
• Moving from pre-clinical data to clinical trial development

If you would like to join the Network and hear about our future events and opportunities for collaboration please email the-christie.Mcr-IOnetwork@nhs.net.
Coronavirus in the press
An update to date list on all the press coverage of COVID-19 related research going on in the institute can be found on our webpage.

Grants
Since its inception PIs in the Lydia Becker Institute have been awarded over £131M in grants.

Publications
Selected publications from Lydia Becker Institute affiliates

October 2022
Shears RK, Grencis RK.

de Jong S, Tang J, Clark SJ.

November 2022

Co-designing for behaviour change: The development of a theory-informed oral-care intervention for stroke survivors.

Microglia states and nomenclature: A field at its crossroads.

Multi-ancestry genome-wide association analyses identify novel genetic mechanisms in rheumatoid arthritis.
Nat Genet. 2022 Nov 4; [Epub ahead of print] https://doi.org/10.1038/s41588-022-01213-w

Tierney AL, Alali WM, Scott T, Rees-Unwin KS, Clark SJ, Unwin RD.
Levels of soluble complement regulators predict severity of COVID-19 symptoms.

Stephens R, Grainger JR, Smith CJ, Allan SM.
Systemic innate myeloid responses to acute ischaemic and haemorrhagic stroke.
Semin Immunopathol. 2022 Nov 8; [Epub ahead of print] https://doi.org/10.1007/s00281-022-00968-y

Graphene oxide modulates dendritic cell ability to promote T cell activation and cytokine production.
Nanoscale. 2022 Nov 14; [Epub ahead of print] https://doi.org/10.1039/d2nr02169b

November 2022

Characterisation of C101248: A novel selective THIK-1 channel inhibitor for the modulation of microglial NLRP3-inflammasome.

Johnstone ED, Westwood M, Dilworth M, Wray JR, Kendall AC, Nicolaou A, Myers JE.
Plasma S1P and sphingosine are not different prior to preeclampsia in women at high risk of developing the disease.

Allergy. 2022 Nov 28;1. https://doi.org/10.1111/all.15600

December 2022

Hodge SH, Krauss MZ, Kaymak I, King JI, Howden AJM, Panic G, Grencis RK, Swann JR, Sinclair LV, Hepworth MR.
Amino acid availability acts as a metabolic rheostat to determine the magnitude of ILC2 responses.

Nicolaou A, Kendall AC.
Current insights into skin lipids and their roles in cutaneous health and disease.
Curr Opin Clin Nutr Metab Care. 2022 Dec 26;. [Epub ahead of print] https://doi.org/10.1097/mco.0000000000000902

Pure

Pure automatically pulls through any papers to your research explorer page. However your papers will not pull through to the Lydia Becker Institute Research Explorer page unless the Institute is listed as your main affiliation. If it is not your main affiliation in Pure, you will need to manually edit the metadata for each paper and add the Lydia Becker Institute as an organisational unit. It is important to have all relevant papers pull through to the Institute research explorer so that we can generate metrics on publications for the Institute. Instructions on how to do this are below.

Affiliating your Pure records to your Institute

If you work as part of one of the University Institutes, you may wish to affiliate relevant records in Pure to that Institute. Records you could affiliate could include publications, activities or datasets for example.

By affiliating records to your Institute, you help to populate your Institute’s page on the Research Explorer portal, which gives an overview of all activities in the Institute.

The steps below illustrate how to affiliate a publication record to your Institute, but the same steps apply to any type of record in Pure.

To affiliate a record

- Open any record in Pure you are named on to edit it.
- Where you are named on the record, click ‘edit’.

www.manchester.ac.uk/lydia-becker-institute

@LydiaBeckerill
• Under the section entitled ‘Affiliation on the research output’ click the box labelled ‘Lydia Becker Institute of Immunology and Inflammation’
• Click the ‘update’ button.
• When the editor window closes, click the ‘save’ button.

If you do not see the option for your Institute please contact your Institute Manager.

End of Newsletter:

If you have any comments or Lydia Becker related news you would like to feature in future editions, please contact Mr Ameur Bayar ameur.bayar@manchester.ac.uk

Please follow our Twitter account, visit our website and subscribe to the Lydia Becker YouTube channel to learn more about the Becker!