

## SIGNET 2024

### Scottish Immunology Groups Network symposium

20 March 2024

Perth Concert Hall, Perth

09:00	Registration
09:40	Welcome
<b>SESSION 1</b>	
Chairs: Dr Mike Morgan, University of Aberdeen, UK and Dr Lizi Hegarty, University of Edinburgh, UK	
09:50	<b>Location matters: studying T cells in human inflammatory disease</b> Professor Leonie Taams, King's College London, UK ( <i>Keynote speaker</i> )
10:30	<b>Initial user experiences with the BD FACS Discover S8 spectral cell sorter</b> Dr Karen Hogg, University of York, UK ( <i>BD sponsored talk</i> )
10:45	<b>Mapping the B cell protein landscape and its regulation by immune stimulation</b> Dr Andy Howden, University of Dundee, UK ( <i>Invited speaker</i> )
11:05	Refreshment break
<b>SESSION 2</b>	
Chairs: Dr Anna Andrusaite, University of Glasgow, UK and Dr Amanpreet Singh Chawla, University of Dundee, UK	
11:30	<b>Mapping the pathogenic and protective niches of synovial tissue macrophages in active RA and sustained remission with single cell spatial transcriptomics</b> Dr Lucy MacDonald, University of Glasgow, UK ( <i>Selected short talk</i> )
11:40	<b>Experimental stroke results in chronic B cell deficits and infection vulnerability</b> Dr Isobel Mouat, University of Edinburgh, UK ( <i>Selected short talk</i> )
11:50	<b>Immune pathways that contribute to matrix remodelling in the lung</b> Dr Tara Sutherland, University of Aberdeen, UK ( <i>Invited speaker</i> )
12:10	<b>Mast cell IL-33 signalling in intestinal helminth infection</b> Nicole Ong, University of Dundee, UK ( <i>Selected short talk</i> )
12:20	<b>Myeloid cell dynamics during early RSV infection in mice</b> Dr Matthew Oliver Burgess, University of Edinburgh, UK ( <i>Selected short talk</i> )

12:30	Lunch, networking, posters ( <b>poster session 13:10-14:00 - please stand at your posters during this time</b> )
<b>SESSION 3</b>	
Chairs: Dr Candice Quin, University of Aberdeen, UK and Dr Piotr Janas, University of Edinburgh, UK	
14:00	<b>Designing next generation Q fever vaccines using reverse vaccinology approaches</b> Dr Tom McNeilly, Moredun Research Institute, UK ( <i>Invited speaker</i> )
14:20	<b>Spatial transcriptomics reveals early immune responses in heligmosomoides polygyrus infection</b> Dr Marta Campillo, University of Glasgow, UK ( <i>Selected short talk</i> )
14:30	<b>Sputum proteomics in patients with bronchiectasis and pseudomonas aeruginosa infections</b> Dr Rebecca C Hull, University of Dundee, UK ( <i>Selected short talk</i> )
14:40	<b>Rehabilitation of anti-bacterial innate immune function after severe acute malnutrition</b> Dr Claire Bourke, University of Glasgow, UK ( <i>Invited speaker</i> )
15:00	Refreshment break
<b>SESSION 4</b>	
Chairs: Dr Suzanne Hodge, University of Dundee, UK and Mr Patrick Shearer, University of Glasgow, UK	
15:20	<b>PIEZO1 activation in synovial tissue resident macrophages and monocyte-derived macrophages affects their phenotypes and influences creation of an inflammation-permissive niche in synovium</b> Dr Theodoros Simakou, University of Glasgow, UK ( <i>Selected short talk</i> )
15:30	<b>Focal adhesion kinase regulates the anti-tumour immune response in glioblastoma</b> Dr Emily Webb, University of Edinburgh, UK ( <i>Selected short talk</i> )
15:40	<b>Decoding cellular circuits in intestinal inflammatory disorders</b> Professor Eduardo Villablanca, Karolinska Institutet, Sweden ( <i>Keynote speaker</i> )
16:20	Prizes and closing remarks
16:30	Networking reception
17:30	Close

## Poster presentations

- P.01 **Shifting Gears: metabolic switches underpin the repair function of lung epithelial progenitor cells during influenza.**  
Patrick Shearer, University of Glasgow, UK
- P.02 **Developing a Tissue-Resident Salivary Gland Macrophage Culture System**  
Madeleine Cowie, University of Edinburgh, UK
- P.03 **BTLA and TIGIT are Functional in ANCA Patients**  
Lennart Hess, University Hospital Essen, UK
- P.04 **Longitudinal transcriptomic trajectory of critically ill adults with COVID-19.**  
J Rynne, University of Edinburgh, UK
- P.05 **The role and regulation of cholesterol metabolism in B cell survival and proliferation**  
Dana Cheung, University of Dundee, UK
- P.06 **Increasing Dendritic Cell Infiltration in Colorectal Carcinoma: Unravelling the Signals for Required for Enhanced Immunotherapy Responses**  
A. L. Young, University Of Glasgow, UK
- P.07 **Uncovering the role of macrophages in alopecia areata**  
Alana Brown, University of Glasgow, UK
- P.08 **Does experimental stroke result in chronic gastrointestinal dysfunction and leucocyte changes?**  
Rachel Martin, University of Edinburgh, UK
- P.09 **Local tissue versus systemic NK cell phenotype in primary and memory influenza virus infection**  
David Todd, University of Glasgow, UK
- P.10 **Humanised in vitro modelling of T cell responses to functionalised biomaterials for bone reconstruction: the path to clinical translation**  
Jessica Roberts, University of Glasgow, UK
- P.11 **Uncovering the Role of PPAR- $\delta$  in Macrophage Immune Response to Salmonella enterica serovar Typhimurium Infection**  
Sibel Mutlutuyrk Koyundzhu, University of Aberdeen, UK
- P.12 **LRRK2 regulates the homeostasis of intestinal intraepithelial T lymphocytes**  
Rebecca Pemberton, University of Dundee, UK
- P.13 **Changes in the gut microbiome during high fat diet drive B cell dysfunction during obesity.**  
Alexander Daley, University of Edinburgh, UK
- P.14 **Role of Long Lived Tim4+ Gut Macrophages in Wound Healing**  
Vignesh Jayaraman, Univeristy of Edinburgh, UK
- P.15 **The impact of androgens on uterine immune cell dynamics**  
Rebecca Ainslie, University of Edinburgh, UK
- P.16 **Molecular Pixelation - dissecting the spatial organization of 80 surface proteins in single immune cells**  
Stefan Petkov, Pixelgen Technologies, UK

- P.17 **The impact of diabetes medications on macrophage phagocytosis and killing ability against *Candida albicans***  
Sam M McVey, University of Aberdeen, UK
- P.18 **Intestinal intraepithelial lymphocytes regulate gut homeostasis and organismal metabolism**  
Amanpreet Singh Chawla, University of Dundee, UK
- P.19 **Cell-specific regulation of LRRK2 in immune cells by inflammation and tissue context**  
Dina Dikovskaya, MRC-PPU, University of Dundee, UK
- P.20 **PTP1B inhibitor treatment enhances the tumour promoting phenotype of breast cancer conditioned macrophages.**  
Neve E Read, University of Aberdeen, UK
- P.21 **Investigating the Effect of Interleukin-33 (IL-33) on Human Neutrophils**  
Molly M Scott, University of Dundee, UK
- P.22 **A novel model of LPS-induced endometrial inflammation to improve treatments for heavy menstrual bleeding.**  
Bethan Rowley, University of Edinburgh, UK
- P.23 ***Helicobacter hepaticus* modulates intestinal immune homeostasis and protects against disease**  
Anna Heawood, University of Glasgow, UK
- P.24 **Long-term changes in lung epithelial cells following respiratory syncytial virus infection**  
Piotr Janas, The University of Edinburgh, UK
- P.25 **The effect of *Helicobacter Hepaticus* on a mouse model of *Salmonella typhimurium* Infection**  
Xiang Li, University of Glasgow, UK
- P.26 **Investigating the role of neutrophils in pleural infection: preliminary data from the PIRATE study**  
Amy Gilmour, University of Dundee, UK
- P.27 **Characterising the cellular responders and immunological outcome of IL-33 signalling during intestinal helminth infection**  
Suzanne Hodge, University of Dundee, UK
- P.28 **Prior Acute Influenza Infection Drives a Long-Term Pro-Tumoral State in the Lungs**  
Ryan Devlin, CRUK Scotland Institute, UK
- P.29 ***H. polygyrus* skews DC2 development towards regulatory CD103+ phenotype to counter the anti-helminth immune response**  
Anna Andrusaite, University of Glasgow, UK
- P.30 **Exploring the role of macrophages in progenitor cell-mediated salivary gland regeneration**  
Sreya Dutta, University of Edinburgh, UK
- P.31 **Defining the secretion landscape driven by SEC24 isoforms and ER export receptors in T cells**  
Laura Spinelli, University of Dundee, UK
- P.32 **An investigation into the role of chitinase-3-like protein 1 in inflammatory bowel disease.**  
Daisy Lints, University of Glasgow, UK
- P.33 **Exploring Immune and Microbiota Effects of a Partial Enteral Nutrition Diet in axSpA**  
Rumaisa Zubairi, University of Glasgow, UK

- P.34 **Characterising the macrophage niche in the salivary gland**  
Lizi Hegarty, University of Edinburgh, UK
- P.35 **Development of a large-scale, ex vivo NK cell expansion protocol for use in assessment of NK-targeting therapeutics**  
Pim Robertson, Antibody Analytics, UK
- P.36 **Is IgA deficiency a feature of canine atopic dermatitis in small and medium sized dogs?**  
Abigail Campbell, SRUC and University of Edinburgh, UK
- P.37 **Elucidating the Mechanistic Pathways of Antigen Transfer in vitro**  
Joanna Hodge, CRUK Scotland, UK
- P.38 **The impact of metabolism on co-infection immunity**  
Georgia Perona-Wright, University of Edinburgh, UK
- P.39 **Understanding the antiviral state following the clearance of Influenza A virus infection**  
JACK MCCOWAN, Cancer Research Scotland Institute, UK
- P.40 **Modulating the Local Immune Response to Protect the CNS Against Viral Encephalitis**  
Marieke Pingen, University of Glasgow, UK
- P.41 **Association between antinuclear antibodies (ANA) patterns and extractable nuclear antigens (ENA) in patients with autoimmune diseases**  
Abdul Rehman Haris, Armed Forces Institute of Pathology, Pakistan
- P.42 **Structural and Functional Analysis of the TGF- $\beta$  Mimic TGM-2 and its Receptor-Binding Domains**  
Emmaculate Yaah Ntang, University of Glasgow, UK
- P.43 **ACKR2 contributes to monocyte differentiation into macrophages**  
Gillian J Wilson, University of Glasgow, UK
- P.44 **Heligmosomoides polygyrus bakeri produces 3 HpARI homologs displaying differing immunomodulating properties**  
Florent Colomb, University of Dundee, UK
- P.45 **Disruption of placental ACKR3 effects growth and hematopoietic development in offspring**  
Ayumi Fukuoka, University of Glasgow, UK
- P.46 **Investigating the role of neutrophil  $\alpha$ -defensins in chronic Pseudomonas aeruginosa airway infection**  
Rachel Galloway, University of Dundee, UK
- P.47 **Novel RELM- $\beta$  binding molecule from Heligmosomoides polygyrus bakeri**  
Vivien Shek, University of Dundee, UK
- P.48 **PIEZO1 mechanotransduction of aberrant physical stimuli directs iPSC-derived and monocyte-derived macrophages to differentiate into distinct synovial tissue macrophage phenotypes with reduced anti-inflammatory functions**  
Marcus Doohan, University of Glasgow, UK
- P.49 **Insights into bronchiectasis disease mechanisms using blood leukocyte transcriptomics: data from the EMBARC-BRIDGE study**  
Merete B Long, University of Dundee, UK

- P.50 **Developing a system to dissect the requirement for MerTK in macrophage fate and efferocytosis at steady state**  
Naomi N. Gachanja, University of Edinburgh, UK
- P.51 **Investigating the effects of neutrophil specific UPP1 expression on CD11b function and how this mechanistically contributes to cancer progression**  
Sophie Fisher, CRUK Scotland Institute, UK
- P.52 **Investigating innate memory in monocytes from people with axial spondyloarthritis**  
Annabelle N. Smith, University of Glasgow, UK
- P.53 **Identifying novel signatures to stratify eczema patients**  
Dr. Fiona Cunningham, University of Edinburgh, UK
- P.54 **Helminth-Derived Immunomodulators as Potential Therapies Against Adipose Tissue Inflammation in Obesity**  
Josh Richards, University of Dundee, UK
- P.55 **How do extracellular vesicles from the mouse parasite Heligmosomoides polygyrus modulate the host immune system?**  
Li An Cowley, University of Glasgow, UK
- P.56 **The impact of diabetes medications on macrophage phagocytosis and killing ability against Candida albicans**  
Sam M McVey, University of Aberdeen, UK
- P.57 **An Investigation of Key Inflammatory Cells and Receptors in Zebrafish Larvae Following Injury and Regeneration**  
Aerin Thompson, University of Edinburgh, UK
- P.58 **Unravelling the Mechanism of Action of Dithranol on Alopecia Areata: Insights from PBMC**  
Adithya Ashok, University of Glasgow, UK
- P.59 **Characterisation of M cells in the gastrointestinal tract: A role for M cells in Crohn's disease?**  
Cavanagh AJB, University of Edinburgh, UK
- P.60 **Experimental stroke results in chronic B cell deficits and infection vulnerability**  
Isobel Mouat, University of Edinburgh, UK
- P.61 **Mast Cell IL-33 Signalling in Intestinal Helminth Infection**  
Nicole Ong, University of Dundee, UK
- P.62 **Focal adhesion kinase regulates the anti-tumour immune response in glioblastoma**  
Emily Webb, University of Edinburgh, UK

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