

## HARNESSING IMMUNE COMPLEXITY

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### End

## Director's Update

Since our December newsletter steady progress has been made in returning to a working environment like pre-pandemic times. The pandemic has shown that it is not always necessary to commute to work if the result is to sit at a computer and hybrid working is proving to be a more flexible, environmental, and family friendly option and no doubt improves mental health. Still, it is nice to see the buzz returning at work and being able to catch up face to face with colleagues after such a long time and I thank everyone for their efforts in doing so safely.



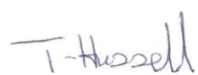
To celebrate the return of in-person interactions, the Lydia Becker Institute will be hosting a symposium at the Whitworth Art Gallery on the 7<sup>th</sup> June 2022. In addition to talks and poster presentations, author Joanna M. Williams will be delivering a presentation on her research on our namesake; Lydia Becker, followed by a book signing session of her recently published book 'The Great Miss Lydia Becker'. You will also hear from Professor Kathryn Else who is the lead for our new Ecological Immunology and Context Specific Immunology branch, which draws out our expertise on tissue specific immunity into the natural environment. A very exciting and relevant research area indeed and I look forward to the myriad of immunological collaborations this new branch will create!

Congratulations again to Dr Nicholas Barnes, who won the British Society of Immunology's Immunology Teaching Excellence Award 2021. He has kindly participated in a special feature for this issue which I am sure you will enjoy reading as well as the usual updates.

I am also excited to announce that the British Society for Immunology elections are now open and I am in the running for President! Dr Madhvi Menon is also up for election as the England Rep. Voting closes on Friday 6<sup>th</sup> May so please do vote if you are a BSI member and help shape the future of Immunology.

Finally, as we enjoy the milder spring weather and lighter nights, I will take this opportunity to wish everyone a peaceful break over the April/May bank holidays, good health and continued wellbeing.

Best wishes,

A handwritten signature in purple ink that reads 'T-Hussell'.

**Professor Tracy Hussell.**

## Bill Ford Friday (BFF) Forum

In honour of Professor Ford the Bill Ford Chair of Cellular Immunology was created at the University, which 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 these were held on Fridays – so it is only fitting that the new forum for scientific discussions on anything immunological is named after him – the Bill Ford Friday (BFF) forum. The group meet every other Friday at 4 pm (under review) in the AV Hill Atrium.

Previous discussions have ranged from what are the next emerging fields in immunology, global health opportunities in Manchester and of course COVID19. If anyone would like to join, please contact Lisa O'Neill [lisa.oneill@manchester.ac.uk](mailto:lisa.oneill@manchester.ac.uk) who can add you to the BFF group and assist.



## Congratulations

### Inaugural Lectures

Congratulations to our Immunology fellows on their Inaugural Fellowship lectures. On **Monday 14<sup>th</sup> March** Dr Andrew Greenhalgh (BBSRC Discovery Fellow) talked on 'The Neuroimmunology of Concussion' (recording available at <https://video.manchester.ac.uk/lectures/>) and on **March 23<sup>rd</sup> 2022**, Dr Douglas Dyer (Presidential Fellow / Wellcome Trust Sir Henry Dale Fellow) talked on 'Chemokine and extracellular matrix collaboration in immune cell recruitment' (recording available at <https://video.manchester.ac.uk/lectures/>)

On **Wednesday 4<sup>th</sup> May**, from 4pm, Professor Alex Horsley and Professor Clare Murray will be giving their Inaugural lectures. Please register to attend via [Eventbrite](https://eventbrite.com)

**Wednesday 11<sup>th</sup> May**, Dr Madhvi Menon will be presenting her lecture, titled 'Aberrant B cell responses in respiratory disorders' from 12.00 noon in the Michael Smith Lecture Theatre. Tickets available via [Eventbrite](https://eventbrite.com)

### Congratulations – PhDs

Congratulations to Barbora Salcman (Bulfone-Paus Lab) for passing her PhD viva on 23rd March with minor corrections only. Professor Tracy Hussell and Dr Karen Affleck (GSK) were co-supervisors. Dr Joanne Pennock and Professor Carlo Pucillo (external) examiners.

### Grant Success

Congratulations to everyone who has recently been successful in securing project funding.

Professor Anna Nicolaou and her project team Dr Alex Kendall (SHS), Prof Rachel Watson (SBS), Dr Suzy Pilkington (SBS) and Dr Mark Hann (SBS), and the industrial partner Wallgreens Boots Alliance (WBA) secured an £ 840,642 BBSRC IPA (Industrial Partnership Award) grant for over 3 years; 'Exploring interventions to maintain and prolong healthy skin function for an ageing population'

Further details on the research can be located here: <https://blogs.bmh.manchester.ac.uk/blog/2022/04/11/shs-grant-successes-march-2022/>

[www.manchester.ac.uk/lydia-becker-institute](http://www.manchester.ac.uk/lydia-becker-institute)

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## Inflammatory Remarks Seminar



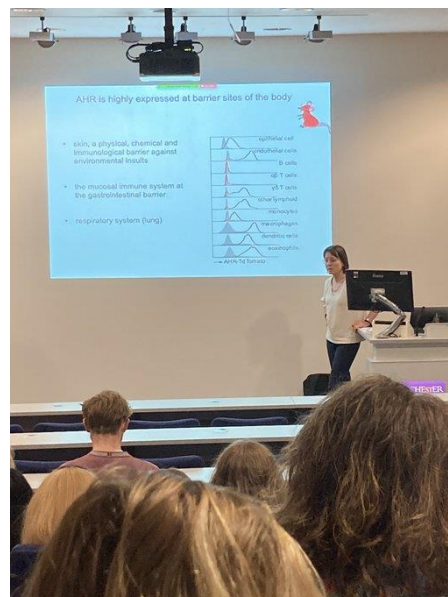
For our first British Society of Immunology (BSI) and Lydia Becker sponsored **"Inflammatory Remarks"** seminar of the academic year, we welcomed **Dr Brigitta 'Gitta' Stockinger** from the Francis Crick Institute in London.

Gitta's talk was titled *'Environmental influences on regeneration of intestinal epithelium'* and held on March 17<sup>th</sup> 12.00 pm at the Michael Smith Theatre/Zoom.

Prof. Stockinger has made seminal discoveries in our understanding of immune cell function and inflammation within the gastrointestinal tract, with key contributions to the early discovery of specialised immune cells - called Th17 cells - that respond to the commensal microbiota within the gut to maintain tissue health, but which can also become dysregulated and drive disease and inflammation, as seen in patients with Inflammatory Bowel Disease.

In the seminar, Prof. Stockinger detailed recent work in another area their lab has pioneered - the role of dietary and microbial derived metabolites that directly act on a receptor known as the Aryl Hydrocarbon Receptor (AHR) that is widely expressed in the epithelium and immune cell compartment of the gut. These metabolites act to maintain normal healthy function within the epithelial lining of the intestine, to prevent inflammation but also to promote wound repair following tissue damage. Together the work presented outlined how mammals and many other species have co-evolved to have a reciprocal mutualistic relationship between the host and the commensal microbiota, as well as to sense and respond to the diet, in order to maintain tissue health at sites exposed to the external environment, such as the gut.

Thank you to everyone that came along or attended via Zoom on the day.



## Invited Seminars and Events

### New Scientist Live



Professor Dan Davis presented at the New Scientist Live event on the 13<sup>th</sup> March where he spoke about his latest book 'The Secret Body' and how breakthroughs in the understanding of the human body will profoundly change over the coming century due to scientific collaborations and new technologies.



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### Kennedy Alumnus Network Launch

Professor Tracy Hussell gave the Keynote speech for the Kennedy Alumnus Network Launch Event which was held on the 17<sup>th</sup> and 18<sup>th</sup> March in Birmingham. She encourage all in attendance talking about her own early career life and path into immunology.

### Mary Lyons Centre Workshop

On March 9-10<sup>th</sup> Melissa Lawson (Grencis Lab) organized and ran a very successful two - day workshop entitled 'Establishing and Maintaining a Mouse Germ-Free Facility Workshop' at the Mary Lyons Centre (MLC), Harwell.

This workshop was the first of its kind and was organized under the auspices of the UKRI MRC National Mouse Genetics Network Cluster award "*Microbiome - Mouse genetic models of barrier immunity dysfunction: Role of the microbiome in modifying disease phenotype*" with attendees from Cambridge, Oxford, the MLC and Germany.

The workshop included presentations and hands-on practical sessions, including some led by UoM members including Seona Thompson and BSF staff members Vicky Taylor and Hayley Jenkins. Keynote talks were given by Fiona Powrie (Oxford, Kennedy Institute) and Jorum Kirundi (University of Bern).

Due to the high success from this first workshop, plans are to run the workshop again in Manchester in 2023.



## Upcoming Seminars, Meetings and Events

### Lydia Becker Symposium

The Lydia Becker Institute is hosting a special symposium on Tuesday June 7<sup>th</sup> 2021 in the beautiful surroundings of the Whitworth Gallery. The half day event will be held in the afternoon and consist of poster sessions, guest speakers; most notably Joanna Williams who has recently published a biography on the late, great, Lydia Becker herself, and conclude with a drinks reception. Places are limited however registration and details will advertised in due course. We look forward to seeing you there for an exciting afternoon of science immunology!

### Early Career Researcher Cancer Immunotherapy Meeting - 28 April

Dr Santiago Zelaney will be one of the Keynote speakers at the second Cancer Immunotherapy Early Career Researcher Event. The event offers a platform to young scientists to present their work to an international audience and help boost their visibility while presenting alongside leaders in their field. You can find further details and how to register [here](#)

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## MIG Seminar Series

The MIG seminar series is well underway with a variety of internationally renowned speakers. The seminars are hybrid and details are circulated weekly. Please contact Matt Hepworth [matthew.hepworth@manchester.ac.uk](mailto:matthew.hepworth@manchester.ac.uk) or Laura Ball [laura.ball@manchester.ac.uk](mailto:laura.ball@manchester.ac.uk) should you not receive the email with the details.



Lydia Becker Institute of  
Immunology and Inflammation

## Greater Manchester Immunology Group Seminar Series 2021-2022

*All seminars at 12-1pm unless otherwise stated*

Contact: [matthew.hepworth@manchester.ac.uk](mailto:matthew.hepworth@manchester.ac.uk), [john.soffe@manchester.ac.uk](mailto:john.soffe@manchester.ac.uk)

Date	Speaker	Notes
20/01/22	Rebecca Gentek (Edinburgh)	Smith lecture theatre
17/02/22	Christoph Scheiermann (Munich)	Smith lecture theatre
03/03/22	Adrian Liston (Babraham)	Smith lecture theatre
10/03/22	Sander van Kasteren (Leiden)	Smith lecture theatre
17/03/22	Gitta Stockinger (Crick)	Smith lecture theatre
24/03/22	Virginia Pedicord (Cambridge)	Smith lecture theatre
31/03/22	Robert Salmond (Leeds)	Smith lecture theatre
07/04/22	Jen Gommerman (Toronto)	Smith lecture theatre
14/04/22	Mark Wilson (Genentech, San Fran)	Smith lecture theatre
21/04/22	Rebecca Drummond (Birmingham)	Smith lecture theatre
28/04/22	Elaine Emmerson (Edinburgh)	Smith lecture theatre
05/05/22	Franze Prokatzky (Crick)	Smith lecture theatre
12/05/22	David Loane (Dublin)	Smith lecture theatre
19/05/22	Tal Arnon (Oxford)	Smith lecture theatre

## MION Network meeting

### Manchester Immuno-Oncology Network (MION)



We are pleased to announce the agenda for the next Manchester Immuno-Oncology Network (MION)

meeting, taking place on Tuesday 10<sup>th</sup> May 2022 at 2.30pm. The theme will be 'Beyond T-Cell Immunity'. The event will be held in the Manchester Cancer Research Centre (Oglesby) lecture theatre. Refreshments will be provided from 2.30-3pm and the main meeting will take place from 3-5.05pm.

Register your place on [Eventbrite](https://www.eventbrite.com) today!

[www.manchester.ac.uk/lydia-becker-institute](http://www.manchester.ac.uk/lydia-becker-institute)

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### Pint of Science

The Pint of Science Festival 2022 will take place between the 9<sup>th</sup>- 11<sup>th</sup> May at various locations around Manchester.

Pint of Science is a worldwide science festival which brings researchers to your local pub/cafe/space to share their scientific discoveries with you.

Highlights include:

- [‘Our Society’](#) – to be held at the Open Kitchen at The Peoples History Museum and will include talks from:
  - Stephanie Gillibrand - Inequalities in the Covid-19 vaccine programme: evidence from Greater Manchester
  - Dr Allison Bancroft - Vaccine Development for Neglected Tropical Diseases
  - Professor James Nazroo - Ethnic/race inequalities in health: moving beyond confusion to focus on fundamental causes
- [‘Becoming the Matrix’ evening](#) – to be held at the Nip and Tipple, 197 Upper Chorlton Road:
  - hosted by Prof Christoph Ballestrem from the Division of Cell Matrix Biology & Regenerative Medicine
  - A talk from Dr Joan Chang - Entering the Matrix - what, how, and why?
  - Becoming the Matrix T-shirt Printing Workshop – with Artist Sally Gilford



There are **over 20+ exciting events** taking place as part of the festival - so you'll be sure to find something of interest!

For more information and to get tickets please visit: <https://pintofscience.co.uk/events/manchester>

### GM Connected Health Ecosystem: Deep dive into the GM Care Record – connecting health and care across GM



Professor Andy Brass and his immune-informatics team have been heavily involved in the GM Care Record project and confirm that the next Connected Health Ecosystem meeting will be held virtually on Tuesday 26 April 2022, 13.00 - 15.00.

Health and care organisations across Greater Manchester have accelerated the deployment of the GM Care Record for all 2.8m citizens to provide frontline professionals with vital information in the fight against COVID-19.

This event brings together different perspectives from clinical, academia, industry and the GM health and care system to showcase the work that has gone in to creating the GM Care Record and the benefits this will bring to the care and treatment of the citizens of Greater Manchester in future.

[Registration for the Connected Health Ecosystem is now open – tickets are limited, so we recommend securing your place now.](#)

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### 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](#)

## Teaching in the Becker



The Lydia Becker Institute is proud to be host to a diverse range of immunology associates across the University and in this edition we put the spotlight on Dr Nicholas Barnes, Lecturer in Healthcare Science (Clinical Immunology) FBMH, who recently won the [BSI](#) Immunology Teaching Excellence Award 2021. This prestigious award is presented annually by the Society to recognise an exceptional immunology teacher working in a higher education institute in the UK. The BSI highlighted Dr Barnes' innovative approach to teaching via his work with UK NEQAS to pilot the use of a web-based resource of patient cases (interpretative EQA scheme) which allowed students to develop their skills in an interactive/safe environment. Professor Hussell praised Dr Barnes achievement stating how, *"It couldn't be a more important time to train the next generation in Immunology"*.

**Dr Nicholas Barnes**

Here we ask Dr Barnes what the award means to him and why these awards are important in the world of immunology teaching, plus, what is to follow from such an achievement.

### ***How would you describe the impact of receiving such a prestigious award and what does it mean to you?***

Most importantly, it tells me that we currently have a good approach to teaching immunology in Manchester. We have two distinct student cohorts studying MSc Clinical Immunology: trainee Clinical Scientists working full-time in NHS diagnostic laboratories who take the course part-time over 3 years, and students with an interest in Clinical Immunology who study full-time over 1 year. Balancing their respective expectations and needs is a delicate task, and I was fortunate enough to be nominated independently to the BSI by students in each cohort. We know that our postgraduate students in particular have chosen to specialise in immunology and choose Manchester because of its reputation in immunology research, frequently acknowledge the Lydia Becker Institute in their applications; they're keen to learn from us and it's good to know that we are meeting their expectations once they are here studying with us. This is why we value the cooperation of so many investigators in the Institute who agree to supervise MSc students' research projects. Hopefully it will encourage more high-quality applications to the full-time MSc in the years to come and a renewal of our tender to be the sole provider of teaching to NHS trainee clinical scientists.

### ***How long have you been teaching and how has it changed for you over the years?***

Like most scientists I first taught whilst I was a PhD student in Lancaster by demonstrating in laboratory classes and I was given the opportunity to lead one when my supervisor was on sabbatical, and I supervised many undergraduate projects as a PhD student and post-doc. I also examined for an A-Level board to help make ends meet when stipends and early career salaries were not as good as they are now. I often didn't really see these as teaching and assessment, even though I now realise they all formed part of my developing my teaching skills. I continued to pick up bits and pieces as opportunities came up before I moved into a full-time teaching role in 2017. I am now the academic lead for the national Clinical Immunology and Histocompatibility & Immunogenetics (Transplant Immunology) pathways on the NHS Clinical Scientist Training Programme, and I co-direct MSc Clinical Immunology with Dr Jo Pennock, which is proving to be increasingly popular with applicants.



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As for changes, there is a clear drive to move away from pure knowledge and understanding towards making learning much more applied and scenario-based, making sure students have a suite of translational skills that are more applicable to the workplace when they graduate. This is where the clinical cases online portal comes in that we have been using in partnership with IMMQAS – the national external quality assurance provider for NHS Immunology laboratories. This has been really useful to train students in how immunological biomarkers are used in a practical setting and how to integrate other clinical and laboratory parameters to interpret the results and achieve a clinical diagnosis. We are currently writing up our evaluation of using this tool in a higher education setting for the first time. In a similar vein, assessment has to match this purpose and we no longer examine using essays. Instead we use assessments that evaluate a student's ability to evaluate and interpret clinical scenarios and data. Our MSc students write up their research project as a manuscript for their dissertation, which is a skill that is much more applicable to their future roles and even at MSc level several of our students have been successful in getting published.

### ***What has been the biggest challenge in your career so far?***

Putting the delivery challenges posed by COVID aside, making career-changing decisions and hoping you are making the right choice is always a challenge. I've worked in academic research, NHS diagnostic laboratories and returned back to academia to teach and each time I've moved on, I've wondered if I'm making the right choice to change roles. You have to place the trust in yourself that you're moving on to new opportunities. Moving away from day-to-day laboratory work was the most challenging decision to make, but I've been able to use my experiences to steer the MSc content and build a whole new network with the interactions I now have with NHS laboratories across the UK.

### ***What is next for you?***

There are some big changes to address in the near future. Firstly, we have just been through an extensive curriculum review with Health Education England for our NHS students studying Clinical Immunology and Histocompatibility & Immunogenetics (Transplant Immunology), which we now need to apply over the next 3 years. We will have lots of opportunities for immunologists at the Institute to be involved here. Secondly, the format of teaching in higher education has undergone rapid enforced change over the last couple of years and whilst there is still a need to enhance our students' knowledge, the days of students sitting in live lectures that can instead be recorded and watched at a more convenient time are over. We now need to take the best of the adaptations that we made during the pandemic and make sure that we are bringing students onto campus or live online sessions for meaningful interactions with both their lecturers and their fellow students in sessions where they can apply their pre-session learning. Finally, I'm hopeful that our online self-directed resources that are being developed will also open up opportunities for us to make postgraduate qualifications more widely accessible to NHS scientists who are not on graduate training schemes but need these qualifications to progress in their careers.

### ***What is the best advice you have been given?***

Do the things you enjoy doing and are good at. You will always gravitate towards them, put in more effort and naturally do a better job of them.

### ***What do you enjoy doing outside of teaching?***

I like to orienteer – a good nerdy sport suitable for a scientist (think cunning running). Although that's definitely taken a backseat since my son was born last year.....

### ***Any tips for a successful teaching career?***

I'd recommend two general tips for finding out about any career role: (i) talk to someone who already does it, and (ii) get experience where you can, because you need to know what you're getting involved in. More specifically for

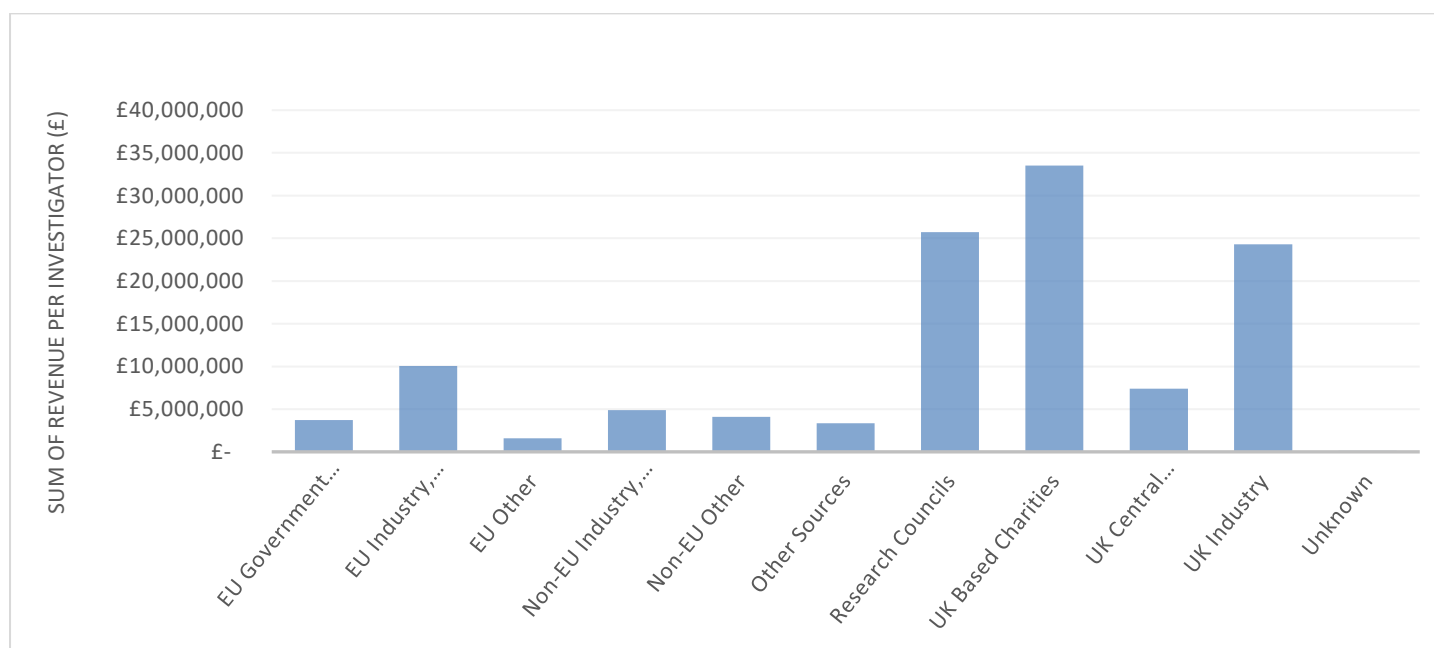
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teaching you should map what you are already doing and see how your skills translate across to teaching, for example: supervising project and PhD students, sharing techniques with peers, enthusing your audience at public engagement events and delivering presentations. Many opportunities to get involved are advertised on the FBMH Teaching Opportunities website, or ask more informally via your PI – do they run a tutorial group where you could facilitate a session? Everyone who teaches should also reflect on their own practice and its effectiveness, and look at getting recognition through the Higher Education Academy fellowships that have various levels of commitment and can be achieved through the LEAP programme run by the Faculty's Centre for Academic and Researcher Development (CARD).

End of interview.

## Grants

Since inception PIs in the Lydia Becker Institute have been awarded over £118M in grants.



## Publications

Below are the papers published since our December 2021 newsletter.

### January 2022

Tamburrano S, Rhodes S, Mosneag IE, Roberts L, Hurry MED, Grainger JR, Shaw TN, Smith CJ, Allan SM.

Do Concentration or Activity of Selenoproteins Change in Acute Stroke Patients? A Systematic Review and Meta-Analyses.

Cerebrovasc Dis. 2022 Jan 4;:1-12. <https://doi.org/10.1159/000520856>

Arkwright PD, Koplin JJ.

Striving for Evidence-Based Management of Food Allergies.

J Allergy Clin Immunol Pract. 2022 Jan;10(1):56-58. <https://doi.org/10.1016/j.jaip.2021.09.040>

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Bain CC, MacDonald AS.

The impact of the lung environment on macrophage development, activation and function: diversity in the face of adversity. *Mucosal Immunol.* 2022 Jan 11;. DOI: [10.1038/s41385-021-00480-w](https://doi.org/10.1038/s41385-021-00480-w)

Tuomela K, Mukherjee D, Ambrose AR, Harikrishnan A, Mole H, Hurlstone A, Onfelt B, Honeychurch J, Davis DM. Radiotherapy transiently reduces the sensitivity of cancer cells to lymphocyte cytotoxicity.

*Proc Natl Acad Sci U S A.* 2022 Jan 18;119(3). DOI: [10.1073/pnas.2111900119](https://doi.org/10.1073/pnas.2111900119)

Rane SS, Dearman RJ, Kimber I, Derrick JP.

Adaptation of an ELISA assay for detection of IgG<sub>2a</sub> responses against therapeutic monoclonal antibodies in a mouse immunization model.

*J Immunotoxicol.* 2022 Jan 25(1):1-7. <https://doi.org/10.1080/1547691x.2021.2020937>

Davis DMR, Drucker AM, Alikhan A, Bercovitch L, Cohen DE, Darr JM, Eichenfield LF, Frazer-Green L, Paller AS, Silverberg JL, Singh AM, Sidbury R.

AAD Guidelines: awareness of comorbidities associated with atopic dermatitis in adults.

*J Am Acad Dermatol.* 2022 Jan 24;. DOI: [10.1016/j.jaad.2022.01.009](https://doi.org/10.1016/j.jaad.2022.01.009)

Lo JW, de Mucha MV, Henderson S, Roberts LB, Constable LE, Garrido-Mesa N, Hertweck A, Stolarczyk E, Houlder EL, Jackson I, MacDonald AS, Powell N, Neves JF, Howard JK, Jenner RG, Lord GM.

A population of naive-like CD4<sup>+</sup> T cells stably polarized to the T<sub>H</sub>1 lineage

*Eur J Immunol.* 2022 Jan 28;. DOI: [10.1002/eji.202149228](https://doi.org/10.1002/eji.202149228)

Else KJ, Gibbs JE.

Editorial: Parasites- the importance of time.

*Parasite Immunol.* 2022 Jan 28;. DOI: [10.1111/pim.12906](https://doi.org/10.1111/pim.12906)

### February 2022

Hoyle C, Green JP, Allan SM, Brough D, Lemarchand E.

Itaconate and fumarate derivatives inhibit priming and activation of the canonical NLRP3 inflammasome in macrophages.

*Immunology.* 2022 Feb 9;. <https://doi.org/10.1111/imm.13454>

Cook JR, Gray AL, Lemarchand E, Schiessl I, Green JP, Newland MC, Dyer DP, Brough D, Lawrence CB.

LRRC8A is dispensable for a variety of microglial functions and response to acute stroke.

*Glia.* 2022 Feb 12;. <https://doi.org/10.1002/glia.24156>

Hannan CJ, Lewis D, O'Leary C, Donofrio CA, Evans DG, Stapleton E, Freeman SR, Lloyd SK, Rutherford SA, Hammerbeck-Ward C, Brough D, Allan SM, Coope D, King AT, Pathmanaban ON.

Beyond Antoni: A Surgeon's Guide to the Vestibular Schwannoma Microenvironment.

*J Neurol Surg B Skull Base.* 2022 Feb;83(1):1-10. <https://doi.org/10.1055/s-0040-1716688>

Loret T, de Luna LAV, Fordham A, Arshad A, Barr K, Lozano N, Kostarelos K, Bussy C.

Innate but Not Adaptive Immunity Regulates Lung Recovery from Chronic Exposure to Graphene Oxide Nanosheets.

*Adv Sci (Weinh).* 2022 Feb 15;. DOI: <https://doi.org/10.1002/adv.202104559>

Scott NA, Lawson MAE, Hodgetts RJ, Le Gall G, Hall LJ, Mann ER.

Macrophage metabolism in the intestine is compartment-specific and regulated by the microbiota.

*Immunology.* 2022 Feb 24;. <https://doi.org/10.1111/imm.13461>

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Lodhi S, Stone JP, Entwistle TR, Fildes JE.

The Use of Hemoglobin-Based Oxygen Carriers in Ex Vivo Machine Perfusion of Donor Organs for Transplantation.  
ASAIO J. 2022 Feb 24;. <https://doi.org/10.1097/mat.0000000000001597>

### March 2022

Marsay L, Dold C, Paterson GK, Yamaguchi Y, Derrick JP, Chan H, Feavers IM, Maiden MCJ, Wyllie D, Hill AV, Pollard AJ, Rollier CS.

Viral Vectors Expressing Group B Meningococcal Outer Membrane Proteins Induce Strong Antibody Responses but Fail to Induce Functional Bactericidal Activity in Mice.

J Infect. 2022 Mar 1;. <https://doi.org/10.1016/j.jinf.2022.02.032>

Hulme H, Meikle LM, Strittmatter N, Swales J, Hamm G, Brown SL, Milling S, MacDonald AS, Goodwin RJA, Burchmore R, Wall DM.

Mapping the Influence of the Gut Microbiota on Small Molecules across the Microbiome Gut Brain Axis.  
J Am Soc Mass Spectrom. 2022 Mar 9;. <https://doi.org/10.1021/jasms.1c00298>

Wemyss K, Konkel JE.

Gingival monocytes: Lessons from other barriers

Int J Biochem Cell Biol. 2022 Mar 8;.106194. <https://doi.org/10.1016/j.biocel.2022.106194>

Drinkall S, Lawrence CB, Ossola B, Russell S, Bender C, Brice NB, Dawson LA, Harte M, Brough D.

The two pore potassium channel THIK-1 regulates NLRP3 inflammasome activation.

Glia. 2022 Mar 30;. <https://doi.org/10.1002/glia.24174>

### April 2022

Duque-Correa MA, Goulding D, Rodgers FH, Gillis JA, Cormie C, Rawlinson KA, Bancroft AJ, Bennett HM, Lotkowska ME, Reid AJ, Speak AO, Scott P, Redshaw N, Tolley C, McCarthy C, Brandt C, Sharpe C, Ridley C, Moya JG, Carneiro CM, Starborg T, Hayes KS, Holroyd N, Sanders M, Thornton DJ, Grecis RK, Berriman M.

Defining the early stages of intestinal colonisation by whipworms.

Nat Commun. 2022 Apr 1;13(1):1725. <https://doi.org/10.1038/s41467-022-29334-0>

Ajendra J, Allen JE.

Neutrophils: Friend or Foe in Filariasis?

Parasite Immunol. 2022 Apr 4;.e12918. <https://doi.org/10.1111/pim.12918>

Sutcliffe M, Nair N, Oliver J, Morgan AW, Isaacs JD, Wilson AG, Verstappen SMM, Viatte S, Hyrich KL, Morris AP, Barton A, Plant D.

Pre-defined gene co-expression modules in rheumatoid arthritis transition towards molecular health following anti-TNF therapy.

Rheumatology (Oxford). 2022 Apr 4;. <https://doi.org/10.1093/rheumatology/keac204>

Robinson PC, Liew DFL, Tanner HL, Grainger JR, Dwek RA, Reisler RB, Steinman L, Feldmann M, Ho LP, Hussell T, Moss P, Richards D, Zitzmann N.

COVID-19 therapeutics: Challenges and directions for the future.

Proc Natl Acad Sci U S A. 2022 Apr 12;119(15):e2119893119. <https://doi.org/10.1073/pnas.2119893119>

Withers DR, Hepworth MR.

ILC killer: Qu'est-ce que c'est?

Sci Immunol. 2022 Apr 8;7(70):eabo2159. <https://doi.org/10.1126/sciimmunol.abo2159>



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