Immunology News

September 2026 | ISSN 1356-5559

Immunology for life:

supporting our community to thrive

Immune ageing
Our latest report

AI in immunology
How new technologies will transform the field

Journals metrics
Celebrating our growing impact

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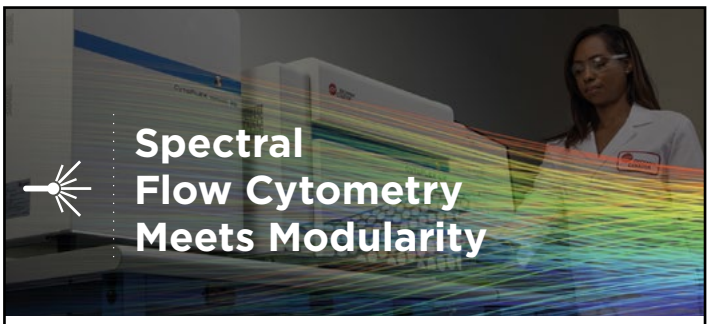

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Welcome to the autumn issue of *Immunology News*!

With BSI Congress and the BSI-CIPN Conference on the horizon, we're looking forward to bringing the immunology community together once again to reconnect, share advances and create new connections. The run up to our winter events is always an exciting one, and I'm always inspired by the new innovations taking place with immunology at the heart.

This issue focuses on the evolving nature of immunology – as both a sector and a biological system. You'll see all the key points from our latest policy report 'Immunity for Life: making immune health central to UK ageing policy' on page 20, and on pages 23 and 24, we reflect on our mentoring scheme and the most recent round of training dedicated to developing the next generation of immunology leaders.

I'd also encourage you to turn to page 18 to find out about Dr James Pearson's public engagement activity for young people with Type 1 Diabetes – this is an excellent example of how BSI Communication and Engagement Grants can be used to make immunology accessible.

As always, enjoy our usual range of articles on BSI activities, events, professional development opportunities and updates from our journals. See you in the next issue!

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Registered charity 1043255 in England and Wales/SCD047367 in Scotland. Registered in England and Wales as company 3005933.

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VIEW FROM …

THE CHIEF EXECUTIVE

Welcome to the autumn issue of *Immunology News*! It feels like the summer has flown by and I hope you have enjoyed the longer days and the sunshine, although perhaps it's been a little too hot at times! There's a real sense of a new season getting underway at the BSI, with plenty of opportunities for members to look forward to over the coming months. We've been working hard over the summer to develop a range of training, networking and professional development opportunities designed to support you at every stage of your immunology career.

Supporting the development of immunologists remains at the heart of what we do, and our training and professional development team is continually reviewing existing programmes and working with members to identify new opportunities. It will probably come as no surprise that many members have told us they want practical support to understand and use artificial intelligence (AI) in their research. The potential of AI to transform, streamline and uncover new insights in the biosciences is vast, but knowing where to start in applying this technology can seem daunting. We're very excited to launch our new AI training course. What makes this training particularly valuable is that it has been developed by immunologists for immunologists, combining practical AI skills with real biological research challenges. If you are interested in exploring how AI could support your research, turn to page 14 to find out more and register your place[GB1.1].

We've also made an exciting enhancement to our highly rated bioinformatics training. In response to feedback, all modules are now available in a self-paced format, making it easier to fit learning around your research and other commitments. You will still receive the same high-quality content and opportunities to connect with our expert course leaders, but with the flexibility to learn when it suits you. Whether you're new to bioinformatics or looking to refresh your skills, I really encourage you to explore the available modules.

Also worth celebrating is the growing impact of the BSI journals portfolio. Each June, Clarivate, the analytics company behind journal Impact Factors, releases its annual metrics, and we were delighted to see strong scores for both *Clinical & Experimental Immunology* and *Immunotherapy Advances*. We've included a full breakdown of all the significant metrics for our journals portfolio on pages 6–7, but I wanted to take this opportunity to thank our Editors-in-Chief, editorial boards, reviewers and authors for their stellar work. Please consider publishing your latest work in our journals. Every paper published contributes directly to the training, events, grants and professional development opportunities we provide for the immunology community through reinvestment of all journal revenue.

And finally, I wanted to thank everyone who has submitted an abstract to present their work at BSI Congress and the BSI-CIPN Conference in Glasgow this year. The breadth, quality and innovation of research submitted was truly impressive, and I'm very much looking forward to seeing many of you in a few months' time. If you're attending this year, or thinking about joining us, do check out pages 8–9 for BSI Congress and 12 for the BSI-CIPN Conference for some ideas of what to look forward to. The countdown is on, and the BSI staff team, Congress Committee and BSI-CIPN Steering Group are all working hard to make sure this will be a year to remember!

Thank you for your continued support. I hope this issue inspires you to make the most of the opportunities available through your BSI membership, and I look forward to connecting with many of you in the months ahead.

Graham Blair
Chief Executive,
British Society for Immunology
Email: g.blair@immunology.org

BSI JOURNALS PORTFOLIO

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SOCIETY NEWS

Government changes to science and research: the impact on immunology

The government has **announced significant changes** to the organisation of science, research, and technology across Whitehall. These changes are significant to BSI members because decisions about departmental responsibilities, research funding, and long-term Research and Development (R&D) strategy are likely to shape the environment in which immunology research takes place.

The Department for Science, Innovation and Technology (DSIT) is being disbanded, with its **responsibilities divided between several parts of government**. While the broad direction of the machinery-of-government changes is now clearer, further detail will be needed to understand how they will operate in practice.

Responsibility for science and innovation will move into the Department for Business and Trade, which will become the Department for Business, Innovation, Science and Trade (BIST). Led by Jonathan Reynolds MP, the justification for this change is that the new department will bring the UK's science and research base more closely together with business policy, industrial strategy, commercialisation, and job creation. Lord Patrick Vallance has left his role as Science Minister and has since been appointed Chair of the new Prime Ministerial AI Taskforce, reporting directly to the Prime Minister. Several junior ministers have now been appointed to BIST, although their specific portfolios have not yet been confirmed. It therefore remains unclear which minister will hold responsibility for UK Research and Innovation (UKRI).

Artificial intelligence strategy, public sector AI adoption, and the AI Security Institute will move to the Cabinet Office. A new AI Taskforce will sit within the Office for the Prime Minister and the Cabinet, while Kanishka Narayan MP has been appointed Minister for Artificial Intelligence and will attend Cabinet. Other digital responsibilities, including digital transformation, inclusion and skills, information resilience and online harms, will transfer to an expanded Department for Digital, Culture, Media and Sport.

Bringing science and business policy together could provide opportunities for stronger links between research, innovation, commercialisation and the government's wider economic strategy. However, the scale of the change means it will be important to understand how the new arrangements protect the full breadth of the research system, including fundamental discovery science as well as translational and applied research. Further clarity will be needed on the future oversight of UK Research and Innovation, research funding decisions and long-term R&D strategy.

The Campaign for Science and Engineering (CaSE) has **welcomed the potential** for closer alignment between research and economic policy, while emphasising the importance of supporting the whole R&D system, maintaining stable long-term investment and protecting curiosity-led and discovery research within the larger department. These points are particularly relevant to immunology, where progress often depends on sustained support across the pathway from fundamental research to clinical and public health impact.

The BSI is monitoring these developments closely. Through the BSI's partnership work with organisations including CaSE, the Association of Medical Research Charities and the Royal College of Pathologists, we are sharing intelligence and coordinating with organisations across the research and health sectors. These relationships help us to ensure that the interests of immunology and our members are represented as the new government develops its approach to science, research and innovation. As the new arrangements take shape, collaboration between researchers, funders, learned societies, charities, industry and government will be essential to ensuring the UK research system continues to support both discovery science and innovation.

SOCIETY NEWS

Celebrating the success of BSI journals 2025 metrics

Each year, the release of Clarivate's annual Journal Citation Reports provides an opportunity to reflect on the reach, influence and impact of research published across the British Society for Immunology's journal portfolio. While no single metric can capture the full value of a journal, these indicators offer useful insights into how content is being discovered, read and cited by the global immunology community.

We are delighted to share the latest performance figures for *Discovery Immunology, Clinical & Experimental Immunology* (*CEI*) and *Immunotherapy Advances* (*ITA*), all of which demonstrate the continued strength and growth of BSI publishing.

Discovery Immunology continues to build momentum

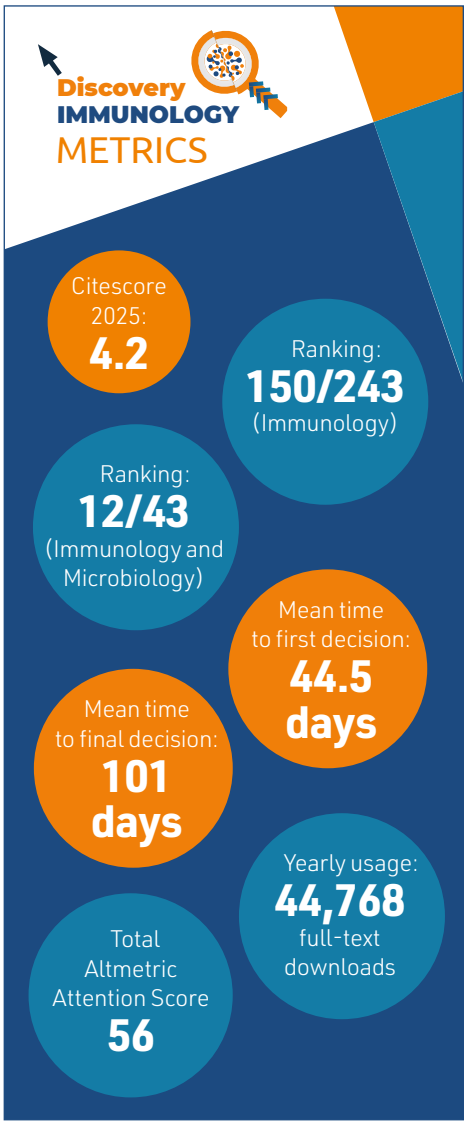
As the newest journal in the BSI portfolio, *Discovery Immunology* continues to establish itself as a trusted home for high-quality open access immunology research.

A major highlight of the year has been the journal's CiteScore increase from 2.0 to 4.2, representing a remarkable 110% improvement. This achievement reflects the growing visibility and influence of the research being published in the journal.

The journal has also continued to expand its scope, including a greater focus on veterinary immunology through its ongoing Advances in Veterinary Immunology collection. Alongside this, plans are underway for a dedicated BSI Congress special collection, showcasing outstanding research presented at the Society's flagship event.

Professor Simon Milling, Editor-in-Chief of *Discovery Immunology*, said:

"The Discovery Immunology team were very excited to see our CiteScore jump from 2.0 in 2024 to 4.2 in 2025, an impressive 110% increase from last year. This score gives us confidence that the articles we publish are being read and widely cited, and that the journal is proving to be a trusted source for open access immunology research. As ever, we are grateful for the hard work of all our authors, reviewers, editors and staff at the British Society for Immunology."



Clinical & Experimental Immunology celebrates 60 years of excellence

It has been another exciting year for *Clinical & Experimental Immunology*, which celebrates its 60th anniversary in 2026.

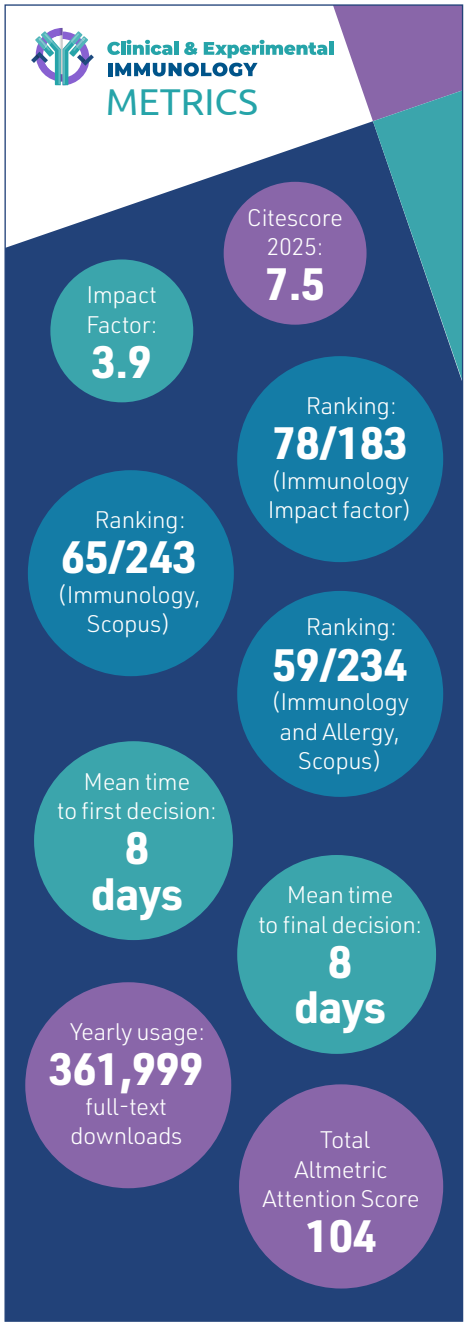
The journal recently expanded its editorial scope with the launch of a new Immunometabolism section, led by Professor Lizzy Rosser, complementing CEI's longstanding reputation for publishing high-quality clinical and translational immunology research.

The latest figures show *CEI* continues to perform strongly, with its impact factor increasing to 3.9 and improved ranking positions within the field. The journal also maintains a strong CiteScore of 7.5, alongside impressive readership and engagement figures.

Professor Claudia Mauri, Editor-in-Chief of *Clinical & Experimental Immunology*, commented:

"I am delighted to see Clinical & Experimental Immunology continuing to grow from strength to strength. Our impact factor and impact factor ranking have risen, while our CiteScore has been maintained and our ranking position has improved. This success reflects the outstanding contributions of our authors, reviewers and Editorial Board members."

SOCIETY NEWS



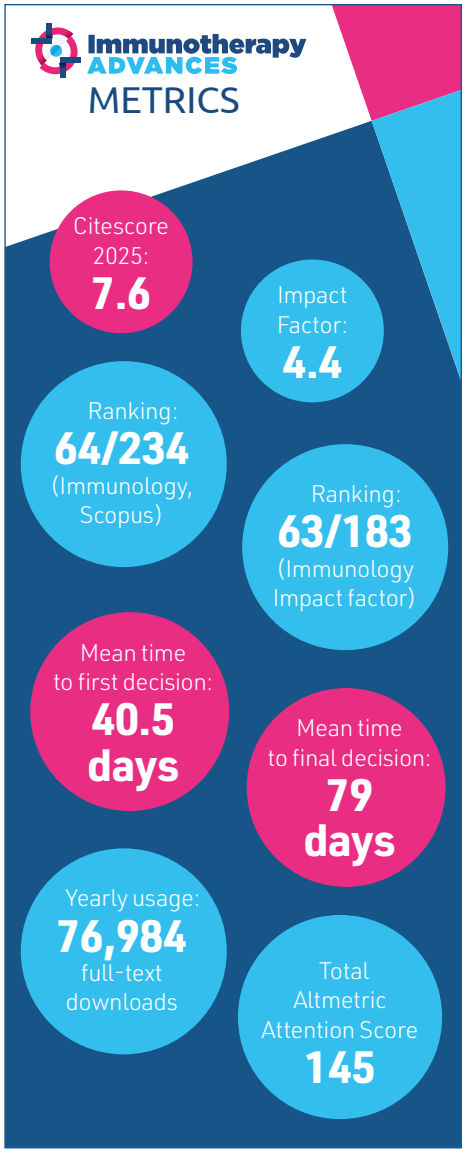
***Immunotherapy Advances* maintains strong performance**

Since launching in 2022, *Immunotherapy Advances* has rapidly established itself as a leading open access journal for immunotherapy research. This year has seen strong engagement with special collections including Human Vaccine Challenge Models and Neuroimmunology and Immunotherapy, which have showcased innovative research from across the field.

The journal has continued its strong trajectory, achieving an impact factor of 4.4 and a CiteScore of 7.6, reinforcing its position among respected journals in immunology.

Professor Tim Elliott, Editor-in-Chief of *Immunotherapy Advances*, said:

"I'm delighted to see *Immunotherapy Advances* has had another strong year. Our journal only launched in 2022 and the fact we can maintain such strong metrics is really a reflection of the great team we have behind the journal and the high quality of peer reviewers they enlist."



Looking ahead

The sustained growth of all three BSI journals is a testament to our vibrant immunology community and the shared commitment to advancing knowledge and improving health. These new metrics reinforce our collective goal: to publish rigorous, timely and impactful research that supports the immunology community and informs scientific progress. As we reflect on this year's successes, we also remain mindful of the broader context in which these metrics sit. We are proud of the contributions made by our community and are excited for the continued development of *Clinical & Experimental Immunology*, *Immunotherapy Advances*, and *Discovery Immunology* in the years ahead. We thank our editorial teams, reviewers, authors and readers for their unwavering support. Here's to another year of excellence in immunological research.

'Did you know, our journals are responsible for over a third (36%) of the Society's income, and all revenue generated from subscriptions and Open Access fees is directly reinvested into BSI activities? The Society's journals are key for the immunology community, and the income derived from them provide major financial support for the BSI's activities – including our grants, BSI Regional and Affinity Group meetings, BSI Congress and more.'

SOCIETY NEWS

BSI Congress 2026

Monday 30 November to Thursday 3 December 2026, SEC Glasgow, UK.

Get ready… the UK's leading immunology conference is happening soon, and this year the BSI community is heading to this historic Glasgow!

Across four dynamic days, Congress will bring immunology to life through thought-provoking talks, hands-on workshops and purposeful networking. Join around 1,500 delegates from the UK and beyond to discover emerging science, hear directly from leading researchers and exchange perspectives from across the discipline. Whether you want to showcase ideas, build lasting connections or take the next step in your career, the programme offers plenty of ways to get involved.

As always, the ever-popular Congress party will take place on Wednesday evening – a highlight in an exciting week dedicated to immunology breakthroughs from across the globe!

Dates for your diary

Early bird registration deadline:
Wednesday 21 October

Late breaking abstracts are still open – don't miss your chance to present your research to your peers!

BSI Congress for all

Ensuring that the BSI Congress is inclusive is extremely important to us. We are pleased to offer the **BSI Congress Carers' Grant** again at this year's Congress. This grant has been established for those who have caring responsibilities at home, whether this is looking after children or older members of the family, or those that need carers themselves. This grant scheme is intended to go towards the cost of the attendee's care arrangements during the time they are attending BSI Congress.

We will also have an onsite **crèche** to provide subsidised childcare for delegates' children of all ages. You will need to register for this service in advance. There are other provisions already in place, such as breastfeeding facilities, prayer and quiet rooms, and access for parents and carers.

Five great reasons to submit an abstract:

1. Put your latest research in the spotlight and extend its reach
2. Raise your profile within the immunology community
3. Exchange ideas through lively, constructive scientific discussion
4. Spark conversations that could grow into future collaborations
5. Be in with a chance of winning a £250 poster

KEYNOTE SPEAKER

Adrian Hayday

Principal Group Leader, Francis Crick Institute and Kay Glendinning Professor Emeritus, King's College London

Professor Adrian Hayday is a world leading immunologist whose discoveries have reshaped our understanding of gamma delta (γδ) T cells and their role in cancer, inflammation and tissue immunity.

18:00-19:00 GMT, 30 November 2026

Travel the greener way!

Travel the greener way! The BSI is pleased to offer a 15% discount with Avanti for delegates attending the British Society for Immunology Congress 2026 in Glasgow. Choosing public transport not only helps reduce your environmental impact but also provides a convenient and affordable way to get to the event.

To receive your 15% discount code, simply register for the conference and then when the booking portal opens you will be sent a link by the BSI events team.

The discount will only be valid for travel on an Avanti route to **Glasgow Central Station** between **29 November 2026** and **4 December 2026**.

Programme highlights

Plenary sessions

Exposome immunology

How do lifelong environmental exposures, collectively termed the exposome, interact with genetic factors to reshape immune responses at barrier surfaces? This session will explore how the exposome drives chronic inflammatory diseases and influencing treatment outcomes.

Next generation therapeutics

During this session, leading experts will cover next generation immune therapeutics in the context of human disease.

Fuelling the fire within: Metabolism as a driver of inflammation and ageing

Join this session examining how, in particular, mitochondrial metabolism regulates inflammation and ageing, highlighting interdisciplinary insights into metabolic shifts driving tissue dysfunction across the lifespan.

Decoding and engineering anti-cancer immunity

This plenary session will focus on developments of immunotherapies and cancer vaccines in the clinic and the mechanisms that underpin them.

Tissue homeostasis: Immune regulation of physiology

Discover the multifaceted roles of immune cells beyond immunity, with expert speakers focusing on their contributions to organ maintenance and physiology.

T cells and microglia: Key regulators of the neuro-immune-axis

How do innate and adaptive immune cells within and beyond the CNS regulate neuroinflammation? This session explores the mechanisms of CNS pathology and therapeutic strategies to promote neuroprotection via the neuro-immune axis.

Bright Sparks in Immunology

12:30–16:00 GMT, Monday 30 November

Chaired by Alexander Redmond, University of Oxford, this session showcases outstanding work from early career researchers in immunology. Bright Sparks in Immunology gives PhD students and early career postdoctoral researchers the chance to present their research to a broad audience, build confidence and discuss immunology in a welcoming setting. Blending friendly competition with high-quality science and valuable networking, it is an energising platform for emerging talent.

Exhibitors and sponsors

The generous contributions of our corporate sponsors enable us to offer our community another BSI Congress to remember.

We're immensely grateful for their invaluable support and we'd like to encourage all our delegates to explore the exhibition centre and tap into the expertise of our wonderful exhibitors who can answer questions and provide hands-on demonstrations of the latest technologies and products.

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Join the conversation using **#BSI26**

If you have any questions, please email **congress@immunology.org.**

SOCIETY NEWS

Research in clinical careers: Insights from across the clinical immunology community

Clinicians see the questions that research needs to answer every day. They know where evidence is lacking, where treatments fall short and which problems matter most to the patients they care for. That experience gives them an important perspective on research, whether they are leading a study or contributing alongside their clinical role.

Those perspectives also differ: a pharmacist thinking about how a medicine behaves in a child will encounter different questions to a nurse supporting that child and their family, or a clinical scientist investigating their condition in the lab. Bringing these different experiences into research helps connect scientific discovery with clinical practice, ensuring that evidence reflects the realities of patient care.

So, what does this look like in practice? Across five interviews, we've asked professionals working in medicine, nursing, pharmacy and healthcare science how research fits alongside clinical practice and why clinical experience itself can be a valuable starting point for research.

DR FATIMA DHALLA

Consultant Clinical Immunologist and Senior Postdoctoral Scientist, Oxford University Hospitals NHS Foundation Trust

For Fatima, the attraction of research lies in being able to answer questions that arise directly from clinical care. Her research explores the biology of the thymus and rare congenital thymic disorders, combining molecular science with her experience as a clinical immunologist. She describes the satisfaction of bringing together findings from different experiments to build a bigger picture of how the immune system works. For her, research offers a way to shape the future of clinical immunology, from the laboratory to international policy.

"Clinical immunologists are best placed to tackle the most clinically and scientifically relevant questions for our patient cohorts."

LUCY COMMON

Consultant Nurse in Immunology and Allergy, Northern Care Alliance NHS Trust, and Clinical Advisor for Nursing at NICE

Lucy's experience shows how far research can take a clinical career. Her work has spanned food allergy research, national patient registries and studies including the 100,000 Genomes Project and COVAD, alongside her clinical nursing role. Research has strengthened her critical thinking and opened doors into leadership, national policy and professional networks, including her work with NICE. She argues that nurses should feel confident challenging existing practice and bringing forward ideas that could improve care.

"Research empowers nurses to challenge norms, improve patient care and create a culture of bold ideas."

Key messages:

- Clinical experience helps identify important research questions
- Different clinical roles bring different perspectives to research
- Research can be embedded into clinical practice
- There is no single route into a research career
- Small projects can be the first step towards larger opportunities

FAN CHENG

Principal Pharmacist for Immunology and Immunotherapy, Great Ormond Street Hospital (GOSH)

Fan's research begins with a problem that pharmacists working with children encounter regularly - much of the evidence used to guide medicines comes from adults. Her pharmacokinetic modelling explores how factors including age, weight, genetics and organ function affect how medicines behave, helping to inform more tailored approaches for different patient populations. Fan also involves patients and families in shaping the questions she asks. For Fan, research means reflecting on clinical practice, identifying problems and testing better ways of doing things.

"Sometimes when you look for the evidence to do something, you wish someone had done it already. But you can also ask the question, why can't this person be you?"

ARNOLD AWUAH

Clinical Scientist Trainee specialising in Immunology, GOSH

Arnold offers a perspective on research that starts in the laboratory but ultimately comes back to patients. Alongside routine diagnostic testing, he develops and validates new approaches that can be introduced into laboratory services, helping clinicians make better treatment decisions for children with rare and complex

immunological conditions. What excites him most is seeing that translation happen: research findings becoming something that can actually be used in patient care. He points to developments such as gene therapies and CAR T cell therapy as examples of where research can lead.

"Research brings more ideas, which get developed into something extraordinary. From gene therapies to CAR T cell therapies, research has transformed the lives of patients, and it can continue to do so in the future."

> 'Don't be afraid to share an idea, even if it feels really small. Often the best way is to start with something manageable and build from there'

SARY WORKMAN

Immunology and Allergy Clinical Nurse Specialist, East Kent Hospitals University NHS Foundation Trust

Sary brings more than 20 years of clinical immunology experience to her research, having worked as a clinical nurse specialist, research nurse and project manager before completing a master's in clinical research. She argues that research should sit within nursing rather than alongside it, with protected time and proper recognition for nurses' contributions. Her advice is simple - start with an idea, however small, find support and build from there.

"Don't be afraid to share an idea, even if it feels really small. Often the best way is to start with something manageable and build from there."

Where could research fit in your career?

There is no single research career represented by these five interviews, and that is perhaps their most useful message. Research can mean investigating a question in the laboratory, generating evidence for an underrepresented patient group, contributing to national guidance or starting with a small project alongside clinical work. What connects them is the value of bringing clinical experience into research. The questions encountered while caring for patients can become the starting point for evidence that changes how we understand disease, deliver services and provide care.

Watch all five interviews in the research in clinical careers series: **immunology.org/research-clinical-careers**

The BSI remembers Dame Bridget Ogilvie

We are saddened to learn of the passing of Dame Bridget Ogilvie, an internationally recognised immunologist and parasitologist, Honorary Lifetime Member of the BSI and influential champion of biomedical research.

Dame Bridget's scientific career was shaped by a question she first encountered growing up on her family's sheep farm in rural Australia: why do parasitic infections provoke such a powerful immune response without leading to lasting immunity? Seeking to answer this question, she went on to conduct pioneering research into the immune response to nematodes, helping to advance understanding of host parasite interactions and making an enduring contribution to immunology.

Following a sabbatical with the Wellcome Trust, Dame Bridget embarked on a new chapter in her career, becoming Director of the Trust from 1991 to 1998. During her tenure, she oversaw a major expansion of its funding programmes and the establishment of the Sanger Institute, helping to shape biomedical research in the UK and internationally.

Dame Bridget also gave generously to the wider scientific community, serving on numerous advisory boards and committees, including as Vice Chair of the Board of Trustees at Sense About Science and as a trustee of the Science Museum. Her outstanding contributions were recognised through many honours, including the Kilgerran Prize of the Foundation for Science and Technology in 1994, election as a Fellow of the Royal Society and a knighthood in 2003, and appointment as a Companion of the Order of Australia in 2007.

In recognition of her exceptional contributions to immunology and the wider scientific community, Dame Bridget was awarded Honorary Lifetime Membership of the BSI. Her career exemplified scientific curiosity, leadership and a commitment to ensuring research delivers benefits for society, leaving a lasting legacy that continues to inspire immunologists today.

Dame Bridget Ogilve

We extend our sincere condolences to Dame Bridget's family, friends and colleagues. She will be remembered with gratitude for her remarkable contributions to science and her lasting influence on generations of researchers.

SOCIETY NEWS

BSI-CIPN Conference 2026

Monday 30 November - Tuesday 1 December 2025, SEC Glasgow, UK

Join the clinical immunology community for two days of cutting-edge science, practical insight and professional connection. Designed for doctors, scientists, nurses, pharmacists and trainees, the BSI-CIPN Conference 2026 will explore the latest developments in primary immunodeficiencies and wider clinical immunology practice.

British Society for Immunology

CIPN

Clinical Immunology Professional Network

Hear from leading experts, take part in focused discussions and gain practical ideas to support diagnostics, service delivery, workforce development, translational research and patient care. You will also have valuable opportunities to exchange knowledge, build collaborations and connect with peers and industry partners.

Register now and save: early bird registration closes at 23:59 BST on Wednesday 21 October 2026.

Session highlights:

- **Great debate: A monogenic disorder excludes a diagnosis of CVID**
- **Exposome immunology**
- **Immune hyperactivation and cytokine storms**
- **B cells in health and disease**
- **Next generation therapeutics**

KEYNOTE SPEAKER

Jocelyn Farmer

Lahey Hospital and Medical Center, USA

Why attend?

- **Stay up to date with the latest clinical and research developments.**
- **Explore practical approaches to diagnostics, service delivery and workforce challenges.**
- **Learn through case discussions and sessions created for the clinical immunology community.**
- **Present your research or clinical cases to a national audience.**
- **Connect with colleagues and build collaborations across disciplines.**

Make the most of your time in Glasgow. The BSI-CIPN Conference takes place alongside BSI Congress 2026 at SEC Glasgow. Attend both events and receive a **25% discount** on the combined registration fees. For details, contact cipn@immunology.org.

Travel the greener way!

Registered delegates can receive a **15% discount** on eligible Avanti West Coast Advance fares to Glasgow Central for travel between 29 November and 4 December 2026. Full details and terms are available through the event information.

Find out more and register

immunology.org/events/bsi-cipn-conference

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British Society for immunology

BSI Conference Travel Grants

British Society for immunology

Funding to attend scientific meetings & seminars around the world!

As part of our career development support, we offer our Conference Travel Grants to support our members in attending scientific meetings and seminars in the UK and around the world

Next deadline:
1 November 2026
Find out more and apply:
www.immunology.org/bsi-conference-travel-grants

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AI and the future of immunology

Artificial intelligence (AI) is already beginning to change how immunologists work, from analysing complex datasets and supporting literature searches to exploring new approaches to diagnosis, drug discovery and research.

As these technologies continue to evolve, what opportunities could they offer immunology, and what challenges do researchers and clinicians need to consider?

In this feature, Dr Zania Stamataki explores how a new generation of AI tools could transform the way immunologists analyse and interpret complex biological data, while our AI expert considers what these changes could mean for researchers in practice.

The autonomous bioinformatician – balancing the promise and pitfalls of emerging AI technologies

By Dr Zania Stamataki, Associate Professor of Viral Immunology at the University of Birmingham and member of the Immunology News Editorial Advisory Board

Step into almost any immunology lab today, and you will find researchers using AI to polish an abstract or troubleshoot a stubborn line of R code. Behind the scenes, however, a much more profound shift is occurring. We are moving rapidly from AI "chatbots" that respond to individual prompts to agentic AI, systems designed to act as autonomous computational partners.

For immunologists, this transition represents both an incredible opportunity to democratise data analysis and a new set of practical challenges.

Beyond the chatbot: what is an agent?

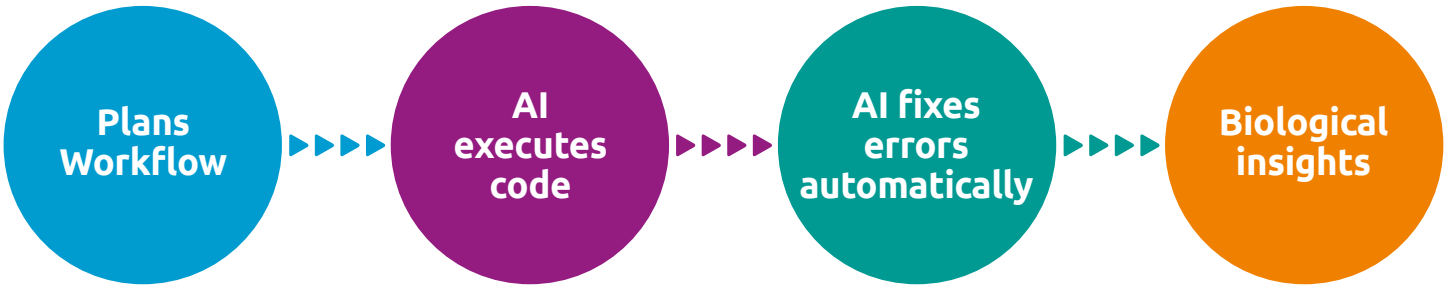
Traditional AI requires you to guide it step-by-step. An AI agent, by contrast, is given a high-level goal. For example: "Take this raw single-cell RNA-seq dataset from the Gene Expression Omnibus (GEO), filter out the low-quality cells, perform batch correction, and identify the T-cell subsets."

The agent then writes the script, runs it, reads the terminal errors, alters its code, and loops recursively until the job is done.

For a non-computational bench immunologist, this feels like magic. Having spent the last few months putting Google DeepMind's specialised scientific agent packages through their paces, I can attest that the speed is breathtaking. These tools effectively bypass the traditional bioinformatics bottleneck, allowing researchers to interrogate heavy multi-omic datasets with unprecedented ease. At the same time, they challenge us to critically think how computational research is conducted and how scientific decisions are made.

The pitfalls lurking in the loops – the challenges of agentic AI

Delegating the scientific workflow to an autonomous system introduces subtle, compounding risks that our community must evaluate:



- Silent data biases: When an agent encounters an error or a noisy dataset, it may make small choices to get the analysis running. If it adjusts a normalisation threshold or cell-filtering metric without human oversight, it can subtly alter downstream clustering, potentially "hallucinating" rare immune cell states or masking vital biological signals
- The university "sandbox" gap: To run code safely, AI agents require isolated digital environments called sandboxes. While commercial corporate labs can deploy these instantly, our risk-averse university IT departments are understandably lagging behind due to cybersecurity concerns. This leaves academic labs unable to officially deploy the very tools that could accelerate their research at pace with industry
- The "token tax" on public grants: Agentic AI systems can also be expensive to run. Unlike traditional software licences, costs are often based on usage. An agent caught in repeated coding or troubleshooting loops can consume large numbers of API tokens, making expenditure difficult to predict. For academic labs operating on rigid, fixed-budget public grants, this stochastic spending is difficult to budget for.

Keeping the immunologist in the loop

So, how do we move forward? The answer isn't to reject automation, but to adopt it responsibly.

As a community, we need to establish standard "human-in-the-loop" checkpoints. An agent can do the heavy lifting of writing the pipeline, but a qualified immunologist must still sign off on the critical biological transitions, such as post-normalisation distributions and cell-type annotations.

Agentic AI has the potential to accelerate immunological discovery, liberating researchers from the command line and allowing them to spend more time asking biological questions. However, as these tools become more capable, scientific judgement becomes even more valuable. To safeguard the integrity of our research, we must ensure that while AI powers the analysis, the immunologist keeps a firm hand on the wheel, validating the results, applying scientific judgement and taking ultimate responsibility for the conclusions.

Putting AI into practice

Dr Zania Stamataki explores how agentic AI could transform immunology research. We've also asked expert Dr Jason Cosgrove what this means in practice, and how researchers can make the most of these rapidly evolving technologies.

DR JASON COSGROVE

Principal Scientist, Computational Medicine

How can immunologists make the most of AI while using it responsibly?

AI is a new and rapidly evolving technology, and as such, there are not yet any clear consensus guidelines or principles on how best to apply it to immunology research. However, there are three key things that immunologists can do:

1. **Train and upskill in this area** through workshops, taught practical sessions, or online courses
2. **Actively experiment with different tools** to see how best to apply them to their own research goals
3. **Create communities** such as AI working groups at a departmental or institutional level to share experiences and collectively identify strengths, limitations, and areas requiring caution.

Responsible use also requires clear procedures, particularly around patient data. Not all AI tools are secure or GDPR-compliant, so research teams need to establish which models to use and when, with explicit guidelines on data access, use, and protection.

How do you think AI will change the day-to-day role of immunology researchers over the next five years?

I believe researchers will increasingly collaborate with AI assistants to support literature reviews, hypothesis generation, experimental design, and other routine tasks. As a result, immunologists must learn to think not only as scientists but also as engineers – developing the skills to construct, test and validate robust AI pipelines and workflows.

AI will also reduce the barrier to entry for data analysis, enabling more researchers to make use of publicly available datasets for grant writing and preliminary insights before projects even begin. In the longer term, AI-driven laboratory automation and predictive modelling should make immunology research more resource-efficient, improve reproducibility, and help refine the number of animals used in experiments.

Should researchers be worried about AI replacing research jobs?

My personal view is that AI will fundamentally transform the day-to-day role of immunology researchers in the coming years. Critically evaluating AI-generated outputs will become a core skill, requiring experience and expertise in experimental design, data analysis and computer programming. Despite such changes, scientific judgement and rigorous application of the scientific method will be more important than ever to ensure that results are reliable and reproducible.

One area, however, where I think we need good policy decisions is on improving access to entry-level positions. With routine tasks increasingly automated, there's a risk of fewer opportunities for those starting out. I would like to see more well-paid positions available to those coming directly out of a degree or master's programme, with clear progression schemes that help them develop without necessarily needing to do a PhD.

What's one skill every immunologist should start developing today?

Context engineering! You will probably have noticed already that if you don't give an LLM a detailed prompt, you won't get a good answer. Using the principles of context engineering, you can turn your LLM into an AI assistant by putting highly detailed prompts into some input files so they can be reused again and again. To use a research lab as an analogy, it is equivalent to providing team members with a set of protocols and reagent lists: the key background knowledge and organisational structure needed to get high-quality research outputs.

Ready to build your AI and bioinformatics skills?

Explore BSI training designed to help researchers use these tools confidently and responsibly.
AI training for immunologists and the biosciences.

Join live, online sessions exploring how AI can support research and how to use these tools effectively and responsibly.

Bioinformatics and R training for wet-lab biologists

Build your skills at your own pace with flexible self-paced learning, or join live training designed to help wet-lab researchers gain confidence analysing biological data.y and responsibly.

Immunology voices: BSI PPI Network member, Lucie Dixon

Patient and public voices are increasingly shaping the future of immunology, from vaccine confidence to research design and lived experience of illness and infection. In this series, we speak to three members of the BSI Patient and Public Involvement Network to explore how their perspectives are informing research, improving communication and highlighting gaps that science alone cannot capture.

Lucie Dixon shares her perspective on the importance of patient and public involvement (PPI) in immunology research. Drawing on her personal experience of secondary immunodeficiency following cancer treatment, she highlights how lived experience can strengthen research, improve understanding and ensure patient voices are truly heard.

What does patient and public involvement mean to you?

Patient and public involvement, to me, means giving the patient a voice. It helps to bridge the gap between researchers, medics and the patients themselves. I think it's really important because it allows the people who are actually going through these situations to share their experiences, rather than everything being interpreted solely through research or clinical perspectives. It also helps make research more understandable and accessible to the public, working in both directions.

What would you say to researchers about the value of patient and public voices?

Patient and public involvement provides a perspective that researchers might not understand or might not think of. It brings in a lived experience that can highlight things that wouldn't otherwise be considered.

Why is PPI important in immunology and medical research?

I think it's particularly important in immunology because there hasn't been as much research compared to other areas like cancer. Because of that, patients haven't necessarily been as involved or had as many opportunities to share their experiences and opinions.

How does immunology connect to your personal life?

I had non-Hodgkin's lymphoma in 2019, and the chemotherapy I received caused secondary immunodeficiency. Before my diagnosis, I knew nothing about immunodeficiency, I didn't even realise it could be a side-effect of cancer treatment. That lack of awareness is what led me to get involved in PPI, because there isn't enough information or public understanding about it.

What motivated you to join the BSI Patient and Public Involvement Network?

My diagnosis took quite a long time, and I experienced repeated infections before finally getting answers. I wanted to use my experience and turn it into something positive that could help other people going through similar situations.

What can be missed when research is done without patient input?

One of the biggest things that can be missed is the psychological impact; things like fatigue, anxiety about infections and the

> 'Before my diagnosis, I knew nothing about immunodeficiency, I didn't even realise it could be a side-effect of cancer treatment. That lack of awareness is what led me to get involved in PPI.'

mental strain of living with a condition. These aspects are more subjective and harder to quantify, but they are a huge part of the experience and can vary significantly between individuals.

What are you hoping to contribute or gain through PPI?

I want to support others who may face similar challenges in the future. As cancer becomes more common, more people are likely to develop secondary immunodeficiency, so sharing my experience could help others feel less alone and better understood. Despite often being seen as rare, it is becoming increasingly common, and greater awareness and representation in research are essential.

What do you wish more people understood about immune disorders?

I wish people understood more about the fatigue and the day-to-day uncertainty. There's a constant worry about infections, going into crowded places, or needing antibiotics. Even when someone looks well from the outside, it can be an invisible illness. There's often a lot of underlying anxiety that people don't see.

How could organisations better involve people in these conversations?

PPI is a great way to involve people, but organisations could reach further. In my case, I only found out about these opportunities because I actively searched for them. More recognition, better promotion and possibly greater involvement from organisations like the NHS in sharing opportunities could help more people get involved. Social media is really important. It's where most people access information – nearly everyone is on some form of social media – so I think that's a good opportunity to raise awareness and engagement.

> 'PPI is a great way to involve people, but organisations could reach further. In my case, I only found out about these opportunities because I actively searched for them.'

What advice would you give to someone considering joining PPI?

It's really rewarding and flexible. There's no pressure to contribute if you can't, you can be involved as much or as little as suits you. People are very understanding, especially if your personal circumstances or health change, so it's something you can adapt around your life.

Where do you think patient voices are sometimes overlooked?

In my experience, particularly in hospital settings. It took a long time for me to get diagnosed, and I really had to push to be heard. Hopefully, involvement in PPI can help improve understanding among clinicians and lead to faster diagnoses in the future.

Why is diversity of experience important in PPI?

I think it's really important because, depending on your social and geographical background, your experience can be completely different, including the type of care you receive and the experiences you have. That's why it's so valuable to have a range of perspectives represented. For example, I come from the north and from a rural village, so my experiences are likely to be very different from someone living in London, where a hospital is serving a much larger and more diverse catchment area. Those differences can have a big impact, so it's essential to make sure they're all reflected.

How can researchers better support patients and the public?

Researchers need to recognise that it's not just about physical symptoms. It's about understanding the patient as a whole person, including the psychological impact. Taking a more holistic approach would make a big difference.

What does great PPI look like to you?

Great PPI would include a diverse range of people and ensure that everyone has the opportunity to speak, be heard, and have their contributions listened to, and importantly, acted upon.

Interviewed by **Georgia Tromans**

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Find out more

You can catch up on our interview with BSI PPI Network member, Jamie Gold, in our summer issue. Scan the code below to find out about how Jamie's lived experience has shaped the way he educates young people about vaccines.

Cardiff Diabetes Innovation Committee Research Event

Many young people with lived experience of type 1 diabetes (T1D) find research hard to access, difficult to understand and are unclear how it benefits them. To break down these barriers, the Cardiff Diabetes Innovation Committee (CDIC), a UK-wide group of young individuals (aged 11–23) living with T1D, was set up to co-develop an interactive in-person research event around research that matters to young people living with T1D. The committee was co-founded by Dr Pearson (Associate Professor of Cellular Immunology, University of Birmingham) and Breakthrough T1D UK staff, Ms Madeleine Bonser (Research and Involvement Officer) and Ms Alex Wild (Volunteer Manager), with 12 young people living with T1D across the UK.

In September 2024, CDIC met online for the first time enabling everyone to introduce themselves to each other and also to begin the process of generating ideas around what might make a good in-person interactive event. Committee members also provided information on what they wanted to get out of this experience, which included learning more about research, meeting other people with T1D, and gaining event organisation skills. CDIC subsequently met every month on a Monday evening to enable the committee members to attend after school/work. In total we hosted 21 virtual meetings over 18 months, including two festive quizzes.

During these meetings the committee identified the research topics that were important to them which included immunology/immunotherapy, stem cell research, emerging technological advances, and mental health and wellbeing. Based on these interests, committee members were encouraged to identify researchers within these fields of research for all members to review. For each topic, we aimed to invite two researchers from across the UK to provide an overview of their research (10 mins) and how they could make their research more interactive (5 mins). Invited researchers were told in advance to plan their presentation for a lay non-scientific audience of young people and were also advised that the committee members would be scoring their presentation. The criteria they chose included creativity and clarity of the presentation and ability to answer questions, ability to communicate to all ages (notably young individuals), how has/will lived experience influence the project, how will the project move forward to benefit those living with T1D and ability to stay on time.

At the end of the presentation, committee members asked any questions they had. After the meeting, CDIC provided feedback that was sent to the researchers to share what the committee enjoyed and what would make their presentation/interactive ideas better. Invited researchers included Professor Sarah Richardson (University of Exeter), Dr Christopher Carlein (University of Oxford), Professor Shareen Forbes (University of Edinburgh), Dr Emma Berry (Queen's University Belfast), Dr Marietta Stadler (King's College London), Dr Matt Webber (University of Notre Dame, USA) and Dexcom (a continuous glucose monitoring diabetes technology company) who gave up their time to support the project. Feedback from invited researchers included:

"This is an example of excellent practice in research and something that should be more common practice in academic work involving individuals with lived experience. I gained a lot from taking part in this activity, not just the insight of the group, but also seeing how such a PPI group works and seeing how it can be effectively facilitated by a committed and passionate researcher."

"I thought your group of ambassadors were wonderful, very engaged and had very thoughtful questions. They should be proud of themselves. Please tell the group they were excellent role models for their community."

Making plans

CDIC also contributed to researcher grant feedback (leading to a grant success) and provided comments on the National Diabetes Paediatric Audit Youth Voice Communications Project.

At the end of 2025, event planning was heavily underway aided by Breakthrough T1D

UK's Discovery Day Planning Team (Chris Bright, Sarah Davis and Bella Allchorne). Two interactive research sessions were planned, feedback from CDIC was given and these were subsequently improved upon. CDIC promoted the event through three committee members generating their own videos to encourage young people to attend the event. These videos were shared on Breakthrough T1D UK's social media pages (thanks to Aliceah Welsh) and in total generated over 180 likes in the first five days.

The event

Fifty-seven young individuals attended the interactive research workshop, which was part of a larger Breakthrough T1D Discovery Day at the West Bromwich Football Club on Sat 18 April 2026. The number of attendees was nearly triple the number of young people we expected to attend. The two sessions (each about 50 mins long) included:

Session 1: This session was structured to provide a short lecture about what autoantibodies are, how they associate with risk of T1D, and why it is important to identify individuals with T1D-relevant autoantibodies (e.g. access to immunotherapies), providing key background. Then we moved on to our hands-on activity, where attendees got to perform their own mock autoantibody ELISA to identify which samples were from people at risk of developing T1D. This session was run in partnership with Bio-Rad Laboratories, utilising their ELISA Immuno Explorer kit, providing plasticware, reagents and a great teaching guide for people to run a real scientific experiment!

Session 2: Dr Christopher Carlein (David Hodson Lab, Oxford University) led an interactive activity making insulin-producing stem cells using coloured solutions and cotton wool balls to mimic different stages of stem cell differentiation. Dr Emma Berry (Queen's University Belfast) led a market research session asking for feedback on different types of wellbeing tracking apps and other ways young people monitor their wellbeing to aid the development of a new app to support those living with T1D. Participants also got to ask their own research questions and share their lived experiences of T1D in a session led by Professor Susan Wong (Cardiff University).

Excellent feedback

Feedback from participants indicated that 100% of attendees would recommend this event to other people and want to see more interactive research activities similar to what we ran. Attendees loved the hands-on experimental work and the colour-changing experiments, and the opportunity to interact with researchers. Some examples of the feedback from attendees we received included:

"I have learnt more than I ever thought I would."

"Hearing from all the researchers first hand is amazing, especially because we get to ask questions which gives the event such a personal feel."

"There is a high chance I wouldn't know about much of the research going on if I had not attended the session."

The event was also very beneficial to immunologists and researchers attending the event. The feedback from researchers included:

"For me this was the first time planning and conducting such an activity and I have definitely learned a lot during the process and on the day!!"

"Everyone was super helpful and it was amazing to see how all of you coordinate these events!"

"It is a great experience that motivates you and leads to interesting new viewpoints that help you think outside the box about your research."

"I was asked many intriguing questions, which helped me take a step back from all the research details and see the bigger picture."

We were fortunate to have a team from Bio-Rad Laboratories (Haider Aljabori, Field Application Specialist – Flow Cytometry, Immunology, and Cell Based Techniques), Adam Higgins (Southwest UK & South Wales Account Manager) and Stephen David (Regional Marketing Manager, North East Europe) join us on the day, with the following quote from Stephen:

"A great example of how bringing real science into a community setting can spark curiosity and make it more accessible."

Together, the event attendance and feedback confirmed that we had made research accessible to young people and had found new interactive ways to engage with them.

Funding

We could not have run this event without funding from the British Society for Immunology (Communication and Engagement grant), support from Bio-Rad Laboratories and support on behalf of the 'Steve Morgan Foundation Type 1 Diabetes Grand Challenge' by Breakthrough T1D UK (formerly JDRF) and SMF (grant number 2-SRA-2024-1474-M-N). Additional thanks to Waters Bioscience (formerly BD Biosciences) who were kind enough to provide promotional handouts for the attendees too.

Top tips

To anyone planning a communication/engagement activity with young people, our tips are:

- Co-develop – work with those with lived experience! It is so rewarding and makes the event/activity more impactful
- Work with charities to gain insight into those with lived experience – they often have PPIE and can help you set up your own group
- Take your time – allow the young people to get to know each other and the founders so they feel comfortable sharing their opinions/insight
- Get feedback on your planned activities in advance, so they're the best they can be for the actual event
- Make the events/activities fun!

Future plans

Through CDIC, we have co-developed an arsenal of fun interactive research activities that we can take on tour across the UK. From the attendee feedback it is clear there is a demand and interest for these activities, and we hope to continue our joint collaborative engagement work with both Breakthrough T1D UK and Bio-Rad Laboratories.

By **Dr James Pearson**

Immunity for Life: our new policy report on immune ageing

Changes to the immune system can affect infection, vaccination, recovery and health in later life.

The UK population is ageing. According to the Office for National Statistics, one in four people in the UK is projected to be aged 65 or over by 2050 and the number of people aged 85 and over will almost double over the next 25 years. This demographic shift makes it increasingly important to understand what supports health, resilience and recovery in later life.

Why immune ageing needs greater attention

Healthy ageing is already a national policy concern. The Chief Medical Officer's 2023 annual report, Health in an ageing society, considered how people can maintain independence and spend less of later life in ill health. However, the role of the immune system remains under-represented in many of these discussions.

On 1 October, to coincide with the UN International Day of Older Persons, the British Society for Immunology and the CARINA Network will publish Immunity for Life: making immune health central to UK healthy ageing policy.

Professor Janet Lord, CBE (University of Birmingham)

Immune ageing is identified as a priority topic for external engagement in the BSI Strategy 2026–2030, and the Society is actively considering how it can build on this work over the longer term. The forthcoming report is a part of this ambition and will set out why immune health needs greater recognition across healthy ageing policy, prevention, research and healthcare.

Why the immune system matters as we age

The immune system changes throughout life. In later years, these changes can affect responses to infection and vaccination, the regulation of inflammation, tissue repair and recovery from illness or treatment.

Scientists often describe aspects of this process through immunosenescence and inflammageing. These concepts have helped establish the importance of age-related immune change, but immune ageing is not uniform. People of the same chronological age can show very different immune profiles and respond differently to the same infection, vaccine or treatment.

This variation reflects genetics, underlying health, previous infections and other lifelong exposures, including housing, work, nutrition, stress, deprivation and access to healthcare.

A better understanding of these differences could improve prevention, support more effective vaccination and help identify interventions that protect function or improve recovery. It may also help explain why some people remain resilient in later life while others experience recurrent infection, frailty or slower recovery.

Important gaps remain. An individual's 'immune age' cannot currently be measured using a single reliable test. There is no widely agreed measure of immune resilience and no proven intervention that reverses immune ageing. The report is clear about these limitations and focuses on what is needed to move the field forward responsibly.

A clearer agenda for research and policy

The report has been developed through the CARINA Network, funded through UKRI's Healthy ageing across the life course initiative. CARINA has brought together researchers spanning immunology, ageing, infection, vaccination, inflammation, frailty and population health, alongside clinicians, policymakers, industry representatives and public contributors.

This breadth has been central to the network's success. Immune ageing cannot be understood fully from a single disciplinary perspective. Mechanistic insight needs to connect with longitudinal data, clinical outcomes, social determinants and the experiences of older people.

CARINA has supported collaboration across institutions and career stages and

> ‘Immune ageing is becoming increasingly important as we look at how to help people stay well and recover from illness in later life. The UK has real strength in this area, but research remains fragmented and immune health is not yet given enough attention in policy on prevention and healthy ageing. This report aims to bring the evidence together, set out where the most important gaps remain and provide a practical agenda for research, policy and healthcare. We now need coordinated action to turn growing scientific understanding into benefits for people across the life course.’
>
> **Professor Janet Lord, CBE** (University of Birmingham)

helped establish a more connected UK community. It has also helped identify shared challenges, including inconsistent terminology and measures, gaps in longitudinal and diverse population data, and weak connections between discovery science and clinical or public health application.

The Immunity for Life report turns this collective learning into five recommendations:

1. **Give immune ageing a clearer place within national policy.**
2. **Recognise immune resilience as a key component of prevention across the life course.**
3. **Develop a more coordinated UK research agenda.**
4. **Explore applications within NHS prevention and population health.**
5. **Ensure future action helps reduce health inequalities.**

The recommendations are designed to work together. Clearer policy ownership can support coordination and investment. A stronger research agenda can help establish robust measures, make better use of cohorts and biobanks, and generate evidence from more representative populations. NHS involvement can ensure that potential applications are tested against real clinical needs.

The report does not call for a standalone immune ageing strategy. It argues that immune health should be integrated into existing work on vaccination, prevention, frailty, long-term conditions, healthy ageing and life sciences.

Why this matters to BSI members

Age shapes immune responses to infection, vaccination and cancer, and can influence chronic inflammation, autoimmunity, tissue repair and recovery from treatment. It is also closely linked to frailty, multimorbidity and resilience.

For BSI members, the report is a prompt to consider how ageing intersects with their own research or clinical practice. It also highlights the need to connect basic, clinical and population research, make better use of cohorts and biobanks, standardise measures across studies, and include more diverse populations and people with complex health needs.

Building on CARINA

Publication will mark a major output from CARINA, but the need for coordination will continue beyond the current network. The BSI is actively considering how it can sustain and develop CARINA’s community, expertise and partnerships through a longer-term focus on immune ageing.

This work aligns directly with the BSI Strategy 2026–2030. A future BSI-led programme could provide a national platform for collaboration, policy engagement, early-career development and translation, connecting researchers with clinicians, funders, charities, public contributors and industry.

The Society is also exploring how future activity could be supported through external funding, including sponsorship and industry partnerships. Companies working in vaccines, diagnostics, immunology, data and healthy ageing could bring valuable expertise, resources and translational experience. Any future partnership would be underpinned by appropriate governance, transparency and scientific independence.

There is strong potential to build on CARINA’s achievements. The network has demonstrated demand for a more connected approach, and the report provides shared priorities around which the community can organise. Sustained support could help the UK strengthen its leadership in immune ageing and create clearer routes from research to benefits for health and healthcare.

Keeping inequalities at the centre

Immune health is shaped by social and economic conditions across the life course. Poor housing, occupational exposure, chronic stress, long-term illness and barriers to healthcare may contribute to differences in immune health and resilience.

Research needs to reflect the diversity of the population. Studies based mainly on small or relatively healthy groups will not provide the evidence needed to understand immune ageing across the UK. Public involvement should also shape research questions, outcomes and communication.

What’s next?

Immunity for Life will be published on 1 October 2026, alongside an accessible summary of its five recommendations. The BSI and CARINA will use the report to engage government, funders, the NHS, industry, charities and the wider research community. It will also inform the BSI’s consideration of a longer-term programme on immune ageing.

BSI members can support the next phase by reading and sharing the report, discussing its recommendations through their networks, and identifying opportunities for collaboration, policy engagement or partnership.

The launch is a chance to give immune ageing greater prominence, build on CARINA’s achievements and set out an ambitious but practical direction for the field.

Coming on 1 October 2026:

Immunity for Life: making immune health central to UK healthy ageing policy

The new report from the British Society for Immunology and the CARINA Network will set out recommendations for strengthening immune ageing policy, research and translation across the UK.

Find out more and read the report

Congratulations

This is the section of the magazine where we celebrate the achievements of our members. Our congratulations to all who are mentioned here.

Advancing EDI in academia

Our warm congratulations to **Dr Donald Palmer**, Associate Professor of Immunology at the Royal Veterinary College and former board member of the BSI Council, for receiving a Special Award at the inaugural BME Early Career Researcher Legacy Awards at King's College London. Donald was recognised for his longstanding commitment to advancing equity, diversity and inclusion. This award is a testament to his dedication to creating opportunities, supporting underrepresented researchers, and driving positive change across the life sciences community

New faces at the Lydia Becker Institute

We would like to extend our congratulations to **Professor Sarah Gaffen**, who will take over as the new Director of the Lydia Becker Institute. Sarah is currently based at the University of Pittsburgh, and will be starting her new role on 1 January 2027. We would also like to congratulate and recognise BSI President **Professor Tracy Hussell** for her outstanding leadership of the Institute over the past 8 years.

Congratulations to **Professor Mahima Swamy** on her new role as Professor of Immunology at the Lydia Becker Institute, University of Manchester. Mahima's work in intestinal and mucosal immunology is internationally recognised, and in her new role she will continue to explore intestinal immunology, diet, infection, and immune-mediated bowel diseases (Coeliac and Crohn's).

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King's Birthday Honours

Professor Stephen Jolles OBE has received the well-deserved recognition of an Order of the British Empire in the 2026 King's Birthday Honours. Stephen is currently Clinical Lead at the Immunodeficiency Centre of Wales, Co-Director of the Hub Immunology Diagnostic Laboratory of Wales and the adult lead for the SWAN (Syndrome Without a Name) Clinic. He received this Honour in recognition of his services to Immunology and Rare Disease.

New Director at the International Vaccine Institute

Congratulations to **Professor Faith Osier,** Imperial College London, who has been named by the International Vaccine Institute as the inaugural Director of its new Kenya Country Office. In this role, she will oversee the international organisation's operations in Kenya in close partnership with the IVI Africa Regional Office, key Kenyan government authorities, and external partners to support Africa-wide initiatives on end-to-end vaccine research and development.

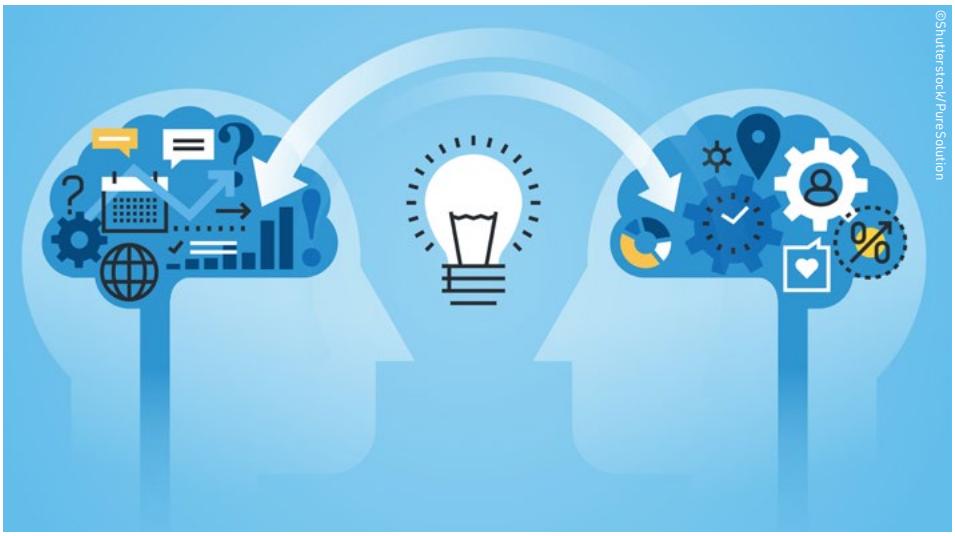
We would love to hear from you about your achievements.

Have you or a colleague recently received grant funding, passed your PhD viva or accepted a new appointment? If so, let us know by emailing **media@immunology.org**.

FUTURE FOCUS

BSI Mentoring scheme: impact evaluation

The BSI mentoring scheme is an important part of our career development offer for members and fulfils one of our key aims: to support and develop the next generation of world leading immunologists.



The BSI mentoring scheme is a professional relationship where an experienced person (the mentor) supports an early career individual (the mentee) through a process of developing and enhancing their career and personal growth. Mentees and mentors are paired from different institutions and sectors based on overlapping needs and expertise and work together over a 12-month period with the mentor supporting the mentee in making decisions relevant to their career path and providing them with independent support and advice.

The scheme launched in 2018 and since then has supported 188 mentees. Mentors have offered support in areas such as:

- Career planning and development
- Changing sector of work
- Networking
- Setting up collaborations
- Working with supervisors and co-workers
- Gaining new skills, e.g. leadership, management
- Finding the right work–life balance
- Grant applications
- Writing and publishing scientific papers

Both mentees and mentors also take part in a training session delivered by a professional coaching and mentoring trainer to help them to develop techniques, learn best practice and discuss the opportunities and challenges of a mentoring relationship.

In March 2026, the BSI undertook impact evaluation of the first six years of the scheme; with all mentees finishing their 12 months in the scheme at least two years ago, this provided an excellent opportunity to assess the impact the scheme has had thus far.

The impact of the first six years of the BSI mentoring scheme is incredibly positive, and a summary of the results is shown below. Respondents to the impact survey indicated that they valued the support the scheme provided and that it has had a lasting effect on their career and how they approach it.

Results

- 46% are still in touch with the mentor
- 88% achieved the goals they had at the start of the BSI Mentoring Scheme
- 73% still use the knowledge, skills and experience they gained through taking part in the scheme
- 62% said it changed their approach to their career progression

'What did you gain from being part of the BSI mentoring scheme?'

- "A mentor for life."
- "Without the support at a difficult time, I would have left research that year."
- "I saw a lot of empathy which was so much needed. I saw support in trying to understand what I could do beyond academia."
- "It helped me tremendously and mainly made me believe in myself to pursue a different career."
- "A wonderful mentor who helped me a great deal. He gave me the confidence to apply for an MRC NIRG which I was subsequently awarded."
- "Unbiased views on careers development options and when and where to submit work for publication from someone who has no vested interest in my success."

26 respondents (of 137 mentees, 86 of which are still members with available contact details) BSI mentoring s2018–2023

> 'Respondents to the impact survey indicated that they valued the support the scheme provided and that is has had a lasting effect on their career and how they approach it.'

The BSI mentoring scheme will open applications for the 2027 scheme in the autumn. More information on how to apply, eligibility requirements and further guidance can be found on the BSI website: **https://www.immunology.org/careers/bsi-careers-support/bsi-mentoring-scheme**

If you have questions about the scheme or would like to know more, please get in touch with **careers@immunology.org**.

Chris Snowden-Smith
Careers and Engagement Officer, BSI

FUTURE FOCUS

IMMPROVE: developing the next generation of immunology leaders

The IMMPROVE consortium is a national research consortium led by Professors Teresa Lambe and Paul Klenerman (University of Oxford). By bringing together immunologists, data scientists and public engagement experts, the consortium aims to strengthen understanding of how vaccines generate long-lasting protection, building capacity for future vaccine development and pandemic preparedness.

Developing and empowering early career researchers is central to the consortium's aim of creating a resilient pipeline of future leaders in vaccinology and immunology. The BSI is supporting this goal by delivering a specialised training package for early career researchers in this area.

The training programme

To maximise the impact of IMMPROVE's work, the consortium aims to 'build upon the strong links of the consortium with the public, extend the network of public engagement and involvement to early career researchers, and act as a bidirectional bridge between the public and vaccine developers/policymakers to aid support and uptake of vaccination'.

With this objective in mind, the BSI designed and delivered a structured training programme for early career researchers, providing time and practical support to develop as emerging leaders. This includes broadening understanding of the research and career landscape, strengthening professional networks and building confidence for future roles. Academic leadership for the programme was provided by Professor Sophie Acton, University College London.

Twenty early career researchers were selected by the IMMPROVE Consortium to participate in the programme. Participants were drawn from across the consortium's partner institutions and represented a range of career stages, from doctoral researchers to postdoctoral researchers and research fellows. This mix was intended to support peer learning between researchers with various levels of experience and to strengthen connections across the wider IMMPROVE network.

Shaping future leaders

Cohort one ran from December 2025 to June 2026. The programme combined an in-person launch at BSI Congress in Liverpool, followed by monthly online sessions featuring expert input, interactive activities and Action Learning Sets. Content covered the practicalities of running a laboratory, leadership styles and feedback, careers beyond academia, grant development and assessment, collaboration and career reflection. The Action Learning Sets provided a consistent peer-learning space in which participants could explore current professional challenges through structured questioning and reflection.

Key to this approach was the decision to predetermine the content for the initial three sessions, before collaborating with the cohort participants to shape the remaining three around topics that they felt would be the most valuable. The balance of topics also underpinned one of the aims of the programme to provide a diet of skills which may not naturally be explored as part of scientific study and research, but which would be vital for anyone aspiring to a position of leadership within a lab, or indeed for those interested in pursuing careers beyond academia.

During feedback, participants were keen to highlight a number of elements of the course which they found to be particularly valuable. Insight into grant writing and the considerations of funders was a much-requested topic for coverage, and attendees found the opportunity to speak directly to grant panel members to be very helpful in shaping their considerations for future applications. Similarly, the opportunity to speak to career guidance specialists was highly praised, particularly their advice on how to tailor CVs to job descriptions and the specific considerations needed when exploring job opportunities away from academia, including how to reframe lab skills as useful for roles away from bench work. Much of the content on leadership within lab settings was also highlighted for praise – sessions led by senior principal investigators offering frank insights on lab budgets and expense tracking; a workshop exploring the concept of non-violent communication to aid in having difficult conversations with colleagues and advice about how to manage time were all singled out as particularly useful.

Many participants reported immediate changes to their own activity and behaviour as a result of these sessions, including blocking out time in diaries for strategic work, and applying for small pilot funding. The use of Action Learning Sets as a core component of the training resulted in participants moving away from an approach of immediately trying to solve colleagues' problems for them, and instead trying to listen actively, and ask questions so that colleagues could figure out their own solutions.

Find out more

Find out more about the IMMPROVE Consortium here: **https://immprove.ac.uk/**

Learn about how the BSI can support your career: **https://www.immunology.org/careers/bsi-careers-support**

More information about our training can be found here: **https://www.immunology.org/training**

For any questions, suggestions, or for support on developing leadership training for your institution, contact the training team at: **training@immunology.org**.

A first for South West immunology

The inaugural Exeter Immunology Symposium gave the South West's immunologists a meeting to call their own and a chance to show off science ranging from cancer-fighting T cells to the body's uneasy truce with fungi. Peter Cook and William Horsnell report.

In June, just two years after forming our British Society for Immunology regional group, we held the inaugural Exeter Immunology Symposium at the Rougemont Hotel in the heart of Exeter. Delegates came from across the South West, and a good number from further afield in the UK. Getting everyone into one room – across institutions, cities and career stages – felt like an achievement in itself, and the two days that followed more than repaid it.

The talk topics ranged widely. James Pearson, University of Birmingham, argued that in immunology, timing is everything: give a therapy that calms the immune attack behind type 1 diabetes at the right hour of the day, and it works markedly better. From Cardiff, Andy Sewell posed a bolder question. Could one kind of T cell be trained to recognise and destroy many different cancers at once, opening the door to more universal cancer therapies? Gina Doody, University of Leeds, turned to the plasma cells that act as the body's antibody factories, and Matthew O'Shea, also from Birmingham, took on a stubborn puzzle: why some people exposed to tuberculosis fall ill while others never do.

Fungi were a thread running through both days, and they deserve far more attention than they get. Fungal infections are linked to more than two million deaths a year, yet they remain under-recognised and, as drug resistance spreads, ever harder to treat. Exeter has become a natural home for this work: the University hosts the MRC Centre for Medical Mycology, the UK's national centre for fungal disease research and one of the largest concentrations of expertise of its kind anywhere in the world. Salomé Leibundgut-Landmann, Universities of Zurich and Exeter, described the delicate balance the immune system must strike: clearing the fungi that live harmlessly on our skin and in our gut without leaving us exposed to invasive infection. Georgios Chamilos, University of Crete, went deeper still, into the machinery innate immune cells use to swallow and destroy fungi when that peace breaks down.

Early-career researchers were not an afterthought here; they were the point. Most of the talks and posters came from PhD students and postdocs, who presented alongside the invited speakers rather than being tucked away at the margins. Small BSI Travel and Carers' Grants helped several of them make the trip: modest sums, but enough to mean people were there who otherwise could not have been. Prizes went to Jake Elton, University of Exeter, for the best talk, Chloe Moscrop, University of Bristol, as runner-up, and Fannie Chan, University of Bristol, for the best poster. Congratulations to all three.

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What struck us most, though, was harder to fit on a slide. The most rewarding part of the two days was watching researchers from different institutions and campuses, many of whom had never properly met, find each other over coffee and posters. Representatives from the British Society for Immunology were there too, and we thank them for their expert help in creating such a welcoming atmosphere. Our thanks also go to Pixelgen Technologies for their generous sponsorship, and to everyone who spoke, presented and took part. And none of it would have happened without our fellow members of the BSI Exeter Immunology Group committee: Émer Hickey, Teifion Luckett, Sophie Walker and Emily Plumpton, whose energy and hard work turned the idea into two very full days.

The first symposium did what we hoped it would: it brought the region's immunologists together and showed the strength of the science being done here. Through our new seminar series and future symposia, we want to keep that door open, and to invite colleagues across the UK to come and see for themselves just how much immunology is now happening in the South West.

Peter Cook and **William Horsnell** are co-chairs of the BSI Exeter Immunology Group.

Immune Update

The BSI journals

A round-up of new research published in the British Society for Immunology's official journals written by ECR board members of *Immunotherapy Advances, Discovery Immunology* and *Clinical & Experimental Immunology*. Members benefit from discounted publication fees and have access to these journals free of charge at **www.immunology.org/journals**. All BSI paper summaries written by Ellie Pearson, BSI External Affairs intern.

Clinical & Experimental Immunology

CD40L and IL-4 lymph node-associated signals protect B cells from rituximab-induced ADCC via KIR and NKG2A

In this study, the authors investigate why autoreactive B cells survive treatment with ritumaximab, a drug designed to remove B cells. This drug can be used in autoimmune diseases such as rheumatoid arthritis and systemic lupus erythematosus (SLE). Under normal circumstances, rituximab binds to B cells, marking them for destruction by natural killer (NK cells) through a process called antibody-dependent cellular cytotoxicity (ADCC). However, two immune signals, CD40L and IL-4, increase the expression of human leukocyte antigen (HLA)-E and total HLA Class I molecules on B-cells. This was found in both healthy donors and those with rheumatoid arthritis and SLE. When NK cells detect these signals through receptors, NKG2A and KIR, they are less likely to kill B cells. Researchers then tested the drugs, monalizumab (a drug that blocks NKG2A) and lirilumab (a drug that blocks KIR), to see how this would affect the NK cells. They found that it increased antibody-dependent cellular cytotoxicity improving their ability to kill B cells. This finding may suggest that if these two drugs are used alongside ritumaximab, it could help to improve B-cell depletion in autoimmune diseases.

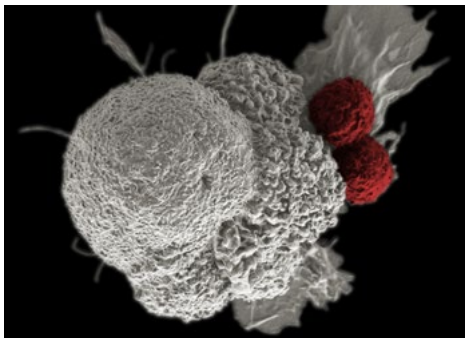
Graham *et al* 2026 *Clinical & Experimental Immunology* **220** uxag001, **https://doi.org/10.1093/cei/uxag001**

Immunotherapy Advances

NLRC5 expression within tumour cells is critical to activate antitumour immune responses

A big issue when tackling cancer, is that the cancer cells reduce their display of MHC-I molecules, which help the immune system recognise and target abnormal cells. A key protein that helps cells produce MHC-I is NLRC5, and many tumours decrease NLRC5 expression as a way of evading immune surveillance, particularly by CD8+ T cells. Researchers in this study wanted to investigate this further, looking at tumours in mice, to see what would happen in melanoma cells were they to produce more NLRC5 in antigen-presenting cells.

The authors found that NLRC5 plays a broader role than previously appreciated, influencing how tumour cells process and present proteins and antigens to the immune system, potentially making tumours more visible to immune attack. Finally, a key finding is that the antigen-presenting cells did not need NLRC5 to be present, only the tumour cells needed NLRC5 to see results. This finding could lead to more effective cancer immunotherapy through increasing NLRC5 activity.



Shukla *et al* 2026 I*mmunotherapy Advances* **6** ltag010, **https://doi.org/10.1093/immadv/ltag010**

Discovery Immunology

Porcine influenza mAbs to H3, H5 and H7 haemagglutinins recognise H3 egg adapted site and target the HA stem

In this research, authors investigate how pigs produce antibodies against influenza (flu) as they more closely mirror humans and therefore may assist us in understanding influenza immunity.

To do this, researchers infected pigs with the influenza virus or immunised them. They then isolated the different antibodies targeting different influenza subtypes. Their analysis revealed that pigs produce some antibodies that were highly strain-specific, while others were broadly reactive and capable of recognising multiple influenza strains. These antibodies also targeted both parts of the virus; the head of the haemagglutinin protein (that varies) and the stem (more similar across different strains of the virus).

They also found that antibodies that bound more tightly to the virus produced a stronger response and that antibodies generated after H5 and H7 vaccination could also recognise subtypes of the virus. Interestingly they also found that one antibody (H3-57) recognised a mutation (L19DP) that arises when flu vaccines are grown in eggs. Such mutations are known to alter antigenicity and may contribute to reduced vaccine effectiveness in humans. Ultimately looking at the immune systems of pigs can act as a good model for human influenza immunity and may aid researchers when developing future flu vaccines.

Cayol *et al* 2026 *Discovery Immunology* **5** kyag006, **https://doi.org/10.1093/discim/kyag006**

Around the journals

A summary of some of the latest papers from the world of immunology.

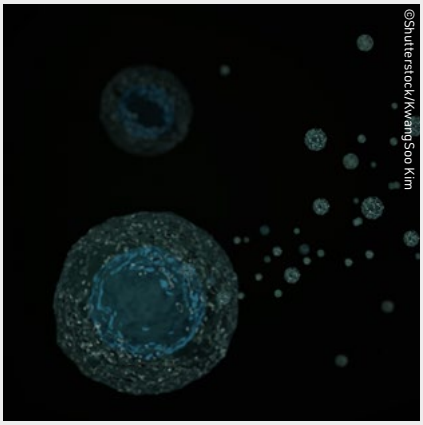
Extracellular vesicles exposing complement split products are associated with kidney involvement in antineutrophil cytoplasmic antibody-associated vasculitis

In this study researchers investigated whether extracellular vesicles (EVs) could help to explain the kidney damage seen in antineutrophil cytoplasmic antibody-associated vasculitis (AAV), an autoimmune disease in which inflammation damages small blood vessels.

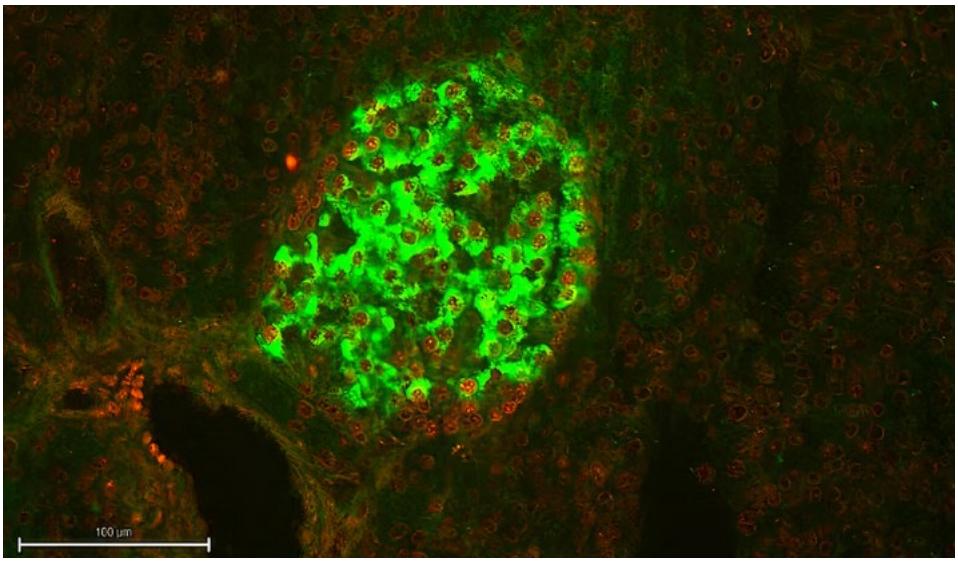
The research demonstrated that those with the disease with kidney involvement had higher levels of MPO-positive (myeloperoxidase-positive) EVs. MPO is a protein that is targeted by the immune system for those with AAV. These EVs also carried markers of complement activation, a key inflammatory pathway that has been increasingly linked to disease progression in AAV. Higher levels of these EVs were associated with more active disease, worse kidney function and more severe kidney damage like necrosis (tissue destruction) and crescents (inflammatory lesions in the kidney filtering units).

Additionally, researchers were able to see which patients had AAV that affected the kidneys and those that did not through the EVs. This is important as it means that MPO-positives EVs could act as a biomarker for identifying patients with kidney involvement, indicating disease severity and hopefully driving further research into the biological mechanisms that drive kidney damage in AAV.

Juto *et al* 2026 *RMD Open* **12** e006468, doi: 10.1136/rmdopen-2025-006468



BCL6 in T cells promotes type 1 diabetes by redirecting fates of insulin-autoreactive B lymphocytes



Type 1 diabetes develops when the immune system mistakenly attacks insulin-producing cells in the pancreas. Current treatments only slow down the disease rather than completely stopping it. Authors of this study have found that when the CD4+ T cells did not have a key germinal centre protein (BCL6), diabetes did not develop even though anti-insulin B cells were still present.

Using a mouse model, the researchers found that removing the BCL6 protein made T cells less active. Without this support, insulin-reactive B cells were less likely to multiply or produce harmful IgG antibodies. Researchers also found that anti-insulin B cells are mainly found outside of the normal germinal centre structures of lymph nodes. These B cells would turn into typical B-cell subsets linked to chronic immune stimulation. When removing BCL6 in T cells, the formation of these atypical B-cell subsets was reduced.

Ultimately, it seems that BCL6 is an important part of the 'activating insulin-reactive B cell' process and, when absent in T cells, the T cells become less able to drive harmful B-cell responses. This then protects against diabetes. In the future, we may be able to prevent the autoimmune response seen in diabetes by targeting BCL6 in therapies.

Clark *et al* 2026 *iScience* **29** 115990, doi: 10.1016/j.isci.2026.115990

Membrane-disrupting saponin-polyphenols as tumour nanovaccine via immunogenic cell death and antigen capture

In cancer treatment, destroying a tumour in one location does not always aid the immune system in recognising cancer cells elsewhere. Researchers in this study have tried to address this through creating an antigen-capturing nanoplatform composed of tannic acid (TA) and saponin which self-assemble to encapsulate photosensitiser forming saponin-polyphenol nanoparticles (ISNPs).

These nanoparticles damage cancer cell membranes, triggering immunogenic cell death and causing the release of damage-associated molecular patterns, tumour-associated antigens and DNA from the cancer cells. These tumour antigens can then also be captured on the polyphenol-rich surfaces of the nanoparticles forming antigen-nanocomplexes that stay in the tumour for longer. This then allows the immune system to generate an anti-cancer response. Using mouse models, researchers found that when treating the primary tumour (successfully destroying it), an abscopal effect occurred, causing a response in the non-primary tumours in the body. These nanoparticles helped the maturation of dendritic cells and a greater infiltration of cytotoxic T cells. This work demonstrates the potential for new strategies for in situ nanovaccination and personalised cancer immunotherapy.

Ma *et al* 2026 *Nano Research* **19** 94908614, doi: 10.26599/NR.2026.94908614

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