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Lydia Becker Institute of Immunology and Inflammation

Issue 13 March 2024

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Issue 13

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Director's Update

A significant benefit of the Becker Institute is the external visibility it provides for our research strengths and exceptional members.

Once again, the Becker was represented in force at the BSI 2023 annual congress in Belfast. Many of us attended and a large number were involved in its organisation, chairing, speaking in plenary and parallel sessions and in presenting posters.

We have also been busy with public events including bulb planting and the launch of a green walking route with the Ardwick Climate Action (ACA) group. We've also partnered with ACA for the "The Lydia Becker Past, Present and Future Garden" project, based at the site formerly occupied by St Saviours church.

project, based at the site formerly occupied by St Saviours church. Our stand for British Science Week at Manchester Museum proved a huge hit, with our interactive game of "Splat the Virus!" and a competition for the best lung function test. It was quite intensive, so many thanks to all our amazing volunteers. Many of the pupils who visited walked away proudly wearing their Lydia Becker Institute tshirts!

On a research note, our interaction with the Biomedical Research Centre (BRC) is running smoothly through our translational immunology accelerator (TIA). The TIA brings immunology into areas of clinical unmet need and is proving very popular.

We await the decision on the outline application for the MRC-CoRE MOXIE bid (led by Allen, Konkel, Hepworth and Cruickshank) in collaboration with the Kennedy Institute, which unites us with the Manchester Environmental Research Institute (MERI).

So, a lot going on! In the meantime, we are reviewing - with a view to refreshing - the Becker strategy. I hope you all have a great spring!

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 COVID-19. 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

Dr Matt Hepworth awarded Wellcome Trust Career Development Award



Congratulations to Immune-tolerance Branch Lead **Dr Matt Hepworth** on being awarded been awarded a **£2.8 million, 8-year Career Development Award (CDA) from the Wellcome Trust** to conduct groundbreaking research into group 3 innate lymphoid cells (ILC3) and their role in maintaining both intestinal and whole-body health.

Matt said: "ILC3 are relatively rare immune cells whose roles have been somewhat mysterious until relatively recently. Research from our lab – and others across the globe – has begun to uncover the crucial roles these cells have in interacting with the wider immune system in ways that prevent disease. This award will allow us to comprehensively define the functions of

these cells so we can harness and manipulate them to help treat chronic inflammatory diseases in people."

Institute Director Professor Tracy Hussell said: "This new award is further recognition of the exciting work Matt is driving in the field of mucosal immunology here at the Lydia Becker Institute. This new funding will help to uncover ways in which the immune system keeps the peace with its "good bacteria", and conversely reveal what goes wrong with the immune system in patients who develop diseases such as Inflammatory Bowel Disease."

UKRI Future Leaders Fellowship awarded to Dr Madhvi Menon

Congratulations to **Dr Madhvi Menon**, Deputy Branch Lead for Cellular Immunology who has been awarded a prestigious **Future Leaders Fellowship by UK Research and Innovation** to continue her research on studying the role B cells play in chronic obstructive lung disease (COPD).

Discussing her new award Madhvi said "The UKRI Future Leaders Fellowship provides the perfect platform to launch my career as an independent researcher, enabling me to assemble a worldleading team, harness the latest technologies and support quality high-impact research."





Madhvi and her team plan to uncover how B cells promote COPD pathogenesis and answer key questions such as;

- Do lung-infiltrating B cells promote tissue inflammation and airway remodelling?
- Do these aberrant B cell responses associate with disease severity?
- Can we harness novel pathways involved to develop improved treatment approaches for patients?

Dean's Prize Fellowship awarded to Dr Pedro Papotto

Dr Pedro Papotto, a Research Fellow from the Allen Lab, has been awarded a distinguished FBMH Dean's Prize Fellowship for his work on understanding how immune responses to infections are regulated at the organismal level and the role of unconventional T cells in orchestrating these processes.

The Dean's Prize Fellowship offers pump-prime funding to promote the careers of aspiring academic researchers by bridging the difficult career gap between excellent postdoctoral researchers and research independence, giving them the opportunity to apply for externally funded prestigious fellowships.



Newsletter

Pedro said: "The Dean's Prize Fellowship will give me the time and resources to build a strong application and fully transition to independence. Ultimately, this fellowship will allow me to fully develop my own scientific questions and start a research group at the University of Manchester."

BBSRC awards grant for wild house mouse study

Congratulations to Eco-immunology and contextspecific Immunology Branch Lead Professor Kathryn Else along with Dr Rowan Bancroft at the University of Manchester and co-applicants Professor Amy Pedersen and Dr Iris Mair at the University of Edinburgh who have been funded by the BBSRC to carry out a three-year project working with a wild house mouse population on the Isle of May off the coast of Scotland to conduct ground-breaking research to understand the mechanisms behind dietary changes and how they impact the immune system and parasitic clearance in a real-world context.



Kathryn said: "This project will disentangle the ways in which an improved diet supports health and protects against parasitic infection. It will do so by using a novel, interdisciplinary study design bridging between controlled laboratory mouse studies and investigations in wild mouse populations.

This allows both detailed and mechanistic investigation as well as taking into account the real-world environment in which an individual's immune system operates."

British Society of Parasitology awards President's Medal to Dr Juan Quintana



The British Society of Parasitology (BSP) has awarded the 2024 President's Medal to Dr Juan Quintana, a Research Fellow who joined the Becker in late 2023.

The President's Medal recognises BSP early career members who have produced international-quality research outputs and demonstrate ambitions consistent with the potential to achieve a world-leading status within the research community.

Juan said: "I'm delighted to be awarded the BSP President's medal. This medal is awarded to independent early career investigators who are considered rising stars in parasitology and who have made impactful contributions to the field. The BSP council received several nominations but ultimately decided to award this medal in

recognition of the work I have done to describe novel aspects of the immune response in the skin and brain in the context of chronic sleeping sickness, a devastating disease that still affects over 60 million people in several Sub-Saharan African countries.

In addition to this, the council commended my involvement in several initiatives towards creating a more inclusive and open research environment for the next generation of scientists. These initiatives included the Scottish

Parasitology Partnership in Research, Innovation and Training (SPPIRIT) and the STEM village which I currently coordinate with Matthew Sinton (University of Manchester) and Alex Cocker (Imperial College London)."

The STEM Village shortlisted for a UoM Making a Difference Award

<u>The STEM Village</u>, which provides a platform for LGBTQ+ people in STEM, has been shortlisted for a University of Manchester Making a Difference 2024 Award.

The awards recognise the outstanding social and environmental impact staff, students, alumni, and external partners have on our local communities and the wider society.



The STEM Village has been shortlisted in the 'Contribution to equality, diversity and inclusion' category for its innovation and commitment to equality, diversity, and inclusion.

The award ceremony takes place on 9th May and The STEM Village founder <u>Dr Matthew Sinton</u> and <u>Dr Juan</u> <u>Quintana</u> from the Lydia Becker Institute will be in attendance. We wish them the very best of luck!

Dr Matthew Sinton wins 1st place at the BSI Congress 2023 Bright Sparks in Immunology Postdoc Session



Dr Matthew Sinton (far left)

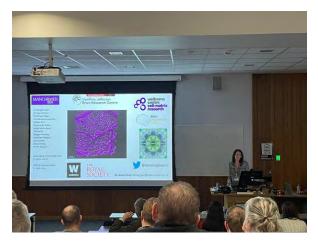
Congratulations to Postdoc Dr Matthew Sinton who won 1st place at the Bright Sparks in Immunology Postdoc Session at BSI Congress 2023, held in Belfast in December.

Matthew's talk was entitled 'IL-17 signalling is critical for controlling subcutaneous adipose tissue dynamics and parasite burden during chronic Trypanosoma brucei infection'.

Newsletter

Dr Anna Gray wins best talk at the UK Proteoglycans Meeting

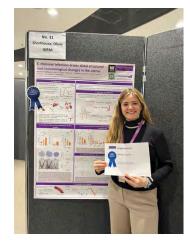
Congratulations to postdoc Dr Anna Gray from the Dyer lab group on winning best talk at the UK Proteoglycans Meeting held at Keele University in January



Congratulations – PhDs

Congratulations to;

- Rodrigo Diaz Pino (Lopez-Castejon Lab) for passing his PhD viva in February.
- Roser Tachó Piñot (Hepworth Lab) for passing her PhD viva in February (you find out more about Roser and her research in our <u>Becker Profile</u>).



• Olivia Shorthouse (MacDonald Lab) on her prize-winning poster at the SBS Annual Event in January.

 Hannah Tompkins (Allen Lab) on raising £460 for the Manchester Central Foodbank by leading the DIIIRM X-mas Foodbank Collection.



Invited Seminars

Professor Mark Travis gave an invited talk at the 'Regulation of Barrier Immunity' Keystone meeting in Banff, Canada, 18th-21st Feb entitled 'Regulation of barrier immunity by integrins and TGF-beta' and gave a talk at the University of Dundee on 18th March entitled 'Regulation of mucosal immunity by integrins and TGF-beta'.

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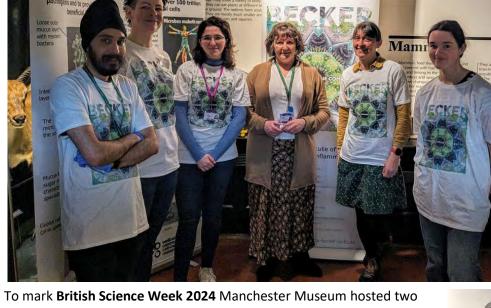
Events

Mucus and the gut

British Science Week 2024 at Manchester Museum

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To mark **British Science Week 2024** Manchester Museum hosted two days of activities on the 11th and 12th of March for over 500 students and visitors.

The Becker was in attendance with stands covering two different themes – ridding viruses from the body and scary skin science – manned by our **Institute Director Professor Tracy Hussell, Professor Dave Thornton, Professor Richard Grencis, Dr Jo Pennock** and affiliated Becker postdocs, research assistants, and PhD students.

Activities for the virus stand included 'Neutrialise the Virus' and an adapted funfair game called 'Splat the Virus!' – which proved to be a big hit with attendees (both figuratively and literally!) – and a lung function test. The activities showcased how the body neutralises viruses via antibodies and T cells and the impact of infection on lung health.



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Our scary skin science stand included a microscope to view skin sections, sealed petri dishes with skin microbes, and a 'guess the number of bacteria' competition. Visitors learned that the skin is covered in bacteria which controls inflammation and defends against infection.

A big thank you to all our volunteers who helped to make our activities such a big hit with visitors:

- Sara Kirkham
- Ziyun Zhang
- Maana Layeghi
- Holly Sedgwick
- Dr Kelly Hayes
- Ilayda Akbulut
- Dr Helen Williams
- Dr Gurdeep Singh
- Matilda Goff



Newsletter

'Thanks for the Memories' Science Day at the Science & Industry Museum



On Friday 8th March an exciting science and musical project led by the University of Oxford and Royal Northern College of Music and funded by the Wellcome Trust was launched at the Manchester Science & Industry Museum with a Science Day for Coop Academy students in the local area.

The project titled <u>'Thanks for the Memories'</u> gives secondary school students the opportunity to compose pieces of music inspired by immunology.

Lydia Becker Institute PhD students Holly Sedgwick (left), Olivia Shorthouse (middle) and Rachel Finlay (right) from the Wellcome Trust Immunomatrix in Complex Disease Programme were recruited to provide their expertise and to answer questions from students on how immune memory functions.

Students received talks on the science and history of immunology

and vaccine science, participated in group discussions, and discussed possible inspirations for their future musical compositions.

Becker researchers mark International Women's Day 2024

To mark **International Women's Day 2024** on Friday 8th March researchers from the Lydia Becker Institute of Immunology and Inflammation gave their advice to young girls and women pursuing a career in science and talk about what International Women's Day means to them.

Taking part:

- Professor Tracy Hussell
- Professor Kathryn Else,
- Dr Joanne Pennock
- Professor Ashraf Kitmitto
- Dr Sophie Saxton
- Dr Catherine Lawrence
- Professor Sheena Cruickshank

Watch all the contributions on our YouTube channel

Dr Sophie Saxton





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munology d Inflammation "My best advice would be to aim high and never hold back from applying for a role or recognition that you feel is out of your reach."

> , #InternationalWomensDay

Newsletter

Becker PI/Postdoc vs PhD student Charity Football Match



On Friday the 6th of October Lydia Becker Institute PIs and Postdocs squared off against PhD students in a **football match to raise funds for Asthma + Lung UK.**



It was an intense game of football, with our PIs/Postdocs showing they had a thing or two to teach the PhD students on the pitch – but in the end, the students prevailed, and as the final whistle blew the **score was 6-2** to the PhD students. Congratulations to the PhD student team!

The match was organised by Becker PhD students Joshua Hughes (MacDonald Lab) and Megan Priestley (Dyer/Hussell Lab) and they managed to raise an amazing £718 for Asthma + Lung UK!

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Team Members:

Pls and Postdocs:

Mark Travis

Andy Greenhalgh

Stuart Allan

Jonathan Worboys

Ian Prise

Pedro Papotto

Chris Hoyle

PhD students:

Joshua Hughes

William Zammit

Joseph Morris

Benjamin Harrop

Astrid Bostrom

Abdullah Shazad







Newsletter

Ardwick Climate Action launches walking route to combat air pollution



On Tuesday 12th March campaign group <u>Ardwick Climate Action</u>, with support from Becker researchers launched a new green walking route where local people can avoid the excessive pollution caused by motor vehicles.

The scheme, close to Kale Street, will help combat the area's disproportionate exposure to air pollution, improve the health and wellbeing of local people, and improve public safety away from major roads.

Nine signs put up along the various entry points to the attractive 15-minute walk will contain digitally interactive QR codes, which when scanned with a smartphone will direct

the public to various webpages.

The pages contain information about local ecology and how plant species support Manchester's biodiversity. They also detail the history of the site and the local community groups that manage it.

One of the researchers involved, Lydia Becker Institute <u>Eco-immunology</u> Deputy Branch Lead Professor Sheena Cruickshank said: "Collaborative working between local communities and our researchers was vital to understand the barriers for active travel and the issues that most impacted residents.

"By engaging with communities we can promote awareness of the risks of pollution to health and do more meaningful research that best meets the needs of those most impacted by pollution.

She added: "This research highlighted real issues encountered by residents of high levels of pollution and dangerous roads with fast moving traffic.

"There is a lack of crossings across busy roads which makes it very hard for residents to get around safely.

"We are so excited about the green route, and we really hope it makes a difference to residents for their health and wellbeing as they can avoid some of the traffic and pollution and enjoy the incredible biodiversity created by the planting done by ACA".

BSI Congress 2023 – Belfast

BSI Congress 2023 held in **Belfast** from the 4th – 7th **December** was a fantastic reunion of the immunology community and full of cutting-edge science, inspiring discussions, and lots of networking opportunities! As with previous years the Becker was well represented, with several of our PIs, Fellows, Postdocs and PhD students featured throughout:

The 'Bright Sparks in Immunology' sessions included talks from;

Dr Alice Costain - 'Tissue damage and microbiota modifications provoke intestinal Type 2 immunity during Schistosoma mansoni infection'

Dr Matthew Sinton – 'IL-17 signalling is critical for controlling subcutaneous adipose tissue dynamics and parasite burden during chronic Trypanosoma brucei infection' – *Matthew won* 1st *Prize for his talk*.



Dr Matthew Sinton

Dr Sabrina Tamburrano – 'Tim-4 defines a subset of brain CD163+ perivascular border-associated macrophages (BAM) poised to respond to systemic inflammatory signals'



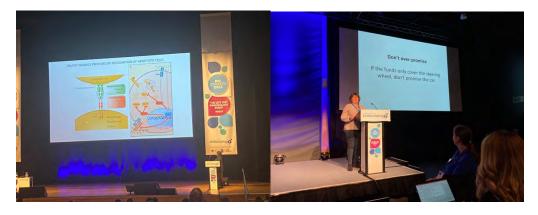
Dr Sabrina Tamburrano (Grainger Lab)

Professor Sheena Cruickshank chaired the Science and society: impact and inspiration through public engagement session.



Professor Sheena Cruickshank

BSI President and Becker Institute Director Professor Tracy Hussell gave a talk entitled 'Matrix, microbiome and macrophage collaboration in the lung post-inflammatory niche' during the Tissue-specific immune cell niches session and gave a talk at the 'Meet the Funders' session.



Professor Tracy Hussell

Dr Pedro Papotto gave a talk entitled 'Dermal $\gamma\delta$ T cells orchestrate the early IL-17-mediated neutrophilic response in the lungs during nematode infection' during the Helminth infections, type 2 immunity and immunomodulation session.



Professor Mark Travis and Dr Jo Konkel chaired the Immune modulation by the TGF β superfamily session and Dr Daniel Brice gave a talk entitled 'Genetic and inflammatory factors regulate monocyte expression of the TGF β -activating integrin $\alpha\nu\beta$ 8 in IBD'.



Professor Mark Travis and Dr Jo Konkel

Dr Matt Hepworth chaired the Innate lymphoid cells in health and disease session and PhD student Roser Tachó Piñot gave a talk entitled 'Bcl6 is a subset-defining transcription factor of LTi-like ILC3'



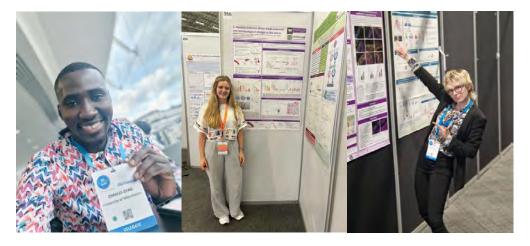
Roser Tachó Piñot (Hepworth Lab)

Newsletter

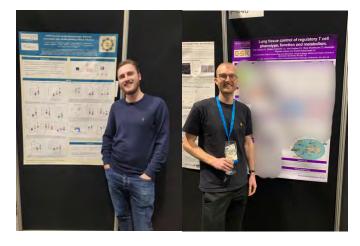
Dr Andy Greenhalgh chaired the New frontiers in neuroimmunology session.



Dr Andy Greenhalgh



Charles Gyasi (Grencis Lab), Olivia Shorthouse (MacDonald Lab), Erin Pallott (Grencis Lab)



Harry Deijnen (Grainger Lab), Ben Harrop (MacDonald Lab)

Geoffrey Jefferson Brain Research Centre showcase

The Jeff's inaugural showcase took place in January at The Hyatt Regency Manchester. The event was attended by over 150 delegates including academics, clinicians, students, people from industry, charities, and members of the public.

Professor Dame Nancy Rothwell opened the event which led on to an afternoon of talks from their brilliant researchers who described the work going on in the centre. Highlights included the exciting potential of graphene in biomedical applications including in glioblastoma, fresh approaches to drug discovery for brain haemorrhage, testing tears as a biomarker for brain cancer, and examples of research already making a difference to patients' lives. Ann Bamford, patient representative, gave an inspirational talk on the importance of involving patients in the research process.



The afternoon was brought to a close by celebrating the fundraisers who have raised **£17,800** over the last two years to support further research in brain conditions.

Poster prizes were awarded to two PhD students, first prize went to Olivia Jones for her project on imaging inflammation after stroke and second prize to Olivia Murray for her work on using brain imaging and AI to predict recovery after stroke.

Upcoming Seminars, Meetings and Events

BSI Neuroimmunology Symposium – 24th – 25th April

This is a two-day meeting organised by the <u>BSI Neuroimmunology Group</u>, to bring the UK field of neuroimmunology together to discuss diverse areas of neuroimmune research including brain injury, regeneration, peripheral neuroimmune mechanisms, neurodegenerative disease and CNS infection.

Dr Andy Greenhalgh and Dr Juan Quintana from the Becker are invited speakers and affiliated postdocs Dr Helen Parker and Dr Katy Dodd will be giving flash talks.

Visit the event page more information and to register.

Follow <u>@bsicongress</u> and <u>@BSI_neuroimmune</u> and check the event hashtag <u>#Neuroimmuno24</u> for updates.

Open Research Conference - 24th April

The conference brings together researchers from across the disciplines to explore the latest advances and to discuss important topical questions being posed by society around open research and integrity.

Book your tickets for the conference on Eventbrite

Keynote Speakers include:

<u>Professor Sarah de Rijcke</u>: Professor of Science, Technology and Innovation Studies at the Centre for Science and Technology Studies (CWTS) at Leiden University, advising on global science policy.

<u>Malvika Sharan</u>: Senior Researcher at The Alan Turing Institute, specialising in open research and community building. Co-founder of OLS (previously Open Life Science).

Who should attend?

Open to all University staff and PGRs and those working or connected to Open Research in the UK.

For more information about the Open Research Conference or Award please contact the Office for Open Research:

openresearch@manchester.ac.uk

MIG Seminar Series

The MIG seminar series for 23/24 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 the DIIIRM PS Team <u>diiirm@manchester.ac.uk</u> 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 <u>webpage</u>

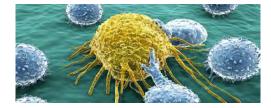
Becker Profiles

Find out more about the fantastic Research Fellows, Postdocs, Research Assistants, Technicians and PhD students affiliated with the Lydia Becker Institute by taking a look at our <u>'Becker Profiles</u>' series.

We have profiles on Dr Luke Roberts (Research Fellow - Lord Lab), Roser Tacho Pinot (PhD student - Hepworth Lab), Dr Grace Mallett (Postdoc - MacDonald Lab), Nabina Pun (PhD student - Dyer Lab), Brian Chan (Research Technician/Lab Manager -Allen Lab) and Irene Nambuya (Research Technician - MacDonald Lab).

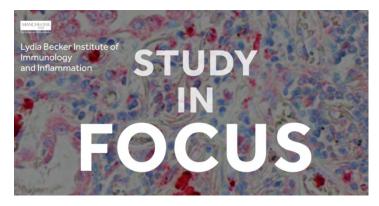
There are more profiles to come, so keep an eye on the website

Photos: Brian Chan





Study in Focus



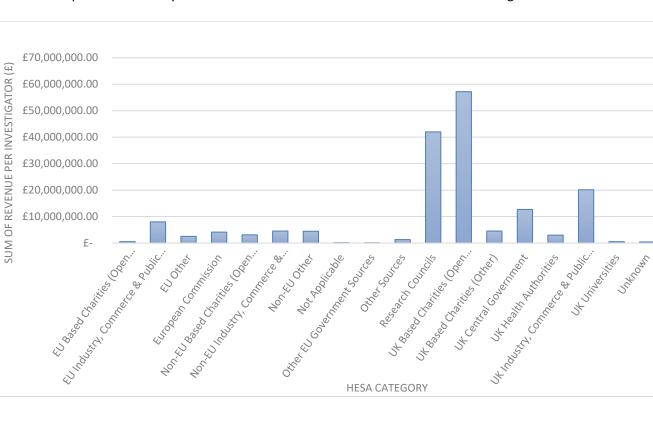
To take a closer look at the fascinating work conducted by Becker researchers and communicate this to a broader audience we have launched a series called '<u>Study in Focus</u>', where our researchers discuss a recent study conducted by their lab, provide an overview of the current research landscape and give their view on what the future might hold for further research and clinical treatments for patients.

In the <u>first entry</u> Dr Doug Dyer wrote about recent

work from his lab led by Dr Anna Gray on the importance of chemokines in recruiting immune cells into tissues to fight infections and how a greater understanding of this process could lead to treating disease in a revolutionary way.

The <u>second entry</u> written by Dr Elizabeth Mann and Dr Nicholas Scott looked at their study exploring the lingering effects of SARS-CoV-2 infection in patients experiencing Long COVID symptoms. Their research has uncovered unique immune signatures that define distinct subgroups of Long COVID patients, offering promising targets for the development of new drugs.

Grants



Since its inception PIs in the Lydia Becker Institute have been awarded over £147M in grants.

Publications

Selected publications from Lydia Becker Institute affiliates

January 2024

Hosseini-Ashrafi M, Clayton TH, Herring M, Herety N, Arkwright PD. Real world outcomes of children treated with dupilumab for moderate-to severe atopic dermatitis: A single centre retrospective observational UK study. Clin Exp Dermatol. 2024 Jan 8;. [Epub ahead of print] <u>https://doi.org/10.1093/ced/llae013</u>

Desmond LW, Holbrook EM, Wright CTO, Zambrano CA, Stamper CE, Bohr AD, Frank MG, Podell BK, Moreno JA, MacDonald AS, Reber SO, Hernández-Pando R, Lowry CA.

Effects of Mycobacterium vaccae NCTC 11659 and Lipopolysaccharide Challenge on Polarization of Murine BV-2 Microglial Cells.

Int J Mol Sci. 2023 Dec 29;25(1) https://doi.org/10.3390/ijms25010474

Worboys JD, Davis DM.

Do inhibitory receptors need to be proximal to stimulatory receptors to function? Genes Immun. 2024 Jan 12;. [Epub ahead of print] <u>https://doi.org/10.1038/s41435-023-00251-6</u>

Erxleben DA, Dodd RJ, Day AJ, Green DE, DeAngelis PL, Poddar S, Enghild JJ, Huebner JL, Kraus VB, Watkins AR, Reesink HL, Rahbar E, Hall AR.

Targeted Analysis of the Size Distribution of Heavy Chain-Modified Hyaluronan with Solid-State Nanopores. Anal Chem. 2024 Jan 12;. [Epub ahead of print] <u>https://doi.org/10.1021/acs.analchem.3c04387</u>

Tang F, Reeves SR, Brune JE, Chang MY, Chan CK, Waldron P, Drummond SP, Milner CM, Alonge KM, Garantziotis S, Day AJ, Altemeier WA, Frevert CW.

Inter-alpha-trypsin inhibitor (IαI) and hyaluronan modifications enhance the innate immune response to influenza virus in the lung

Matrix Biol. 2024 Jan 15;. [Epub ahead of print] https://doi.org/10.1016/j.matbio.2024.01.004

Dean I, Lee CYC, Tuong ZK, Li Z, Tibbitt CA, Willis C, Gaspal F, Kennedy BC, Matei-Rascu V, Fiancette R, Nordenvall C, Lindforss U, Baker SM, Stockmann C, Sexl V, Hammond SA, Dovedi SJ, Mjösberg J, Hepworth MR, Carlesso G, Clatworthy MR, Withers DR.

Rapid functional impairment of natural killer cells following tumor entry limits anti-tumor immunity. Nat Commun. 2024 Jan 24;15(1):683. <u>https://doi.org/10.1038/s41467-024-44789-z</u>

Paller AS, Siegfried EC, Cork MJ, Arkwright PD, Eichenfield LF, Ramien M, Khokhar FA, Chen Z, Zhang A, Cyr SL. Infections in Children Aged 6 Months to 5 Years Treated with Dupilumab in a Placebo-Controlled Clinical Trial of Moderate-to-Severe Atopic Dermatitis.

Paediatr Drugs. 2024 Jan 24;. [Epub ahead of print] https://doi.org/10.1007/s40272-023-00611-9

February 2024

Hendrick J, Ma JZ, Haughey HM, Coleman R, Nayak U, Kadl A, Sturek JM, Jackson P, Young MK, Allen JE, Petri WA. Pulmonary Function and Survival 1 Year After Dupilumab Treatment of Acute Moderate to Severe Coronavirus Disease 2019: A Follow-up Study From a Phase 2a Trial.

Open Forum Infect Dis. 2024 Feb;11(2):ofad630. https://doi.org/10.1093/ofid/ofad630

Electrical Impedance Spectroscopy with Bacterial Biofilms: Neuronal-like Behavior. Nano Lett. 2024 Feb 6;. [Epub ahead of print] <u>https://doi.org/10.1021/acs.nanolett.3c04446</u>

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