

Immunology News

September 2023 | ISSN 1356-5559

From classroom to career

Educators who inspire,
scientists who soar



Teaching excellence:

interviews with our
award winners

Breaking barriers:

the journey of a
deaf immunologist

See you there:

BSI Congress &
BSI-CIPN conference

British Society for
immunology

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Welcome to the autumn edition of *Immunology News*! The production of your Society's membership magazine is made possible through the support and enthusiasm of our members, in particular, thanks to our Editorial Advisory Board. I'm very excited to share that we recently revamped our Board and we now have six fantastic BSI members helping us to ensure our content represents the breadth of interests of our membership – a big thank you to them for volunteering their time and ideas! Please do turn to page 14 to get to know them.

In our feature articles this time you can hear from Professor Allison Green on her experience being deaf and having a career in immunology – it is a pleasure to be able to provide a platform for her to share her story.

We also interview the winners of the BSI Immunology Teaching Excellence Award, Dr Sophie Rutschmann and Professor Tom Wilkinson, whose remarkable work in higher education is truly making a difference in building the next generation of immunologists.

I very much look forward to seeing many of you at BSI Congress and at the BSI-CIPN Conference later this year! Thank you for reading *Immunology News*.

Teresa Prados

t.prados@immunology.org



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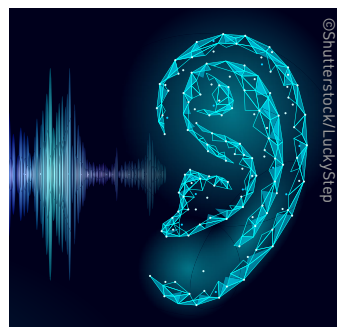


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VIEW FROM ... THE CHIEF EXECUTIVE



Can you believe it is nearly time for BSI Congress again? This year we are in Belfast and would love to see lots of you there. More information can be found on page 6 and I'm sure that you'll agree the scientific programme is fantastic as well as the opportunities to network

with the community. This is a not-to-be-missed event – especially with the next BSI Congress not until 2025 – so please register asap to secure your place at the premier immunology conference!

Many of you will have also seen the news earlier in the year that we have merged with the UK Primary Immunodeficiency Network (UKPIN) and established the BSI Clinical Immunology Professional Network (BSI-CIPN). This new BSI-CIPN is continuing the fantastic work of UKPIN and has broadened its focus to encompass all things clinical immunology. We are delighted to welcome this community into the BSI family and look forward to delivering more initiatives to enhance the professional support for the discipline as well as build collaborations from a research perspective. We also have the first BSI-CIPN conference running alongside the BSI Congress – this has an equally exciting programme so please do have a look now and make sure you register for this too!

I would also strongly encourage you to read the article from Professor Allison Green on her journey as a deaf immunologist (p20). Such an important piece on the challenges she has faced as well as some tips we should all take

on board to help deaf researchers. For me it highlights how much more we need to do to make research accessible to all and how each and every one of us has a role to play in that.

And finally, we have a number of shoutouts to celebrate in this issue, including the winners of the BSI Immunology Teaching Excellence Award – Dr Sophie Rutschmann and Professor Tom Wilkinson (read more on p16-19), our new Board members (p11-12) and the new revamped Editorial Advisory Board for *Immunology News* (p14-15) who help bring you relevant and interesting content in every issue of this magazine. Congratulations and thank you to all of them.

As always, I am delighted to hear from you on your experience of being a BSI member, the work of the BSI or anything else you feel is important – please do just drop me an email. And I'm looking forward to seeing many of you in Belfast in December!

Doug Brown
Chief Executive,
British Society for Immunology
Email: d.brown@immunology.org

Are you making the most of your membership?

Being a member of the BSI means being part of the leading charity organisation for immunology in the UK!

As a BSI member, you have access to many benefits to advance your career.



Supporting members' careers through our grants programme



Accessing the latest cutting-edge research through the BSI Congress



Being part of our community with a strong voice to represent immunology to the highest levels



Developing professional networks through our Regional & Affinity Groups

We bring together people working in different sectors and career stages in one of the largest networks in the world for those interested in the immune system.



Academia



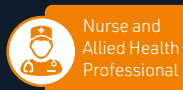
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Are you in the right membership category? Make sure you're taking advantage of all the benefits by updating your details and your category.

If you have any questions, please contact our membership team at membership@immunology.org. Visit www.immunology.org/membership for more details.



SOCIETY NEWS

Her Majesty The Queen at autoimmunity lab

We were delighted to see JDRF welcoming Her Majesty The Queen to University College London Institute of Immunity and Transplantation where BSI member Professor Lucy Walker gave a tour of the lab. Professor Walker's research aims to stop the immune attack responsible for type 1 diabetes and other autoimmune conditions. She is currently undertaking a project jointly funded by Lorna & Yuti Chernajovsky Biomedical Research Foundation and Connect Immune Research, which examines the role of follicular helper T cells in the early stages of autoimmune disease development.

Connect Immune Research is a first-of-its-kind partnership of charities who are dedicated to tackling autoimmune conditions, with partners including the British Society for Immunology, JDRF, Versus Arthritis and MS Society. Last year, the initiative co-funded 10 pilot projects with the Lorna & Yuti Chernajovsky Biomedical Research Foundation to examine the common mechanisms underlying multiple autoimmune diseases with the aim of driving forward discoveries in autoimmunity to make a real difference for patients. Find out more about the visit here <https://rb.gy/3v9do> and about Connect Immune Research here <https://rb.gy/44h2b>.

New impact factor announced

We are pleased to share the latest impact factor for the British Society for Immunology's official journal *Clinical & Experimental Immunology (CEI)*, 4.600. *CEI* continues to build upon its position as a long-standing and highly respected publication in the field of immunology.



**Clinical & Experimental
IMMUNOLOGY**

We'd like to thank the editorial team, led superbly by Editor-in-Chief Professor Leonie Taams, for their ongoing commitment to the journal, and everyone who has contributed to the continued success of *CEI*, including authors, readers, reviewers and editors.

While aware that the impact factor has certain limitations, we take this as one measure of the high-quality work submitted by our authors.

The BSI family of journals offers a broad suite of additional benefits to authors, including a very rapid time to first decision, live Altmetric tracking on your articles, no page or colour charges for members, integration with Publons, and the skills of a dedicated marketing team who will promote your article to interested parties.

Profits derived from the sale of the journals are invested back into the BSI to benefit our members in the form of grants, travel awards, BSI Regional and Affinity Group meetings, our popular BSI Congress and other key initiatives. Support the BSI by submitting your work.

You can find more information about the BSI journals, *CEI*, *Immunotherapy Advances* and *Discovery Immunology*, here www.immunology.org/journals.

In the realm where cancer takes its hold,
Lies the tumor microenvironment, untold.
A complex world within, it plays a key role,
In the battle waged by immunotherapies, their ultimate goal.

Within this environment, cells gather and conspire,
Creating a shield, fueling cancer's fire.
They protect the tumor, like fortress walls,
Making it resistant to treatment calls.

Immunotherapies enter this terrain,
Seeking to break through the tumor's reign.
They aim to awaken the immune system's might,
But the microenvironment poses a formidable fight.

It hampers the immune response, elusive and sly,
Suppressing the warriors, causing them to comply.
Cytokines, cells, and signals it manipulates,
Challenging the immunotherapies' fate.

Yet researchers persist, exploring each bend,
Understanding the microenvironment, quest they attend.
To unlock its secrets, find the right way,
To enhance the therapies and win the day.

For within this intricate web lies a chance,
To disrupt the tumor's hold, to advance.
Immunotherapies strive to reshape the scene,
Unleashing the immune system, a force so keen.

Through innovation and knowledge, they aim to find,
Strategies to overcome, leaving no doubts behind.
With the amor microenvironment in their sight,
Immunotherapies fight for victory, shining bright.

Swetha Kannan,
PhD student, University of Cambridge

Get creative!

Have you written, drawn or made something about immunology?
We would love to see your creations!
Let us know by emailing
t.prados@immunology.org or
tagging [@britsocimm](https://twitter.com/britsocimm) on Twitter.



SOCIETY NEWS

BSI Congress 2023

Monday 4 to Thursday 7 December 2023
Belfast, UK

The UK's top immunology conference is back – this year we are coming to the wonderful city of Belfast!

Our flagship event attracts over 1,500 attendees and provides the perfect opportunity to connect with the UK and international immunology community. The extensive programme boasts a diverse selection of immunology topics covering cutting-edge research from leading scientists around the world. We also have a range of networking opportunities to allow you to exchange ideas and build links to aid your next career step.

Join us for an exciting and innovative mix of the highest quality basic and translational immunology research from around the world.



Keynote lecture

Dr Ronald Germain

National Institute of Allergy and Infectious Diseases, National Institutes of Health, USA

'Visualising immunity – insights from multiplex dynamic and static tissue-scale imaging'

18:00, Monday 4 December

Help with your travel costs

All BSI members are eligible to apply for a BSI Congress Travel Grant to assist with the costs of attending the meeting. More information at: www.immunology.org/bsi-congress-travel-grant.



5 reasons to submit an abstract

1. Disseminate your latest research ideas and make your work accessible
2. Gain recognition in the immunology community
3. Debate immunology in a friendly atmosphere
4. Start discussions that can lead to future collaborations
5. Compete for a £250 poster prize

BSI AGM – have your say!

17:30–18:00, Tuesday 5 December

We would like to encourage all BSI members to join us at our 2023 Annual General Meeting.

This is your opportunity to find out more about the work of your Society, what activities we have carried out in the past year and what we are doing to support our members and represent immunology in the UK.

Dates for your diary

Grants applications:

Monday 18 September

Early bird registration:

Wednesday 25 October

Late-breaking abstract submission:

Friday 20 October



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. More information at www.immunology.org/bsi-congress-carers-grant

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.

To make our Congress more accessible to a wider audience, we're also providing an online option for delegates unable to attend in-person, including access to all the scientific sessions and an online poster gallery.

Programme highlights

PLENARY SESSIONS

- **Human genetic variation and variability of vaccine responses**
Exploring the relationship between human genetic variation and immune responses
- **Predicting antiviral host immunity in the context of inborn errors**
Recent advances in antiviral immunity following discovery of several novel IEI
- **Immune communications between tissue sites**
New insights on immune regulation and communication across and within tissues
- **Big data and informatics to bedside**
New opportunities for data and informatics-driven immunology
- **Immune cells and microenvironments across the life course**
How the dynamic interplay between immune cells and their tissue microenvironment impact clinical medicine
- **Obesity, malnutrition, immunity and inflammation**
Nutritional immunology and the mechanisms underlying obesity-induced changes in immune cell function

Plus 30 exciting parallel sessions across 25 immunology themes!

Exhibitors and sponsors

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



Bright Sparks in Immunology

12:30–16:00, Monday 4 December

Our showcase of work from early career researchers in immunology.



Bright Sparks in Immunology provides PhD students and early career postdocs with experience of presenting their work to a large audience and debating immunology in a friendly atmosphere. This exciting event combines competition with excellent science and networking.

Supporting sessions and industry satellite symposia

There will be many opportunities to learn about the important work being carrying out in industry and the research, technologies and products that could help your own work. Keep an eye on the programme for exciting sessions offering delegates a chance to familiarise themselves with the latest advances in research and technology.



BSI-CIPN Conference 2023

Monday 4 to Tuesday 5 December 2023, ICC Belfast



The BSI-CIPN Conference will be held alongside the BSI Congress and is an essential event for consultants, trainees, nurses and scientists working within clinical immunology. The agenda covers a wide range of topics relevant to clinical immunology research and practice, addressing the latest thinking around key medical, scientific, educational and management issues.

Register to hear from leading experts in the field on the latest advances in clinical science and patient care, plus unique opportunities to network with peers and industry partners.

Discounts are available for attending both events; please get in contact with our events team at meetings@immunology.org for further details.

bit.ly/BSI-CIPN-Conference-2023

Get the latest info
www.bsicongress.com

Twitter: @bsicongress
Join the conversation using

#BSI23

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

SOCIETY NEWS

BSI-CIPN: fostering greater collaboration in clinical immunology

Earlier this year we announced the official launch of the BSI Clinical Immunology Professional Network (BSI-CIPN), formed as a result of our merger with the UK Primary Immunodeficiency Network (UKPIN). This new venture marks an exciting next chapter for the Society as we expand our reach into the clinical space and strengthen our support for the immunology community to network and collaborate across many disciplines.

With the aim of bridging the gap between clinical practitioners and basic scientists, the BSI Clinical Immunology Professional Network invites clinicians from different backgrounds to join the network and unlock new opportunities for interdisciplinary collaboration to advance the field of clinical immunology.

Who can join the BSI-CIPN?

BSI-CIPN membership is open to professionals and scientific and medical trainees working in the clinical immunology space, including:

- clinical immunologists
- allergists
- healthcare scientists
- pharmacists
- immunology specialist nurses.

The BSI-CIPN offers an inclusive and integrated platform for clinicians and scientists from diverse backgrounds to connect with fellow professionals in the clinical immunology space, exchange ideas and form partnerships that transcend traditional disease or specialty-based boundaries. The network acts as a hub for knowledge sharing and collaboration, enabling clinicians to leverage the collective learnings of experts across various disciplines. This multidisciplinary approach is essential for tackling the complex challenges of clinical immunology and driving breakthroughs and treatments for patients with immune-mediated diseases.



British Society for Immunology

CIPN

Clinical Immunology Professional Network

"The BSI Clinical Immunology Professional Network is a wonderful opportunity for healthcare scientists (clinical and biomedical) to collaborate with other professionals to ensure optimal care for our patients. This BSI has a long history of driving immunology research, and this merger should enable improved translational research resulting in better diagnostics and therapies. The merger offers numerous opportunities for sharing knowledge, meeting new colleagues and expanding networks; it should benefit individual scientists as well as the clinical immunology community."

Dr Kimberly Gilmour, Consultant Clinical Scientist in Immunology, Great Ormond Street Hospital
BSI-CIPN Clinical/Biomedical Scientist Representative

Being part of the BSI-CIPN grants clinicians access to a range of resources to build their skills and advance their career, including training workshops, outreach opportunities and dedicated events, including the upcoming BSI-CIPN conference in December (find out more on the next page).

BSI-CIPN resources



Networking



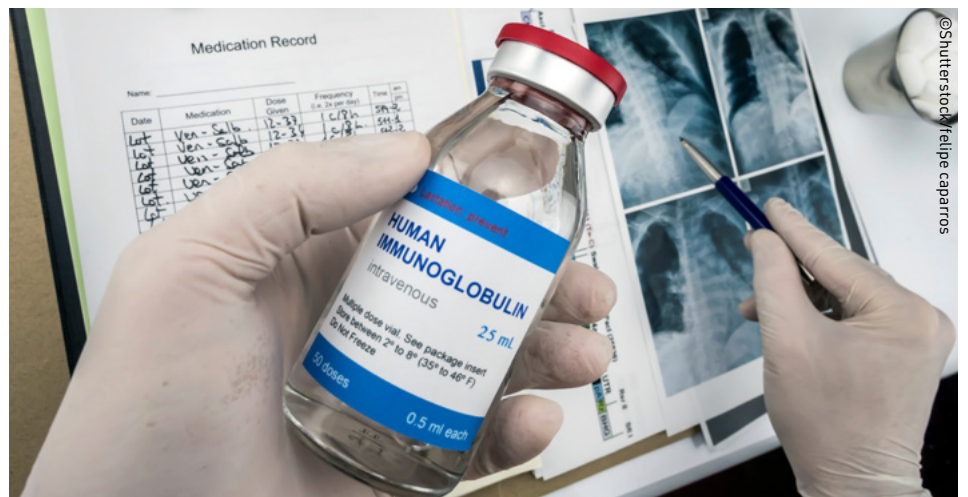
Events



Guidelines



Training



SOCIETY NEWS

The BSI-CIPN will also produce clinical guidelines to establish best practice for patient diagnosis and care and to define future research priorities (www.immunology.org/guidelines).

Immunology nursing competency framework

Working together as part of the BSI-CIPN, a project group of ten Advanced Nurse Practitioners, Nurse Specialists and Nurse Consultants working in immunology around the UK recently published the first framework outlining the breadth of the immunology nurse's role. It covers the core skills and knowledge expected of an immunology nurse working towards expert practice, from newly entering the speciality to undertaking nurse-led clinics. You can download the framework at <https://bit.ly/46MCzAl>.

"Optimal care for patients with immune-related conditions can only be achieved through shared expertise and teamwork. As the Nursing Representative for the BSI Clinical Immunology Professional Network, I invite immunology nurses to join us and help strengthen collaboration across the sector. By bringing together experts from across different disciplines, the network allows us to discuss clinical best practices and stay up to date with the latest research and therapeutic advances. It's also a strong platform to establish more unified training protocols and guidelines, such as through the BSI-CIPN's publication of the first competency framework for immunology nursing in the UK."

Jill Edmonds, Immunology Specialist Nurse, Royal Liverpool and Broadgreen University Hospitals NHS Foundation Trust
BSI-CIPN Nursing Representative

Clinical Immunology Training Days

The BSI partners with the Association of Clinical Pathologists to run Clinical Immunology Training Days aimed at medical trainees in immunology and allergy, and immunology clinical scientists preparing to sit the Allergy and Clinical Immunology Certificate Examination (ACICE) and/or Fellowship Examination of the Royal College of Pathologists (FRCPath) in Immunology. To find out when the next training day is taking place, please visit: www.immunology.org/training/clinical-immunology-training-days.

As an integrated network within the BSI, the BSI-CIPN provides a strong voice for clinical immunology in policy and public affairs. By joining forces, we can make a greater impact advocating for clinical immunology in healthcare and workforce policy, research funding and public awareness. The BSI-CIPN provides clinicians with a unique opportunity to collaborate, drive forward research and improve patient care. By joining this exciting new network, clinicians gain access to valuable resources, expand their professional networks and contribute to transformative therapies.

"The formation of the BSI Clinical Immunology Professional Network is a great development for UK clinical immunology and will hopefully strengthen connections between clinicians and academics in our field as well as allowing further collaborations between organisations working in allergy and clinical immunology."

Dr Tomaz Garcez, Consultant Immunologist, Manchester University NHS Foundation Trust
Clinical Representative, BSI Member Representative Forum

Join the BSI-CIPN today and become part of a dynamic community shaping the future of clinical immunology.

Find out more

For further information about how to join the network, visit the BSI-CIPN website section at www.immunology.org/cipn. If you have any questions about how the merger might affect you, please take a look at our FAQs at www.immunology.org/bsi-and-ukpin-merger-faqs or get in touch with us by emailing CIPN@immunology.org.

Follow the network on Twitter @BSI_CIPN



BSI-CIPN Conference 2023

Monday 4 to Tuesday 5 December 2023, ICC Belfast

This two-day meeting is an essential event for consultants, trainees, nurses and scientists working within clinical immunology. The agenda covers a wide range of topics relevant to clinical immunology research and practice, addressing the latest thinking around key medical, scientific, educational and management issues. Register today to hear from leading experts in the field on the latest advances in clinical science and patient care, plus unique opportunities to network with peers and industry partners.

bit.ly/BSI-CIPN-Conference-2023

Programme highlights:

- Educational sessions on genome analysis and single-cell RNA sequencing
- Sessions on allergy, diagnostics, immunodeficiency, inflammation & nursing
- Grand Round Great Debate

The BSI-CIPN Conference will be held alongside the BSI Congress, which will include many sessions relevant to clinical immunology. Discounts are available for attending both events; please get in contact with our events team at cipn@immunology.org for further details.

Early bird registration deadline:
Wednesday 25 October

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Anti-mIL-1β
Anti-mIL-2
Anti-mIL-6
Anti-mIL-13
Anti-mIL-28B

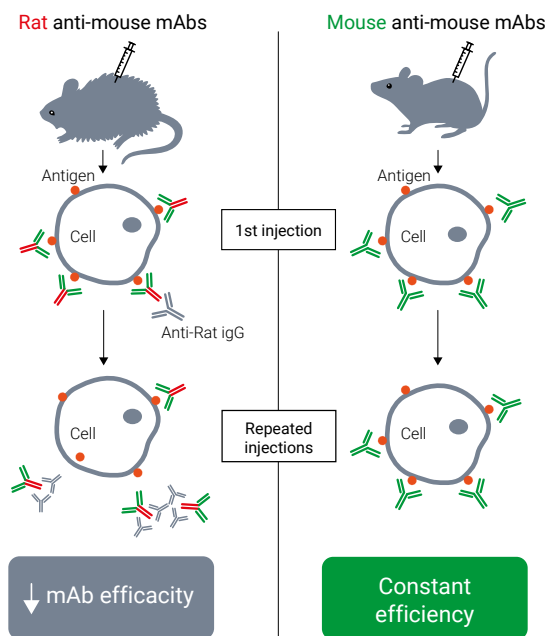
Immune checkpoints

Anti-mCTLA-4
Anti-mGITR
Anti-mPD-1
Anti-mPD-L1
Anti-mTIGIT

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SOCIETY NEWS

New BSI Trustees

Our Board of Trustees is crucial to our work, ensuring the Society is well run, financially sound and that it meets its charitable aims and objectives. We're delighted to welcome Professor Deborah Dunn-Walters (who was re-elected), Dr Divya Shah, Professor Jessica Strid and David Pemberton, who joined the Board in July 2023.



DEBORAH DUNN-WALTERS

*BSI General Trustee
Professor of Immunology,
University of Surrey*

"I have been a member of BSI for over 20 years and have benefitted greatly from the networking opportunities afforded by BSI Congress and BSI Regional & Affinity Group meetings. I feel that it is extremely important that we maintain and reinforce our welcome to our fellow immunologists from all backgrounds. In particular, we should continue and build upon the BSI's efforts to support ECRs through the often-difficult transition between post-doc years and later career, whichever sector that may be in.

"My own scientific interests lie in B cell development in health and disease, looking through the lens of the adaptive immune repertoire. I have also studied the ageing of the normal human B cell repertoire for over two decades, and I am a co-director of the CARINA network. In my first term as BSI General Trustee, I have been proud to be part of an organisation that has expanded their membership and activities, as well as having a huge influence through the pandemic, providing expert advice at all levels, some of which I witnessed firsthand as Chair of the BSI COVID-19 Immunology Taskforce.

"I am looking forward to continuing to support the Society, with particular emphasis on helping ECRs through their research journey."



DIVYA SHAH

*BSI General Trustee
Research Lead in Sites & Systems,
Infectious Diseases, Wellcome Trust*

"After completing my PhD in Immunology at Imperial College London, I undertook postdoctoral fellowships in Canada and the UK. In 2015 I changed careers and joined Wellcome, the UK's largest biomedical research charity. I led and contributed to various immunology-focused initiatives such as immune-mediated inflammatory diseases, allergy and neuroimmunology. In 2021, as Epidemics Research Lead, I drove Wellcome's epidemic preparedness and response activities, and I established an international COVID-19 genomics surveillance initiative. My current role involves strengthening the enabling environment for research ecosystems, and supporting access to affordable vaccines and treatments, in low- and middle-income countries.

"I am delighted to be re-elected as a BSI Trustee. I will use my term to advocate for equity, diversity and inclusion (EDI) and help embed the Diversity & Inclusion Framework, and will continue to champion opportunities for early career researchers and for those who want to pursue a career outside traditional academia. I hope to bring the knowledge and skills that I have gained in academic research, funding, science strategy, leadership and management to support scientific discovery in immunology and have a positive impact on health and society."



JESSICA STRID

*BSI General Trustee
Professor of Cellular Immunology,
Imperial College London*

"I am not only slightly obsessed by all things immunology but also a big supporter of the work that the BSI does for all us immunologists. I became a member of the BSI as soon as I started my PhD and have attended the BSI Congress every year since 2000. It has enabled me to meet many of the great immunologists in the UK and beyond, and has been fantastic for generating ideas and forming collaborations. I also attend and contribute to as many of the BSI local seminar series and events as I can.

"I am a firm believer that the BSI is in no small part contributing to the success of the immunology field in the UK. I am keen to contribute to the BSI and help advance both immunology research, education, public outreach and EDI within our field. I have previously been a BSI Congress Committee member and I have a good notion of the impactful work that the BSI does.

I have plenty of ideas, and I am energetic, responsible and happy to speak my mind. I am proud to sit on the Board and represent you all as a BSI Trustee."

SOCIETY NEWS

**DAVID PEMBERTON**

BSI Co-opted Trustee and Finance
Sub Committee member

Director, Railway Paths and Professor
of Practice, Nottingham University

"I think it's very valuable to experience charity governance from an executive and non-executive perspective. As a charity manager who has always held at least one additional voluntary position as a finance trustee, I'm pleased to bring a focus on good governance and operations from a balanced experience of those two roles around a board table. In over fifteen years of charity finance and governance experience, I have enjoyed working with stakeholders to solve societal issues, and, particularly, creating environments of high trust, high expectation and high accountability.

"I'm not only enthusiastic about the BSI's mission, but also about using insightful financial analysis and planning to produce practical and coherent business plans. I believe it's important for a Board of Trustees to be passionate about the charity's mission, but you won't change the world if you can't balance the books! I'm looking forward to working with the BSI Board of Trustees and team to ensure that the Society continues to be financially sustainable."

 **Find out more**

Find out more about our Board at
[www.immunology.org/about-us/
our-people/governance](http://www.immunology.org/about-us/our-people/governance).

BSI Member Representative Forum: here to represent you

Our Member Representative Forum meeting in June was very insightful and productive, covering an array of important topics for the BSI. Firstly, Dr Faith Uwadiae, BSI Early Career representative and Wellcome Trust's Research Culture & Communities Specialist, set the scene on research culture with some important background and reflections on her role and Wellcome's work. This led to valuable insight from members on various aspects around research culture, including negative competition, equality, diversity and inclusion, why individuals leave academia and how the BSI can have a positive influence in this area.

The meeting then moved to considering different ideas for additional sessions and activities at BSI Congress that would highlight issues and activities of interest to our delegates. Forum members put forward an excellent variety of ideas for these sessions providing plenty of food for thought!

Next was an update from our Director of External Affairs, Jennie Evans, regarding the

new BSI Clinical Immunology Professional Network (BSI-CIPN), including the upcoming conference and recent activities such as the BSI-CIPN Immunology Nursing Competency Framework.

Lastly, we heard from our Head of Publishing, Lucy McIvor, about the BSI family of journals, including past and upcoming milestones, leading to another constructive discussion.

Finally, Forum was given updates from the BSI team who reported on how they have been championing the immunology community through various lines of work across the organisation.

If you would like to raise any issues for your Member Representative Forum to discuss at an upcoming meeting, please contact your relevant representative – you can find a list on our website at www.immunology.org/forum. Alternatively, you can email our Director of External Affairs, Jennie Evans, at j.evans@immunology.org, who can pass the message on.

Immunotherapy Advances: submit your research!

Immunotherapy Advances is our Open Access journal covering the translational pipeline for immunotherapy, from discovery research and preclinical animal models through to clinical trials. Launched in 2020 as part of the BSI family of journals, it is led by Editor-in-Chief, Professor Tim Elliott, who is supported by an Editorial Board of globally renowned experts. Now indexed in PubMed Central and Scopus, it has been publishing high-quality research relating to manipulations of the immune system for the benefit of human and animal health in all disease areas for the past few years.

The journal encourages experimental medicine and first-in-human clinical studies and welcomes negative clinical trials where they contribute to immune-mechanistic insight. It also recognises the growing importance of interdisciplinary working in this area and encourage studies that are at the interface with engineering, mathematics and computer science, chemistry and the physical sciences.



Topics of interest to the journal include:

- Manipulations of the immune system for the benefit of human and animal health
- Immunotherapeutic interventions (such as small molecules, biotherapeutics and therapeutic vaccines) and their mechanism of action in all disease areas
- Understanding of immunological mechanisms
- Discovery research through to clinical trials
- Interdisciplinary research with physical sciences, maths and engineering.

We offer a 20% discount on publication fees in *Immunotherapy Advances* for BSI members. All BSI members are eligible for a discounted Article Processing Charge (APC) of £1,600. We'd like to encourage BSI members to support your Society's journal and submit to *Immunotherapy Advances*: <https://academic.oup.com/immunotherapyadv>.

SOCIETY NEWS

BSI at FOCIS 2023

The Federation of Clinical Immunological Societies (FOCIS) 2023 Annual Meeting took place in Boston, USA on 20–23 June. We were delighted to have a strong presence at the conference, which brings together researchers and clinicians around the world to showcase the latest breakthroughs across immune-mediated diseases.

As a member of the Federation of Clinical Immunological Societies, the BSI is part of a forum of 62 member societies based across the world fostering interdisciplinary approaches to understand and treat immune-based diseases.

The FOCIS Annual Meeting is one of the biggest international conferences in the field of translational immunology, bringing together researchers and clinicians working on a wide variety of immune-mediated diseases to share knowledge across traditional research borders. The four-day programme focuses on the molecular pathways that underly immunopathologies, providing an opportunity to apply ideas from other diseases and identify commonalities between treatment and therapies.

Over the past few years, the BSI has established a fruitful partnership with FOCIS to support the promotion of each other's conferences, in the hopes of fostering greater scientific exchange and international collaboration between our communities. We were delighted to have a strong presence at the 2023 Annual Meeting, with Professor Leonie Taams, Editor-in-Chief of *Clinical & Experimental Immunology* in attendance in Boston for a week of cutting-edge science.

During the 'State of FOCIS' address, Professor Taams presented the 2023 British Society for Immunology Poster Abstract Prize to Dr Yuan Gao from Shanxi Medical University, China. Dr Gao's

abstract 'Sex-specific unconventional neutrophils determine immunological outcome in autoinflammatory disease' was selected by Professor Leonie Taams and Professor Ciro Piccirillo on behalf of the BSI. Professor Taams commented, "The abstract submissions to FOCIS 2023 were of high quality. This abstract stood out to us as it identified sex-specific heterogeneity in neutrophil composition under normal and inflammatory conditions at single-cell resolution. Understanding how biological sex influences the immune response is important but is still quite under-researched in immunology".

The FOCIS Annual Meeting is always an opportunity to celebrate excellence and we were delighted to see several BSI members were also recognised at FOCIS 2023. Dr Allison Maher (Imperial College London) and Dr Sam Burgess (UCL) were each awarded a FOCIS Research Award, while Dr Carl Coyle (King's College London) took home a FOCIS Research Award and Poster of Merit award. Our congratulations go to all!

Our long-standing journal of translational immunology, *Clinical & Experimental Immunology*, was also well represented at the conference. As in previous years, the journal compiled a Virtual Issue of free primary research and review articles to complement the scientific programme of FOCIS 2023, organised according to sessions within the programme such as



'Cutting Edge of Transplantation', 'Tolerance Therapeutics' and 'Immunity Across the Ages', the collection provides an opportunity to delve into further reading on these hot topics. Read the Virtual Issue at <https://bit.ly/3Jr3TdT>.

Just in time for the Annual Meeting, *Clinical & Experimental Immunology* also published a new Review Series titled 'Unconventional T cells in health and disease'. The series was born out of the Canadian Society for Immunology (CSI) guest symposium 'Unconventional T cells in Chronic Disease and as Targets of Therapy' at the 2022 FOCIS Annual Meeting, and was guest edited by Professor Kelly McNagny of the University of British Columbia, Canada. It features seven free review articles which demonstrate the biology and function of these often-overlooked cells, highlighting scenarios where unconventional T cells prove themselves not to be an evolutionary relic on the path to emergence of antigen-specific conventional T cells, but instead may convey a selective advantage in survival. Read the Review Series at <https://bit.ly/3qWxPs2>.

Reflecting on the event, Professor Taams remarked, "FOCIS 2023 was yet again a great congress. It's a wonderful opportunity to hear the latest in translational immunology, see old friends and meet new collaborators. I encourage all BSI members who are interested in translational immunology to look out for next year's meeting in San Francisco."

The BSI is proud to be a part of the FOCIS community and we look forward to continuing our partnership to promote scientific exchange and international collaboration.

FOCIS 2024 will take place on 18–21 June 2024 in San Francisco.



Call for papers: Tolerance therapeutics

Immunotherapy Advances is welcoming submissions for an upcoming Special Collection on tolerance therapeutics, led by Professor John Isaacs (Newcastle University, UK) and featuring articles from FOCIS President Dr Megan Sykes and Professor Shimon Sakaguchi. Coming out of the 5th International Workshop on 'Therapeutic tolerance: lessons learned' held in 2022, this collection will focus on advances at the cutting edge of clinical therapeutic tolerance strategies and its role in immune regulation and identifying targeted treatment options. Submit your paper at <https://bit.ly/ITASubmit>.

 Find out more

focisnet.org
academic.oup.com/cei

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SOCIETY NEWS

Meet our revamped Editorial Advisory Board

As the BSI membership magazine, *Immunology News* is an important channel that enables our mission to be a focal hub for the immunology community. With it, we aim to not only highlight how we're supporting our members and representing immunology on a wider stage, but also to amplify the voice of our membership. Following last year's call for BSI members to get involved with the magazine, we are pleased to introduce our revamped Editorial Advisory Board.



Professor Ann Ager

"My day job as an immunologist focuses on understanding how T lymphocytes move around the body to protect against infection, control cancer growth and contribute to neurodegeneration, such as in Alzheimer's disease. I started my postgraduate research career in vascular biology, switching to immunology when I worked with Professor Bill Ford in Manchester. I'm now Professor of Cellular Immunity and Immunotherapy at Cardiff University. More than 35 years ago and in an attempt to get up to speed with immunology (a daunting task!), I joined the BSI. I soon realised that the BSI is much less formal and more inclusive than other learned societies – I was hooked and have been a member ever since.

"I endeavour to be a role model by voicing my opinion and standing for positions of responsibility. For example, I served as Chair of the Membership Representatives Forum (previously known as Forum) and on the Board of Trustees (2019–2022) and have been a council member of the International Union of Immunological Societies (IUIS) since 2019. *Immunology News* is a very important channel for communicating and engaging with BSI members and, as part of the Editorial Advisory Board, I hope to support and encourage participation, addressing those issues important for the future of immunology such as career development, mentorship, training and scientific integrity."



Professor Edd James

"I'm Professor in Cancer Immunology and Associate Dean for Infrastructure in the Faculty of Medicine at the University of Southampton, looking at the fundamental questions about how antigens are processed for presentation on MHC class I molecules in disease. After my PhD in the lab of Elizabeth Simpson at Imperial College London I moved into the field of antigen processing and presentation as a Wellcome Trust travelling fellow in the lab of Nilabh Shastri at the University of California at Berkeley. When I returned to the UK in 2006, I established my group at the University of Southampton. My team investigates the role antigen processing and presentation plays in generating immune responses in cancer, infectious disease and autoimmunity, with a focus on the aminopeptidases ERAP1 and ERAP2, and how these processes can be modulated for therapeutic benefit.

"I joined the BSI in 1997, and I very much enjoy meeting old and new friends at the BSI Congress. It's fantastic to be able to listen to the latest discoveries and play an active role through session suggestions, chairing and presenting. I'm part of the *Immunology News* Editorial Advisory Board to help shine a light on areas of immunology that are not in the main spotlight and promote accessibility to all in the immunology community."



Dr Louisa James

"I am a Senior Lecturer in Immunology at the Blizard Institute, Barts and The London Medical School, Queen Mary University of London. My research aims to better understand how immune memory is regulated and maintained; my group works on human B cell biology in the context of inflammatory disease. We combine high throughput sequencing of antibody genes with single-cell RNA sequencing to analyse human B cells from blood and tissue. Alongside this we use molecular cloning and recombinant expression to generate monoclonal antibodies, to determine their functional characteristics.

"Having been a BSI member for nearly 20 years (I attended my first BSI congress as a PhD student in 2004), I feel very much a part of the immunology community. As well as attending BSI Congress and other BSI events, I am part of the London Immunology Group and have participated in various public engagement activities on behalf of the BSI. Being on the *Immunology News* Editorial Advisory Board is a great opportunity to contribute to that community, share ideas, and promote the work and achievements of our colleagues. It also benefits me in keeping up to date with events and learning about the continued advances in research."

SOCIETY NEWS

**Dr Donald Palmer**

"I am currently Associate Professor of Immunology at the Royal Veterinary College (RVC), University of London, and Honorary Senior Lecturer at Imperial College London. My main research interests are focused on understanding the effect of age on the immune system; in particular, the contribution of the microenvironment towards immunosenescence.

'Being part of the Editorial Advisory Board for *Immunology News* is another way in which I'm contributing to the BSI's mission'

"In over 30 years as an active member, the BSI has been invaluable to my development and career, and I've had the opportunity to 'give back' to the immunology community in a number of ways. I've volunteered for various roles, including my current role as BSI Education & Careers Secretary, and have been involved in organising events, engaging with the public and developing ideas towards the BSI's strategic goals, and I'm so honoured to be joint winner of the Society's inaugural Diversity and Inclusion Award.

Being part of the Editorial Advisory Board for *Immunology News* is another way in which I'm contributing to the BSI's mission, highlighting cutting-edge research, unique topics in immunology, different career paths and support for early career researchers."

**Dr Zania Stamatakis**

"I am a viral immunologist with expertise in liver disease, based at the Institute of Immunology and Immunotherapy, University of Birmingham. I first joined the BSI as a PhD student at Imperial College London with the Institute for Animal Health and remained a member as a postdoc at the Babraham Institute in Cambridge and as an early career principal investigator funded by a Royal Society Dorothy Hodgkin Fellowship at the Centre for Liver Research in Birmingham.

"I am now associate professor in viral immunology and hold an intermediate career fellowship funded by the Medical Research Foundation (UKRI). I love being a part of the dynamic, warm and supportive BSI community, and I have benefitted and contributed over the years as a member and as previous Chair of the West Midlands Regional Group.

"I am academic lead for researcher development at my college, and I am passionate about developing others and communicating science. Have you checked out the BSI mentoring scheme yet? My top values include integrity, innovation and impact, and I enjoy interdisciplinary projects and working with industry. In my current role, I represent mid-career researcher viewpoints, with a focus in underrepresented groups. I would love to hear from you to discuss your ideas for contributions!"

**Dan Underwood**

"I am a 4th year PhD Student based at the Institute of Medical Sciences within the University of Aberdeen. My project focuses on the interactions between macrophages and bacteria, predominantly *Salmonella* species, with a specific focus on the intracellular adaptor protein p62 and its role in immune signalling post-infection. Looking ahead, I want to find that balance between my passion for research and my passion for teaching.

'I hope I will be able to bring a perspective of what PhD students and early career researchers might be interested in reading about'

"I joined the BSI during my MSc at LSHTM, where, as part of the course, we went to the BSI Winter School in Nottingham. I have been a member ever since, taking part in some of the regional conferences around the UK and various training schemes. I am now using my membership for a new venture, being part of the magazine's Editorial Advisory Board, where I hope I will be able to bring a perspective of what PhD students and early career researchers might be interested in reading about."

Call for contributions

We're always looking for ideas and articles to feature in upcoming *Immunology News* editions. Whether you'd like to highlight your career path to others or inspire others with your expertise, please get in touch. We're particularly interested in having a diversity of voices that represents our strong community of immunologists. Please contact us to pitch us your submission, at media@immunology.org.

BSI Immunology Teaching Excellence Award:

interviews with Dr Sophie Rutschmann and Professor Tom Wilkinson

Our Immunology Teaching Excellence Award recognises exceptional immunology teachers working in a higher education institute in the UK. This year, it has been awarded jointly to Dr Sophie Rutschmann at Imperial College London and Professor Tom Wilkinson at Swansea University.

An interview with...

DR SOPHIE RUTSCHMANN



Dr Sophie Rutschmann is Programme Director for the MSc in Immunology and the Faculty of Medicine Academic Lead for Digital Education at Imperial College London.

Among her innovations is a module of learning focused on the BSI Congress event, and a suite of MOOCs (Massive Open Online Courses) in immunology, which has been hugely successful and is expected to have a significant global reach.

We spoke to Sophie about the substantial impact she has made on the way teaching is delivered, the challenges and opportunities in higher education and what this award means to her.



Congratulations again on winning the BSI Immunology Teaching Excellence Award! What did it mean to you to win this award?

An awful lot, actually! Recognition from colleagues and peers is always nice, but receiving an award from an external body to your institution is even more meaningful. I see my current role as facilitating connections between researchers and students, by putting the right experts in the right room at the right time so they can share and showcase their work. To me, having those experts in the field recognising my work in education means I'm doing something right.

That's wonderful to hear. I'd love to know more about your professional background. How did you first get involved in teaching?

When I was younger, I wanted to be a social worker because of the human interaction side of it, but I went to study biology at university instead which I truly enjoyed. All along I told myself: "as long as I enjoy it, I will continue in science; if not, I will find something else". I did a PhD on *Drosophila*'s humoral immune response using a genetic approach and then a post-doc in California on mice using the same approach. Then, as a Lecturer at Imperial, I used genetics again to identify new genes required for the development and

'I always found teaching extremely rewarding as it has the human element that I was always passionate about, and I got the chance to work in a top university, with brilliant students, colleagues and funding for education initiatives.'

maintenance of memory CD8⁺ T cells during acute and chronic viral infections.

Alongside running my research lab, I had three children and, when I came back from maternity leave, I had the opportunity to get fully involved in education leadership in our intercalated BSc and our MSc in Immunology. I always found teaching extremely rewarding as it has the human element that I was always passionate about, and I got the chance to work in a top university, with brilliant students, colleagues and funding for education initiatives. There are challenges around managing our students' experience, but it really is an amazing environment. As Academic Lead for Digital Education in the Faculty of Medicine, I carry out leadership and strategic work, so spending time in the classroom keeps me grounded!

You've mentioned some aspects that you find rewarding and some that are more challenging. Can you talk a bit more about those?

Let's start with the positives. I love seeing students develop their skills so that one day, they can make a difference in the field of immunology or another area if science isn't for them. I do bump into some of them doing PhDs and postdocs at the BSI Congress which is incredibly rewarding! It's also brilliant to be able to interact with young people as they challenge you and keep you on your toes, and you help them navigate adult life, outside of pure science – that's exactly what I'd like for my kids going to university, knowing that they have that type of support and environment.

There are of course several challenges. Firstly, I think we ought to move away from viewing teaching as just transmitting knowledge. For me, it's about skills, both practical and intellectual. We need to convey to the next generation the importance of thinking critically, being curious and continuing to ask questions.

Another challenge specific to the UK is the current funding system in higher education. I think it has a negative impact on the student experience – it results in a very assessment-driven way of learning in which paying increasingly high fees (in particular, when compared with the rest of Europe) comes with the expectation of an immediate return on investment. It's a big challenge to view learning as something so transactional, and in my opinion, not what universities should be about. This heavy emphasis on fees comes at the detriment of our original ethos to nurture the next generation.

Inspiring the next generation of immunologists is vital to the future of the field. I wonder if you can describe some of the most effective teaching methods you use to engage and motivate students to learn?

'For me, if someone who's done the online course can explain autoimmunity to someone in their family, then I've done my job!'

For me, an authentic approach is crucial to really engage students. Knowledge is available everywhere nowadays, so moving away from didactic teaching is incredibly important. The classroom is a safe environment for them to try (and fail) at new things whilst they explore the kind of activities that are carried out in real life in immunology and develop skills they'll need.

For example, we changed our usual approach to MSc students attending BSI Congress so they can make the most out of it. Now, they form groups and come up with a strategy to actively seek out the leading edge of research on a specific topic during the conference. The learning outcome isn't just the knowledge they acquire, but also working as a team, condensing information, compiling references, presenting a scientific argument, being unbiased, etc.

Another highlight from your innovative teaching approach is the development of a suite of MOOCs (Massive Open Online Courses) in immunology. Can you talk a bit more about the set up and the progress so far?

The idea came as I was redesigning our MSc curriculum for a blended delivery, with a combination of digital and on-campus elements. We were producing a lot of digital content and I thought it'd be good to use it to further our mission to educate people.

The idea became a project with my colleague Dr Maggie Trela, who was also nominated for this award, when we decided to create a suite of MOOCs going from innate immunity to adaptive to autoimmune diseases, cancer immunology, infectious diseases, etc. – an overview for people with a background

in molecular and cellular biology who want to engage more with immunology. We launched the course a few months ago and already have over 4,000 people enrolled, high quality reviews and a high completion rate.

It's been a bit of a rollercoaster as it's a significant amount of work but I think engaging with the wider world is crucial as scientists – as the pandemic has highlighted, an important part of our job is to educate non-experts too. For me, if someone who's done the online course can explain autoimmunity to someone in their family, then I've done my job! And, it's fun to do!

That's incredibly valuable. So, what now? What do you think the future holds for immunologists and immunology educators?

We must make our work more visible and reach out more than ever before. Also, I think we need to think about the possible impacts of the rise of artificial intelligence and educate students about its pros and cons. Finally, I think immunology is a complex field and research a challenging profession, but we need to continue to build a strong workforce.

Thank you so much for your time. Is there anything else you'd like to tell our readers?

Well, you can't see my desk, but the BSI award is just here. I see it every day and it really means a lot, coming from a colleague's nomination and external experts, it gives you the extra push you need to keep going. So, nominate your colleagues!

Interview by **Teresa Prados**



An interview with...

PROFESSOR TOM WILKINSON



Professor Tom Wilkinson is a Professor of Barrier Immunity and Infectious Disease at Swansea University, where he leads the Microbiology and Infectious Disease group.

He has been instrumental in establishing immunology teaching across all years and programmes taught at Swansea University Medical School (SUMS). Among many other projects, he played a lead role in developing the Wales Immunology Teaching Toolkit, a suite of online resources for students to learn key immunology techniques and experimental procedures.

We spoke to Tom about the challenges and opportunities for immunology educators, his most effective teaching methods and what he finds most rewarding.

Tell us a bit about your academic and professional background. How did you first get involved in teaching?

I probably started thinking about teaching around the time I finished my PhD in peritoneal inflammation at Cardiff University; around this time, you start to think of whether to go into research or whether to go into teaching, and I decided to do both. I did two postdocs (2001–2008) before starting my first lecturer position at Swansea University (2008), where I've been ever since. When you start your first academic position, you tend to think you'll be thrown in the deep end of formal teaching. But actually, I'd gained lots of teaching experience throughout my PhD and postdoc positions. I did a lot of undergraduate and postgraduate supervision of dissertation projects, and I think that's really where I discovered I was good at teaching, and I enjoyed empowering students to learn and develop independent practical skills.

What does it mean to you to win the BSI Immunology Teaching Excellence Award?

While recognition from other professors and teaching staff is always great, recognition from a learned society is really important as it represents best practice in a particular field. It feels great to be acknowledged as one of the best teachers in immunology in the UK, as well as having some much-needed recognition for Swansea University.

Can you describe some of the most effective teaching methods you use to inspire the next generation of immunologists?

Students really listen when it's relevant to real-world processes and events. If you ask any lecturer about their research, they would all say it's fascinating, but students need to be shown how it's relevant in the real world. For example, they really enjoy our clinical scenarios online session, where they have to diagnose disease from flow cytometry dot plots i.e., 'which is the AIDS patient?', 'which one is the patient with agammaglobulinemia?'. We also linked our practical about ELISA (enzyme-linked immunosorbent assay) to lateral flow tests for COVID-19, which everyone had been using throughout the pandemic. This is another great real-world example of how these techniques are used. We've created lots of online simulations like this as part of the Wales Immunology Teaching Toolkit.

We'd love to hear more about this toolkit. When did you set this up and what prompted it?

This is a collaborative project¹ between Swansea and Cardiff Universities that we developed during the pandemic, and it's essentially a range of immunology and general lab teaching resources that can be freely used and embedded into websites or university virtual learning platforms. At the

moment, the toolkit includes simulations of flow cytometry, SDS PAGE, and lateral flow tests (LFTs), but we've got a whole list of resources we want to add, such as a cell culture simulation that we're currently developing. Each module combines video demonstrations of these techniques with quizzes, so that it's interactive for students. We've now got over two years of feedback from students, which we've published in *Frontiers In Education*.² Now that we've returned to face-to-face teaching, we're using the simulations to prepare students before the in-person labs, rather than replacing them entirely.

How did the teaching and learning environment change after COVID? Are immunology educators facing new challenges and if so, how do you think these can be mitigated?

Besides the obvious challenges with returning to face-to-face – things like masks and physical distancing – what really struck me was the effect on students' wellbeing. I was running a second-year practical, and I thought it was strange that so many people were saying 'nice to meet you' to each other as they left, until it dawned on me that, 12 or 18 months into their degree, this was their first time meeting each other in-person. Students were really hit hard by the pandemic. While we could take most of their teaching online, there's little we could do as immunology educators to replace the social aspects, and that's very challenging.

More generally, basic knowledge and technology is moving rapidly. For Foundation and Year 1 students, it's difficult to keep the lectures up to date with the latest research because at that stage we're just focusing on getting everyone to the same level, having come from different backgrounds and teaching boards. I think learning simulations may be the solution to this, as they're easier to tweak and adjust so that they are up to date each year.

'I did a lot of undergraduate and postgraduate supervision of dissertation projects, and I think that's really where I discovered I was good at teaching, and I enjoyed empowering students to learn and develop independent practical skills.'

'The most rewarding moments for me are when I'm in the lab with students and I can see their cogs turning. I also love getting a perfect answer from a student to an exam question I've spent a lot of time developing.'

What future challenges and opportunities do you see for immunology education?

There is an excess of information out there. The reality is, students can answer any question by grabbing their phone. But is that answer correct? I think that's the biggest challenge we have: teaching students to find the correct sources of information. Instead of teaching students to absorb information and retain it, we should help them to select good sources of information and how to apply them.

I see a lot of opportunities in big data – we have such a wealth of health data, but we lack experts that can analyse and manipulate it to its full potential. I think this is a key area where we need to offer more training.

Another key challenge within universities is looking after our technical and postdoctoral staff. There's an established career path for academics to progress up to professorship, but not everybody wants to follow that pathway. Postdocs and technical staff play crucial roles in supporting teaching – there's no way I could run a lab of 100 or more students on my own – but I don't think there's a clear pathway for other routes of career development.

What aspects of teaching do you find most challenging and what are the most rewarding?

Time is the biggest constraint. There just isn't enough time to do everything to the level that you aspire to! The immunology module I lead started with 53 students back in 2008, now we have 250 students. This is happening UK-wide – more people are going to university, and this also means we're seeing greater diversity in the needs of different students and how they learn, because it's different for everyone.

The most rewarding moments for me are when I'm in the lab with students and I can see their cogs turning. I like to go around and discuss the practical with people! I also love getting a perfect answer from a student to an exam question I've spent a lot of time developing.

I'd have to say that giving the time back to students is really the most rewarding part – actively being part of workshops, speaking to students and seeing them start to understand something new.

Is there anything else you'd like to tell readers?

I just want to say again that I'm over the moon to be selected for this award, and I just hope I can keep it going, keep developing more resources, and get other universities to adopt these tools.

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Find out more:

Dr Rutschmann and Professor Wilkinson will be taking part in the BSI Teaching Affinity Group's session on 6 December 2023 at BSI Congress. Find out more at www.bsicongress.com. BSI Immunology Awards information at www.immunology.org/awards.

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“My ears don’t work, but the little grey cells are firing well on all pistons”

the journey of a deaf immunologist

At the BSI we are committed to working hard to foster a culture within immunology that ensures fair treatment and opportunity for all. Here, Professor Allison Green, from University of York, shares her experience being deaf and having a career in immunology, and highlights the important obstacles for deaf people in society as well as tips for helping deaf researchers.

Me: “Hello, society. I’m Allison Green, a Professor of Immunology, and I’m deaf. Any questions?”

Society: “But, you CAN’T be deaf, you can talk.” *General chorus of agreement* “And, you don’t look deaf.”

Me *Mentally rolls eyes*: “When it happened my ears dropped off, but the plastic surgeons did a great job reattaching them. Look,” *leans forward, lifts hair* “you can hardly see the join.”

Society: *Sceptical look* “Let’s face it, deaf people are dumb; you probably only got that degree because of affirmative action lowering the bar.”

Me: “I sat the same modules, same exams, same blind marking as hearing students. My ears don’t work, but the little grey cells are firing well on all pistons. Any other comments?”

BSI: “I’m Teresa, and this is Jennie; we are from the BSI, and we are developing our Diversity & Inclusion Framework. We would love to know your story and how the BSI can be inclusive to deaf immunologists.”

Me: “My pleasure, Teresa. Right, society, are you sitting comfortably? Good, let’s begin.”

I had a typical childhood; boisterous, fun, active. I excelled at school. Easter recess 1979, the family holidayed in Majorca. Sun, swimming, laughter, magical. Towards the end of the week, I developed sudden onset of an excruciating headache, vomiting, my neck immovable. “Just sunstroke,” said the hotel doctor, “but I’ll give her some penicillin just in case”. I rapidly deteriorated, my mum – a nurse – insisted it was more than sunstroke. An ambulance was called, and I drifted into unconsciousness to the sound of its siren. Unbeknown to me, it was the last sound I would ever hear. I contracted meningococcal meningitis, and consequently, the hairs in my inner ears that are essential to transmit sound were destroyed. I was 11 years old.

It was a long road to recovery; learning to lip-read, talk, walk again. But children are resilient, accepting. Adults, sadly, less so. My parents faced a cacophony of voices from educationalists: “Deaf people are intellectually impaired”, “Institutionalise her”, “She hasn’t a future”. They fought hard for my right to an education; a deaf child in mainstream schooling was unheard of. I owe them everything, and in autumn 1979 I joined my friends at secondary school. At school I thrived, helped by access to books and teachers who believed in me.

‘Then, the immunologist stood up; he talked about disease, and this incredible entity that surges through our bodies to protect us – I was mesmerised.’



Higher education

Whilst the doomsayers still spilled their bile, “you need a reality check, deaf people don’t go to university”, their voices grew weaker, and as a wide-eyed 18-year-old I entered Glasgow University to study biochemistry. In my experience, the Science Faculty at Glasgow University was ahead of the times in inclusivity; whilst another university I applied to focused my interview on all the reasons a deaf person should not do science but stick to the “easy subject of humanities”, my interview at Glasgow focused solely on my needs, and how they could help me succeed. I had no hesitation in accepting their offer.

As a kid from a small country town, I adored Glasgow; both educationally and socially. I coped in lectures by asking the person next to me if I could copy their notes, I found lip-reading a challenge due to poor lighting, and suddenly losing track as they turned to use the blackboard. For effective lipreading, the face should not be in shadow, and eye contact with the lipreader is vital. Nevertheless, with peers' notes, books, and attentive lecturers in lab practicals, I managed. Transitioning from 2nd to 3rd year is preceded by a nominated lecturer, i.e. whoever pulled the short straw, to hang out their shingle and entice students to select their subject to graduate with honours. Talks on genetics, biochemistry, microbiology, etc. made my eyes close, as tiredness engulfed me trying to assimilate all the information. Then, the immunologist stood up; he talked about disease, and this incredible entity that surges through our bodies to protect us – I was mesmerised.

Falling for immunology

Entry was highly competitive, with 16 places for scientists, four for intercalating medics. I worked so hard in my 2nd year exams to attain the marks I needed, and, following an interview with David Stott, I was rewarded with a place. I was ecstatic. The 20 students and lecturers quickly became what I can only describe as a close-knit family unit.

Immunology is complex, and as a deaf person, I learn through imagery not by the spoken word. Like many deaf people, I sometimes struggle with reading (and writing); although I can read every word in a sentence, I don't always understand the meaning of the sentence on the first readthrough. This is also true for conversations, and often when I ask someone to repeat something, it is due to confusion of the meaning of what they said, not the words spoken. So, understanding MHC-peptide selection became fitting different-sized eggs in an egg box; random rearrangements of the B-cell receptor and T-cell receptor became different ingredients in a cake, dependent on the type of cake you want to bake. And so on. This imagery learning is central to my teaching of immunology to students and public speaking; my colleagues have got used to student essays describing chemokines as 'immunological sat navs' – much to their dismay at times!

Like previous years, practicals were where my real passion for immunology shone. First in the queue to enter the lab, and last to leave. I adored the innovation and the intricacies of research. I was fortunate to attain a Wellcome Trust Vacation Scholarship to spend a summer in Allan Mowat's lab researching Graft-versus-host disease (GvHD), and for my final year project I selected Bill Cushley's lab to study B-cell responses to cytokines. I had no doubt my career path would be research.

Next steps

As our degree ended, my peers excitedly showed letters from institutes offering them interviews for PhD studentships. "What about you, Allison?" they asked. "Oh, I am still thinking what I will do next," I would say. I didn't want to dampen their joy by telling them the same institutes that were offering them interviews were sending me letters saying the positions were filled. I always felt transparency was important, and I explained in my applications that I was deaf, but I could talk and my deafness wouldn't impede my ability to do a PhD. But my protestations fell on 'deaf ears'. Just when I was starting to lose faith, I was invited to interview for an MRC studentship at St Andrews University supervised by Rick Randall.

Rick, a virologist, had a project to develop a vaccine to Simian Immunodeficiency Virus (SIV), in the hope it would offer insights into vaccination against HIV. I was intrigued, and instinctively, I felt Rick would be a good supervisor. He offered, and I accepted the studentship without reservation. Rick was indeed an exceptional supervisor and I hope that I implement his ethos in my own supervision of graduate students. Active research presented some challenges – impervious to sounds indicative of e.g. imbalanced centrifuges, or failed fume hood extractors, I learned through the sense of touch-unique vibrations, if equipment was working properly.

A difficult decision

Life trundled on, when out of the blue I received a letter from my former ENT consultant. There was a 'new' operation called a cochlear implant. It was for deaf people whose inner ear (cochlear) was damaged and couldn't use conventional hearing aids that simply magnify sound. Would I consider it? You may think my answer was a rapid "Yes", but it was one of the most difficult of decisions I have had to make. Ardent and vocal in my condemnation of doomsayers' discrimination of deaf people's worth to society/academia, I thought that surely to accept made me a hypocrite. The deaf society vehemently condemned cochlear implants as cultural genocide. It was a difficult time in my life, but after a lot of sole searching, I said "Yes." So, in my final year of my PhD, 26 years old, I became the 200th patient of a cochlear implant in the UK.

That year is a blur; the operation and aftercare were in Manchester Royal Infirmary; weekly appointments for many months as they trained my brain how to understand speech and everyday sounds, whilst furiously trying to complete my PhD. Rick and my colleagues were amazingly supportive. I was fortunate, I adapted well to the implant, and it really aided lip-reading; in essence I 'hear' half the word and lip-read the rest. I progressed from understanding 60% of speech through lip-reading, to 98% by combined lip-reading and the implant.

From despair to delight

During this time, like my cohort, I was sending out letters for postdoctoral positions. Still being transparent, I would mention my deafness, but that I could talk. I received no replies. I was, and will always be, deaf. A cochlear implant is simply a sophisticated hearing aid; it does not magically take your deafness away. One day Rick called me to his office. He asked how the job hunting was going. "Slowly," I replied. He sighed. He told me he had been phoning all his contacts, including people I had written to, and all were universal in saying, sorry, but they wouldn't employ a deaf person. It would be too disruptive for the lab. I couldn't move, couldn't breathe. "But, I can talk" I said. "I know, I explained that" he replied. "But, I've completed a PhD" I said. "I know, I've tried. Really tried to make them see sense. And I am sorry, but I think you need to prepare yourself for the fact that you won't get a job." He looked devastated. I felt so defeated. All my aspirations gone. No matter how talented a researcher, number of papers published, the realisation that all these PIs saw was the deafness and perceived impediment – something I could not change – overwhelmed me. I went home and cried.

Willie Russell was our Head of Department, and one day gave me the Howard Hughes (a USA equivalent of the Wellcome Trust) tome detailing all their funded immunologists – the immunologist's 'who's who'. I happened to mention Richard Flavell's research looked interesting. "Leave it to me," and off he went. Life trundled on, thesis writing. One day a letter arrived, it was from the CDC in Atlanta offering a position to study influenza virus – one of Rick's contacts had at last come through. This was immediately followed by a letter from Richard

'Practicals were where my real passion for immunology shone. First in the queue to enter the lab, and last to leave. I adored the innovation and the intricacies of research.'

Flavell offering me a postdoctoral position at Yale School of Medicine. I could not believe how lucky I was.

Challenges of networking

I accepted Richard's offer, focusing on research into the immunopathology of type 1 diabetes. I am fortunate that my postdoctoral training was productive with a series of fellowships, high profile papers and conference presentations. At the heart of my successes, was Richard – blind to my deafness, he only saw potential and he created an environment where I could shine. He talked about my research far and wide, always crediting me throughout the talk. I have learned to do that for my own postdoctoral research associates. I regard Richard as an incredible mentor, and a friend.

By the end of my postdoctoral training, there were no issues finding jobs; people only cared about my aptitude for research. I moved to Cambridge University, setting up my own laboratory funded by the Juvenile Diabetes Research Foundation (JDRF) and Wellcome Trust, and subsequently moved to Hull York Medical School, University of York on a Wellcome Senior Research Fellowship. Here, I have tenure. My deafness had no impact on the everyday running of the lab, teaching, training the next generation of researchers, or interacting with colleagues. Networking on the international scale, though, was challenging. The inability to use conference calling, and the inaccessibility of noisy scientific meetings negating the use of my implant, restricted building collaborative networks, which is so essential for boosting one's CV. Of course, there was email, but it is difficult to maintain a successful collaboration through email alone. Sadly, this has resulted in some reviewers of grant proposals commenting on my lack of productivity and scoring me low, and I think grant panels need to understand that the playing field is not level for disabled researchers. Now, however, since the COVID-19 pandemic and the explosion of Zoom/Teams with live closed captions, the national and international world is opening to me, and I have some wonderful collaborations ongoing now. But there is much more to be done.

Challenges ahead

I do not see myself as inspirational; my ears don't work; the little grey cells still fire on all pistons. Deaf does not equate to being dumb. It is simply a communication issue. As many deaf students have the grades to attend Russell Group universities as hearing students, yet only 9% are offered positions, compared with 17% of hearing students. And of deaf students attending university, many document the lack of resources; notetakers, loop systems to help them integrate. The dropout rate is high. It has been 37 years

'It has been 37 years since I started university, how can it be, deaf students are still struggling to get a higher education? How many incredible scientific minds and future discoveries have we lost, by lack of investment in the deaf person's needs?'

Top tips to help deaf researchers

Lip-reading

- Make sure you stand with the light facing you.
- Make eye contact, the whole face is lip-read, not just the lips.
- Speak normally, don't shout, but keep sentences short.
- If the person is struggling to understand you, think of rephrasing the sentence with different words.
- Don't be offended if a deaf person speaks abruptly or 'to the point'. This is how language is perceived by the deaf.
- Natural ending of sentences is not apparent when lip-reading. Don't be offended if the deaf person seems to keep butting in.
- Do let them know the subject, and don't quickly change it. Lip-reading relies on the brain knowing the subject to make sense of the words.

Conferences

- Ask the deaf person what their needs are; we all have different needs, e.g. some might need sign language interpreters.
- Make sure the speaker's face is well lit.
- Speakers should face the audience, not the screen.
- Use the microphone, it interacts with the loop system, but note, not all hearing aids are compatible with loop systems.

- Ask the deaf person beforehand where it is best for them to sit – there is a sweet spot for loop systems to work. Don't assume the front row is best, usually it means the computer hides the speaker's face.
- Do think about incorporating software where audience questions are shown on a screen and, Chairs, remind speakers to repeat questions.
- Designate a 'quiet' area where the posters are for the deaf person to communicate; normally the noise in these poster presentations is distracting.

Funding agencies

- Don't ask someone to tick a box if they have a disability, then give them no scope to explain what impact it has had on their career. We are more than 'ticks in boxes' to fulfil your EDI policy.
- Do appreciate that CVs from disabled researchers may be lighter than abled-bodied researchers due to living with their disability, e.g. hospital visits, challenges of networking where oral communication/conference calling is utilised. Zoom/Teams with closed captions have only been available post-COVID. It is not a reflection on their intellectual capabilities.
- Do understand that disabled researchers are not looking for 'an easy ride'. Research proposals should always be reviewed as rigorously as an abled-bodied researchers.

since I started university, how can it be, deaf students are still struggling to get a higher education? How many incredible scientific minds and future discoveries have we lost, by lack of investment in the deaf person's needs? And let's face it, their needs are rather simple. If organisations wish to push their equity, diversity, and inclusion (EDI) policies, they should remember that EDI does not just refer to gender identity or ethnicity.

It isn't easy to live the life of a deaf person. You face discrimination on many levels by

misguided members of society. However, I feel privileged to be deaf; it has enabled me to meet so many incredible people – colleagues, tutors, mentors, students – whose collective, supportive voices soar. Whatever achievements I have made, and will make, is credit to their belief in me. And that, Society, is my story.

Professor Allison Green, Hull York Medical School, University of York

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Parliamentary Links Day 2023

On Tuesday 20 June 2023, the BSI attended this year's Parliamentary Links Day, an annual event organised by the Royal Society of Biology (RSB). Held in the Houses of Parliament, it aims to build links between parliamentarians and policymakers and the scientific community. Here, BSI Marketing & Communications Officer, Jasmine Catmull, shares the highlights of this event.

Strong BSI presence

This year's theme was 'science and economic development' and the event featured discussions on the importance of the life sciences in growing the UK economy and how government can support this. We had a strong presence at the morning session including two members of our BSI Member Representative Forum, Dr Edoardo Prediletto (Early Career Representative) and Dr Federica Villanova (Industry Representative), who had the opportunity to pose their questions on the effects of Brexit on the UK's ability to attract and retain scientific talent to an expert panel. The event featured an array of speakers from across the political spectrum and beyond. The morning was opened by Stephen Metcalfe MP (Con, South Basildon and East Thurrock), who chairs the Parliamentary & Scientific Committee, followed by speeches from George Freeman MP (Con, North Norfolk), the Minister for Science, Research and Innovation, and Chi Onwurah MP (Lab, Newcastle upon Tyne Central), the Shadow Minister for Science, Research and Innovation, who laid out their parties' policy pitches on supporting science and using it to grow the economy.

"Science is a cross-party good"

In his opening address, Stephen Metcalfe gave a call to strengthen links between scientists and policymakers, saying that "as science transforms our society, parliamentarians must respond". He stressed that policymakers must keep abreast of the latest scientific advancements in order to harness opportunities for rapid development.

Referencing the turbulent past 12 months for government, George Freeman started his talk by reaffirming his strong relationship with the Shadow Minister, saying that there is no place for partisan politics when it comes to science. This was echoed by Chi Onwurah, who said that science is a cross-party good.

Britain as a scientific superpower

The Minister and Shadow Minister both stressed the enormous strength and potential of the UK when it comes to science, with Onwurah saying "UK scientific giants bestride the world", while Freeman stated that science is one of our great sources of soft power.

Science for economic sustainability

Onwurah emphasised the importance of sustainable and green jobs in science, saying that sustainable growth can only come from a STEM-based economy. George Freeman was in agreement, asserting his view that a science-based economy is the only way to overcome the current boom-and-bust cycle of economic growth, allowing us to break free from a London-centric, service industry-based economy.

Skills shortage

A panel of academics chaired by Dr Jo Reynolds, Royal Society of Chemistry, then examined how science and the economy interlink, speaking from their expertise across diverse areas of STEM. Professor David Leslie, Professor of Statistical Learning at Lancaster University, spoke about his work on artificial intelligence and highlighted the lack of a skills pipeline to train sufficient people in this field. Professor Sarah Main, Executive Director at CaSE (Campaign for Science and Engineering), also emphasised that people and skills were one of three central pillars of a science-based economy. Rigid pathways through the educational system were a limiting factor raised by Professor Diane Coyle, Bennett Professor of Public Policy at the University of Cambridge, who called for more alternative routes to science careers, such as apprenticeships. On an encouraging note, Professor Main highlighted CaSE's Discovery Decade project aiming to



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understand public opinions towards R&D investment, which revealed that two-thirds of people would support a new research lab being built in their local area to benefit the local economy and provide well-paid jobs and educational opportunities.

Translation is the endpoint

Plant biotechnology pioneer Professor Jonathan Napier, Rothamsted Research, stressed that translation must be the endpoint of research, not an addendum. He emphasised that the UK is great at discovery research but struggles to turn this innovation into products or tools that deliver economic and societal benefits. Professor Dame Angela McLean, Government Chief Scientific Adviser, then gave a keynote address on the government's commitment to becoming the most innovative science-driven economy in the world. Professor Dame McLean's speech centred on the UK Science and Technology Framework published in March this year, which sets out ten steps to support and harness the UK's research strengths, to ensure that the brilliant ideas created in our labs get turned into great products and services that generate prosperity and better health for all. The event was a huge success in bringing parliamentarians and the scientific community closer together and we look forward to attending next year's event.

Jasmine Catmull,

BSI Marketing & Communications Officer



Find out more:

You can watch the event on the RSB YouTube channel at www.youtube.com/watch?v=K0v3hE3aYeM.

FUTURE FOCUS

BSI mentoring scheme: Dr Muhammed Yuksel's experience

As part of our mission to support and develop the next generation of world-leading immunologists, the BSI mentoring scheme pairs up mentors and mentees from different institutions and sectors based on overlapping needs and expertise. Dr Muhammed Yuksel, Lecturer in Life Sciences (Immunology) at University of Westminster, joined our 2023 scheme and was paired with senior lecturer and co-chair of our Teaching Affinity Group, Dr Nigel Francis, Cardiff University. Here, Muhammed shares his experience as a mentee and the benefits of mentoring.

Where did you first hear about the BSI mentoring scheme and what drew you to it?

While I was researching the advantages of joining the British Society for Immunology (BSI), I first learned about the mentoring scheme on the BSI website. I read the statement of an earlier applicant who also desired to progress in his career by becoming a lecturer but required guidance and impartial CV feedback/assessment.

How do you feel the BSI mentoring scheme has helped and supported you in your career choices?

The BSI mentoring scheme was very beneficial to me in many ways. First, it helped me to realise that my résumé is actually quite good and that it is crucial to write in a way that HR representatives can quickly tick off the job requirements' checklist. So, I used the desired/essential requirements listed in the job descriptions to rewrite the personal statement.

Additionally, I learned that applying for jobs is a numbers game and that it is common to receive few or no responses despite my repeated applications. I needed this pep talk to boost my self-confidence.

During the scheme what level of frequency of contact did you have with your mentor and what level do you think works best?

To begin with, we had two or three online meetings. We then decided to keep in touch with each other via email whenever I was about to apply for a job in academia. We were able to effectively utilise our time by avoiding standing meetings with an unclear agenda.

What qualities in a mentor are ideal for a scheme such as this?

It is essential to have someone who has already travelled the path I was about to take. A person who can offer guidance on the advantages and difficulties of choosing a research or teaching position in academia. Having a mentor who is completely committed, as in my case, is essential because this mentoring responsibility comes on top of all other obligations.

Can you discuss a particular highlight of the scheme that you feel best exemplifies your mentoring experience?

I received notice of an interview that was scheduled to take place five days later. My mentor was immediately informed, and he sent me a very thorough email with suggestions for how I could organise my presentation as well as information about the courses' accreditation, which I had not considered. Despite the short notice, my mentor provided me with everything I needed, and I was hired!

Finally, would you recommend to your peers and colleagues to join the BSI mentoring scheme as a mentee?

Definitely! I wholeheartedly urge all of my peers to sign up for the BSI mentoring scheme. It is provided without charge and is based on the goodwill of more senior BSI members who want to aid less experienced members in advancing their careers. The professionalism and attentive listening skills played a major role in my experience having a successful ending.

Dr Muhammed Yuksel,
University of Westminster



2024 mentoring scheme

Applications are now open from those wishing to participate in the 2024 BSI mentoring scheme. We're recruiting for both mentors and mentees and we encourage applications from a range of career stages and different sectors, such as industry and clinical settings. The deadline to apply is **Monday 9 October 2023** at 23:59 BST.

Calling all experienced immunologists

Our popular mentoring scheme is usually in high demand from early career immunologists, and we're looking for senior immunologists from across the sector to act as mentors, providing professional development support and aiding career progression.

If you are an established immunologist who wants to provide aspiring scientists with independent support and advice, we'd like to hear from you.

We're particularly keen to encourage applications from potential mentors who **work in industry or in a clinical setting**.

As a mentor, you would offer help and advice on career planning and development, networking, setting up collaborations, work/life balance and more.

Find out more:

To find out more information and apply to be a mentor or a mentee, please visit www.immunology.org/careers/bsi-mentoring-scheme.

If you have any queries, please contact careers@immunology.org.

Congratulations

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

King's Birthday Honours List

Congratulations to the following immunologists and members of the BSI who have been recognised in the King's Birthday Honours list for their outstanding contributions to the discipline and wider society.

Professor Eleanor Riley was appointed a CBE for her 'services to immunology'. Professor Riley is a world leader in malaria immunology and has made major contributions to strengthening research capacity in Africa. She is Professor Emerita of Immunology and Infectious Diseases at the University of Edinburgh, and a Council Member at the Medical Research Council and the Academy of Medical Sciences. Professor Riley is also member of the BSI COVID-19 and Immunology Taskforce and worked closely with us through the pandemic on our COVID-19 policy and engagement activities.



Professor Thomas Evans was appointed a CBE for his 'services to healthcare during COVID-19'. During the pandemic, Professor Evans was Chair of the Scottish Government's Clinical Cell for COVID-19, and a member of the Scottish Government Advisory Committee on COVID-19. He is Professor of Molecular Microbiology at the University of Glasgow and Chair of the expert Advisory Committee on Dangerous Pathogens in the Department of Health and Social Care.

EFIS ACTERIA prize in Allergology

Congratulations to BSI member and ECR Editorial Board Member of our official journal *Clinical & Experimental Immunology*, **Dr Régis Joulia** from Imperial College London. Dr Joulia has been awarded the 2023 ACTERIA prize 'Early Career Research in Allergology' by the European Federation of Immunological Societies for his post-doctoral work on the interactions between mast cells and blood vessels during inflammation.

We would also like to congratulate **Dr Emanuela Pasciuto** for being awarded the 'Early Career Research prize in Immunology'.

Royal Medal 2023

Many congratulations to BSI Honorary Member, **Professor Herman Waldmann FMedSci FRS**, on receiving the Royal Medal from the Royal Society for his work on monoclonal antibodies for human therapy.

Professor Waldmann made major contributions to the field of immunology through his studies on immune tolerance in animal models, with particular focus on transplantation tolerance and autoimmunity, in addition to pioneering the use of therapeutic monoclonal antibodies against T cells, resulting in the development of Campath-1H, the first humanised monoclonal antibody to be used therapeutically. He was elected as a Fellow of the Royal Society in 1990 and became a founding fellow of the Academy of Medical Sciences in 1998.

New Medical Research Foundation Chair

Congratulations to BSI member **Professor Paul Moss OBE** who has been appointed as the new Chair of the Medical Research Foundation's Board of Trustees. The Medical Research Foundation is an independent charitable foundation formed by the Medical Research Council to fund and support low-funded research in areas of clinical need.



BSI Communication and Engagement Grant

We are delighted to fund the following projects in the most recent round of our Communication and Engagement Grant.

Dr Elaine Emerson (University of Edinburgh) has been funded to run a proof-of-principle project titled 'Using virtual reality to bring art-science projects to remote and underprivileged participants' to enhance interactions between scientists and people who might not otherwise engage with science.

Dr Norfarazieda Hassan, from Universiti Sains Malaysia had the project 'Engaging the community with cancer awareness and immunotherapy in Northern Malaysia' funded to run a community-based cancer education programme in rural areas of Malaysia.

Swetha Kannan, from the University of Cambridge, has been funded to work with the Indian immunology community on the project 'Pushing the boundaries of immunology in low- and middle-income countries' including workshops and activities.

Dr John Tregoning, from Imperial College London has been funded to collaborate with a professional illustrator to create engaging images to support a new book about immunology in non-communicable diseases.

The next deadline is 1 October 2023. For more details, visit <https://bit.ly/3ZHt3LN>.

WHRI Derek Willoughby Medal



Congratulations to BSI member and former BSI President, **Professor Arne Akbar** from University College London, for receiving the Derek Willoughby

Medal for outstanding contribution to inflammation science at the William Harvey Research Institute (WHRI) Annual Research Review 2023. The WHRI at Queen Mary University of London hosted this one-day internal conference to showcase cutting-edge research and recognise excellence through a range of awards.



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.

How do you transform immune cells into therapies?

Think Discovery.

Discovery starts with innovative and reliable science.


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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 2023
Find out more and apply:
[www.immunology.org/
bsi-conference-travel-grants](http://www.immunology.org/bsi-conference-travel-grants)



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Dr Roger Taylor

1929–2023

The BSI is saddened to learn about the recent death of Dr Roger Taylor who described B and T cells in 1970s *Nature* papers with Professor Martin Raff and made significant contributions to the field over decades.

Many colleagues from both his Mill Hill and Bristol laboratories will remember Roger Taylor as being uniquely talented both as an immunologist and as an inspiring mentor. He was born in Albury, Surrey in 1929, the first child of distinguished parents, both of whom were veterinarians. His father Ernest was recognised internationally as one of the leading Veterinary Parasitologists of his day, heading the Parasitology Department and serving for many years as Deputy Director of the Central Veterinary Laboratory, Weybridge; his mother Edith was in the vanguard of female graduates in the profession and one of the first to set up her own practice. Like his parents, Roger himself graduated from Liverpool Vet School and later claimed, with a mischievous smile, to be "the first vet in the UK sired by a vet out of a vet!".

After graduation, Roger worked in practice for a while before doing his National Service as a Captain in the Royal Veterinary Corps in Kenya. Thereafter, his famously inquisitive nature, one that (as his younger brothers recalled) had fuelled all kinds of boyhood experiments, again came to the fore, impelling him to leave veterinary practice and commit to a career in medical research. He completed a PhD in Edinburgh and then, in the early 1960s, took up a position in the National Institute of Medical Research in Mill Hill, London. This was a defining moment, giving him entry into one of the world's leading laboratories engaged in the emerging science of immunology.

It is difficult for modern practitioners to understand just how little was then known about the functioning of the immune system. Foremost among the key players seemed to be lymphocytes, some of which



were derived from the bone marrow (later called B cells), others from the thymus (later called T cells), but how did these subsets work together? Moreover, since all lymphocytes were morphologically identical down the microscope, how could the subsets be distinguished from one another? As Roger said himself, immunology was in its golden age where almost every experiment yielded something new; the sense of excitement was palpable.

A series of *Letters to Nature* then track Roger's early work in the mouse models of the time, using antibody responses to

foreign antigens such as bovine serum albumin or sheep erythrocytes as a measure of immune competence. Removing the thymus from animals either neonatally or later in life allowed one to study the waning contribution with age of the thymic input to responsiveness. Moreover, once the assays could distinguish immunoglobulin class, early thymectomy made clear the markedly greater thymic cell-dependence of the IgG compared with the IgM response. By that time, data from many laboratories was supporting the concept of B cell:T cell collaboration but the inability to distinguish

'It is difficult for modern practitioners to understand just how little was then known about the functioning of the immune system. Foremost among the key players seemed to be lymphocytes, some of which were derived from the bone marrow (later called B cells), others from the thymus (later called T cells), but how did these subsets work together?'

‘Colleagues recognised Roger as an exceptional scientist with a totally original mind and an innovator who retained his passion for working at the bench, often designing his own instrumentation for those experiments. Yet he remained approachable to all and was unfailingly generous with his time and with his advice to members of the group.’

between the two cell types in mature lymphocyte populations remained a key obstacle, and one that Roger and his Mill Hill colleagues then famously overcame.

It seemed logical to suppose that all lymphocytes had antigen-specific receptors on their surface, but the identity of such receptors remained in doubt. It was then that Roger and Martin Raff, working in separate laboratories within Mill Hill, simultaneously came up with the same result: the B cell surface receptor was indeed immunoglobulin. They used antisera to a mouse immunoglobulin preparation, raised in rabbits and labelled either with I125 (for autoradiographic detection) or fluorescein (for microscopic detection), to stain viable cell suspensions from different mouse lymphoid tissues. Both assays detected surface staining of roughly 40% spleen cells and 20% lymph node cells in the absence of any thymus cell staining. Published in a joint paper in *Nature* in 1970, this was the first direct evidence that B cells did indeed express immunoglobulin molecules on their surface. This was not only a key finding in its own right but one that also provided a means of distinguishing the two main lymphocyte subsets. Intriguingly, the fluorescence assays also showed that the staining subsequently capped to one pole of the B cell surface, a phenomenon that was further investigated in a second Taylor/Raff joint paper published in *Nature New Biology* in 1971. This clearly showed that ‘capping’ was an active process, requiring multivalent binding of the surface immunoglobulin, and was followed by internalisation of the cap components by pinocytosis. The work had major implications in at least two contexts; firstly in suggesting that receptor-mediated binding and internalisation of specific antigen were critical events in B cell activation, and secondly in demonstrating the fluid nature of cell membranes and the ability of molecules to redistribute across the surface. Interestingly, a separate Martin Raff paper that described the positive identification of T cells was not published by *Nature* and went

instead to the BSI journal, *Immunology* (1970 19 637–50. PMID: 4097588).

By the time the second *Nature* paper appeared, Roger had been persuaded to move to a Readership in Immunology at the University of Bristol, heading up the newly formed MRC Immunobiology Group within the Department of Pathology. There he was able to continue his work on fundamental questions, particularly on the mechanisms underpinning B cell priming versus tolerance induction. Here he became especially interested in the use of covalent antibody-antigen complexes as a tool to manipulate the immune response; indeed he was the recipient of early translational research funding for this work to determine potential therapeutic applications. Perhaps more importantly, Roger’s move to Bristol allowed him to build a team of like-minded younger colleagues who blossomed under his leadership. Those colleagues recognised Roger as an exceptional scientist with a totally original mind and an innovator who retained his passion for working at the bench, often designing his own instrumentation for those experiments. Yet he remained approachable to all and was unfailingly generous with his time and with his advice to members of the group. Many new avenues of research were stimulated by such discussions but, like his former Mill Hill colleague Av Mitchison, Roger never asked for his name to be added to the resultant papers unless he had made a major contribution to the work.

Under Roger’s 20-year leadership, the MRC Group in Bristol became the centre of a wider immunological community built within the University and beyond. Many talented research students came through that environment and subsequently went on to successful academic careers. But the Group’s influence did not end there; Roger and his academic colleagues Chris Elson and Dougie Naysmith, were key contributors to the Department’s ground-breaking degree course in Cellular Pathology; this gave final year BSc students, and intercalators from medical and veterinary courses, the opportunity

to spend a year in the lab, an introduction to research which many will never forget. Immunology at Bristol flourished under Roger’s intellectual leadership; to those of us who were there and came to know him well, Roger was the epitome of the ‘the scientist’s scientist’, serious in intent yet always insisting that the practice of research should be fun. He inspired a love of the immunology literature with a weekly journals club – in the summer given in his garden, he wearing nothing but a pair of baggy khaki shorts. His iconic VW Beetle was always ready to whisk colleagues away out of town for science retreats in the countryside. He took sabbaticals at centres of immunology excellence, Marseille LUMINY and the Weizmann Institute, each time returning full of new ideas and new friendships.

After retiring from Bristol, and with his three children now launched on their own life journeys, Roger went back to his roots, inheriting the idyllic family home near Albury that had been the site of his earliest amateur experiments. His interests had always been much broader than the day-to-day focus of his professional life, indeed his personality was more that of the artist/philosopher than of the artisan scientist. That was mirrored in his deep regard for John Crook, a Reader in Ethology in Bristol whose early research on primate behaviour led to significant work on human consciousness and thence to an advocacy of Zen Buddhist practice. It was that multifaceted understanding of our place in the world to which Roger aspired. This was most evident in his later writing and painting, in his continued scientific enquiries into phenomena that had no apparent natural explanation and, most of all, in his life-long fascination with the sheer wonder of existence.

Alan Rickinson and **John Tite**, in collaboration with **Danny Altmann**

Immune Update

The BSI journals

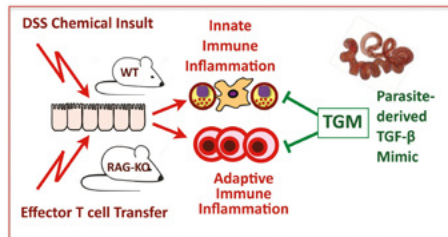
A round-up of new research published in the British Society for Immunology's official journals. Discover the latest immunology from *Immunotherapy Advances*, *Clinical & Experimental Immunology* and *Discovery Immunology*. Members can access these journals free of charge at www.immunology.org/journals and benefit from discounted publication fees.

Discovery Immunology

Gut parasite may hold the key to treating inflammatory bowel disease

Inflammatory bowel diseases (IBD) are largely attributed to dysregulation of the natural control mechanisms that prevent inappropriate T-cell mediated inflammation to self- and environmental antigens. While the cause is yet to be determined, researchers focus on new therapeutic options to help boost natural regulatory pathways.

A recent study by Smyth *et al.*, has spotlighted a recombinantly expressed parasite protein called transforming growth factor mimic (Hp-TGM), derived from the nematode *Heligmosomoides polygyrus*,



which resides in the intestine of mice. This parasite's protein could provide a novel approach to battling conditions like colitis, a common form of IBD. Hp-TGM behaves like a vital mammalian protein known as TGF- β , exhibiting strong anti-inflammatory effects. While it doesn't completely stop the disease progression, they found that Hp-TGM significantly reduces intestinal inflammation mediated by innate and adaptive immune

inflammatory cells. Hp-TGM manages to dampen colitis mediated by T cells, reducing the severity of the disease, and shifting the balance between two critical immune cell types, Th17 and Treg cells.

This study not only highlights the fascinating complexity of parasite-immune interactions but also opens a promising pathway towards developing new treatments for inflammatory diseases.

Summary by Dr Majid Ghareghani, CHU de Québec-Université Laval, Canada

Smyth *et al.* 2023 *Discovery Immunology* **2** kyad001 <https://doi.org/10.1093/discim/kyad001>

Immunotherapy Advances

Can TNF α blockade synergise with existing cancer immunotherapies?

The immunosuppressive tumour microenvironment (TME) poses a significant challenge for the success of cancer immunotherapy. To overcome this obstacle, Walsh *et al.* previously sought to reprogramme TME by local delivery of IL-12 using HSV-1 vector (d106S-IL12) to promote cancer clearance. However, continuous periodic injections of d106S-IL12 were needed to maintain control over tumour growth.

To understand the mechanisms behind immune evasion, they examined the TME

upon d106S-IL12 treatment, and discovered high levels of pro-inflammatory cytokines including TNF α , IL-1 β and IL-6. Importantly, blocking TNF enhanced the efficacy of d106S-IL12 in suppressing tumour growth, while the effects with IL-1 β and IL-6 blockade were less pronounced. Further analyses using single-cell RNA sequencing and flow cytometry did not show major alterations of immune subsets within the TME; however, TNF blockade resulted in an increased number of CD4 T effector cells and IL-1 β blockade led to

a decrease in granulocytes. These results show that combining pro-inflammatory cytokine blockade with IL-12 virotherapy could serve as a synergistic intervention to improve cancer therapy.

Summary by Dr Alsya Affandi, Amsterdam University Medical Center, Netherlands

Walsh *et al.* *Immunotherapy Advances* **3** ltad011 <https://doi.org/10.1093/immadv/ltad011>

Clinical & Experimental Immunology

Addressing neuropsychiatric symptoms in systemic lupus erythematosus

In around 40% of patients with systemic lupus erythematosus (SLE) the condition affects the brain and spinal cord resulting in neuropsychiatric symptoms, most commonly depression. Previous work suggests that microglial activation and impaired neurogenesis play a role in the development of neuropsychiatric symptoms.

In a recent study from Nagata *et al.*, researchers used a well-characterised murine model of SLE, the MRL/lpr mice, which exhibits depression-like behaviours, to investigate the effect of lysophosphatidic

acid (LPA) on the cellular activation and physiological functions linked to depression. LPA is a bioactive phospholipid with described roles in cell migration, survival and proliferation. The authors show that LPA administration inhibited the increase in microglial activation and blood-brain barrier leakage observed in MRL/lpr mice.

Furthermore, LPA treatment improved spatial working memory, visual cognitive memory, and prolonged immobility time in this murine model, strongly suggesting

LPA treatment may have therapeutic potential for depressive symptoms in neuropsychiatric SLE patients.

Summary by Dr Dessi Malinova, Wellcome-Wolfson Institute for Experimental Medicine, Queen's University Belfast

Nagata *et al.* 2023 *Clinical & Experimental Immunology* **212** 81–92 <https://doi.org/10.1093/cei/uxad010>

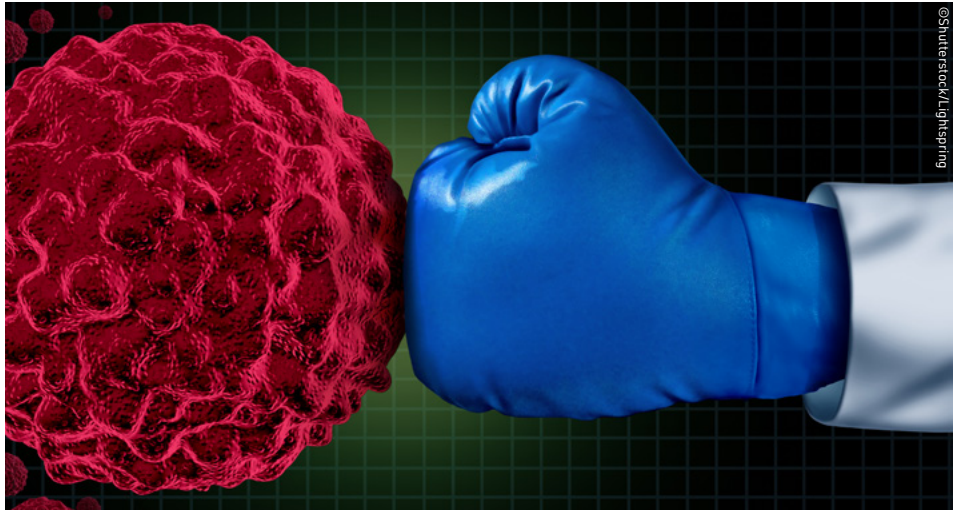
Around the journals

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

Polymorphic KIR3DL3 marks innate-like and tissue-resident T cells

Inhibitory receptors that block immune responses have attracted attention due to their role as checkpoints that can be relieved, unleashing immune responses against tumours. The killer-cell immunoglobulin-like receptors (KIR) are a family of inhibitory and activating receptors expressed predominantly by natural killer (NK) cells. Most KIR bind HLA-I, but KIR3DL3 does not, with its ligand recently identified as HHLA2 (not an HLA-I molecule).

In this study, Palmer *et al.* revealed that KIR3DL3 is primarily expressed on tissue-resident and innate-like T cells, not NK cells. KIR3DL3⁺ T cells were rare in the blood and thymus, but more common in tissues such as the digestive tract and the lungs, where HHLA2 expression is higher. They identified KIR3DL3 transcripts from tumours of these tissue sites and confirmed the role of KIR3DL2 as a potential immune checkpoint, as KIR3DL3 engagement diminished T cell activation. Furthermore, KIR3DL3⁺ T cells had



unique TCR α and γ gene usage along with transcriptional signatures consistent with chronic stimulation.

Further work will evaluate the potential of KIR3DL3 as a therapeutic target.

Summary by Dr Malcolm Sim, University of Oxford, UK

Palmer *et al.* 2023 *Science Immunology* **8**
DOI: 10.1126/sciimmunol.ade5343

CD19-directed CAR T cell therapy – new hope for autoimmune diseases



Chimeric antigen receptor (CAR) T cell therapy has already shown promise in the management of various cancers, in particular haematological malignancies. However, more recent studies have focused on applying this therapeutic approach to a wider range of immunological disorders. One area of focus relates to the use of CAR T cell therapy in refractory autoimmune diseases, such as systemic lupus erythematosus (SLE).

In this paper by Mackensen *et al.*, the authors used CAR T cell therapy to treat five patients with refractory SLE. Autologous CD4⁺ / CD8⁺ T cells were enriched from peripheral leukapheresis before undergoing self-inactivating with a lentiviral vector

expressing CAR directed against CD19. They found patients exhibited rapid improvement in disease activity and were able to achieve sustained drug-free remission even following peripheral B cell repopulation. They found that the treatment was also well tolerated with minimal adverse reactions.

This supports the use of CAR T cell therapy in refractory autoimmunity in the future.

Summary by Dr Chris Wincup, University College London & King's College Hospital, UK

Mackensen *et al.* 2022 *Nature Medicine* **28**
2124–2132. DOI: 10.1038/s41591-022-02017-5

Defect in IRF4 as a novel aetiology for combined immunodeficiency

Interferon regulatory factor 4 (IRF4) is a predominantly haematopoietic transcription factor and is critical in the development and function of adaptive and innate immune compartments.

In this study from the IRF4 International Consortium, a defect in the DNA-binding domain of IRF4 (c.284C>G, p.T95R) was identified as the cause for an autosomal dominant combined immunodeficiency

(CID). Seven patients with the defect were studied and found to suffer from early-onset recurrent infections, particularly sinopulmonary infections by *P. jirovecii*, as well as infections with EBV/CMV, mycobacteria, and enteric pathogens. All patients were agammaglobulinemic with reduced (but not absent) B cells and immunoglobulins. The T cell differentiation appeared relatively unaffected; however, the T cell effector function was abnormal.

Further investigations showed IRF4^{T95R} is multimorphic – behaving as hypermorph with higher DNA binding affinity and

targeting additional DNA motifs; hypomorph due to reduced transcriptional activity on IRF4 canonical genes compared with IRF4^{WT}; and neomorph as it alters a set of genes' expression, disrupting normal leukocyte biology, causing human disease.

Summary by Dr Manhaz Jamee, Leiden University Medical Center, Netherlands

IRF4 International Consortium 2023 *Science Immunology* **8** DOI: 10.1126/sciimmunol.ade7953



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