Oxford Immunology Symposium 2023

20 March 2023

Mathematical Institute, University of Oxford

Oxford

08:30	Registration
09:30	**Welcome address** Professor Paul Klenerman, Nuffield Department of Medicine, University of Oxford

SESSION 1

Chairs: Professor Paul Klenerman, University of Oxford and Dr Matthew Bottomley, University of Oxford

09:40	**Investigating dynamics of CD8 T cell response to SARS-CoV-2's emerging variants of concerns via machine-learning and mathematical modelling** Associate Professor Hashem Koohy, University of Oxford – *invited speaker*
10:15	**Single-cell multi-omics in pancreatic cancer reveals differential immune evasion mechanisms between prognostic groups** Dr Shivan Sivakumar, University of Oxford – *selected short talk*
10:35	**Use of live tumour slices for the optimisation of CAR-T cell therapy in PDAC** Alice Evans, University of Oxford – *selected short talk*
11:00	Refreshment break and meet the exhibitors

SESSION 2

Chairs: Dr Nikolaos Kanellakis, University of Oxford and Dr Ffion Hammond, University of Oxford

11:30	**Segmented filamentous bacteria-induced epithelial MHCII regulates cognate CD4+ intraepithelial lymphocytes and epithelial turnover** Tomas Brabec, Charles University, Prague, Czech Republic – *selected short talk*
11:50	**Insights into immunology from clinical trials and human experimental medicine** Professor Helen McShane, University of Oxford – *invited speaker*
12:35	Lightning poster talks
13:00	Lunch, poster viewing and meet the exhibitors

SESSION 3

Chairs: Dr Carolyn Nielsen, University of Oxford and Dr Mafalda Santos, University of Oxford

14:00	**Immunomodulatory adipose tissue perineurial cells protect against obesity** Emma Haberman, University of Oxford – *selected short talk*
14:20	**Opening the black box of Vaccinology; in vivo studies of human secondary lymphoid tissue** Dr Katrina Pollock, Imperial College London – *invited speaker*
14:55	**Etiology of Type 1 Diabetes: Tolerance to insulin is hardwired by mimicry into microbial metabolism of carbohydrates** Dr Marcin L Pekalski, University of Oxford – *selected short talk*
15:15	Refreshment break and meet the exhibitors

SESSION 4

Chairs: Dr Adan Pinto Fernandez, University of Oxford and Dr Janina Nahler, University of Oxford

15:55	**Advances in next-generation vaccines for blood-stage malaria** Professor Simon Draper, University of Oxford – *invited speaker*
16:35	**Impact of early life immune sex differences on paediatric HIV cure** Professor Philip Goulder, University of Oxford – *invited speaker*
17:10	Closing comments and prize-giving
17:20	Networking reception
18:30	Close

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Lightning talks

P.01 Single nuclei RNA-seq differentiates between mouse models of lupus nephritis and highlights pathways for therapeutic intervention
Aneesha Bhandari, University of Oxford, UK

P.02 Delayed booster dosing enhances circulating and bone marrow-resident human B cell responses to blood-stage malaria vaccine antigens
Carolyn M Nielsen, University of Oxford, UK

P.03 Adipocyte autophagy in the control of obesity-induced inflammation
Klara Piletic, University of Oxford, UK

P.04 Computationally profiling peptide:MHC recognition by T-cell receptors and T-cell receptor-mimetic antibodies
Matthew Raybould, University of Oxford, UK

P.05 Single cell profiling of transplant biopsies following adoptive regulatory T cell therapy
Oliver McCallion, University of Oxford, UK

P.06 The intrathecal compartmentalised, autoantigen-specific antibody-secreting cell dominated response in patients with autoimmune encephalitis
Ruby Harrison, University of Oxford, UK

P.07 Combining adoptive T-cell therapy with cancer vaccines to enhance anti-tumour immune responses
Vinnycius Pereira Almeida, University of Oxford, UK

P.08 Are Fibroblasts Immune Cell Filters in Peripheral Tissues?
Zhi Yi Wong, University of Oxford, UK

Poster presentations

P.09 Predisposition of blood group incompatibility and g6pd deficiency to severe neonatal hyperbilirunaemia
Eugene J. B. Freiku, Briteaid Health Specialist Clinic, Ghana

P.10 Role of non-myocytes in hypertrophic cardiomyopathy, a common genetic heart muscle disorder
Ying-Jie Wang, University of Oxford, UK

P.11 High Dimensional Immune Cell Profiling of Peripheral Blood in Lumbosacral Radiculopathy: A Pilot Study
Shuaiwei Wang, University of Oxford, UK

P.12 Pleural effusion mediates immune suppression by upregulating PD-L1 on cancer cells and PD1 on CD4+ T cells
Yu Zhao, University of Oxford, UK

P.13 P2X7 receptor mediated cytokine release from human microglia (monocyte-derived); implications for patients with TBI and other brain pro-inflammatory conditions
Omar Qureshi, University of Birmingham, UK; Celentyx Ltd, Birmingham, UK

P.14 The liver transcriptomic landscape differs between SPF and Germ Free Mice
Amit Halkhoree, University of Oxford, UK

P.15 Discovery, Selection and Proof of Concept Evaluation of Novel TCR Selective Targets
in Ewing Sarcoma
Qinan Qian, University of Oxford, UK

P.16 Therapeutic antibody discovery targeting complex membrane proteins
Elizabeth Allen, DJS Antibodies

P.17 Peptide specific natural killer cell receptors
Malcolm J. W. Sim, National Institute of Allergy and Infectious Diseases, NIH, Rockville; University of Oxford, UK

P.18 Development of BAFF-R-specific chimeric antigen receptor T cells
Mike B Barnkob, University of Oxford, UK; Odense University Hospital, Denmark

P.19 The role of genetic variation on sensitivity to Natural Killer cell-mediated cytotoxicity in HGSOC Cell Lines
Melville Nyatondo, University of Cambridge, UK; Ulster University, UK

P.20 Investigating the immune response in ethnically diverse human lymph nodes upon vaccination
Jacqueline H.Y Siu, University of Oxford, UK

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Poster presentations

P.21 Myeloid-derived suppressor cells (MDSC) as modulators of Pseudomonas aeruginosa lung infection
Jean-Michel SALLENAVE, Université de Paris, France

P.22 Solutions for Simultaneous Single Cell Transcriptome Analysis and Immune Receptor Profiling
Singleron Biotechnologies, Germany

P.23 CALHM6: a synaptic channel that facilitates macrophage-mediated natural killer cell activation
Sara Danielli, University of Oxford, UK

P.24 Changing adjuvanted vaccine formulation tailors protection against malaria through distinct immune mechanisms
Sören Reinke, University of Oxford, UK

P.25 The role of mitochondrial antiviral signalling protein (MAVS) in innate immunity against bacterial infection
Yuqing Long, University of Oxford, UK

P.26 DIVE IN to Immune Niches: Combining high-dimensional human tissue phenotyping and AI-based immune microenvironment analysis to identify and quantify immune cell niches
Ananya Bhalla, University of Oxford, UK

P.27 Single-cell RNA sequencing reveals the presence of immature neutrophils in inflamed murine joints
E. van Grinsven, University of Oxford, UK

P.28 Antigen-specific IgG avidity following vaccination with IV BCG or ID MTBVAC is associated with superior protection from M.tb challenge in non-human primates
Marco Polo Peralta Alvarez, University of Oxford, UK

P.29 Modelling homologous recombination deficiency in prostate cancer
JTW Kwon, University of Oxford, UK

P.30 Mechanism of Antigen Recognition by T cells in context of TCR-targeted bispecifics
Mateusz Kotowski, University of Oxford, UK

P.31 The Mechanisms of Allergy to Fungal Bioaerosols in the Lung
Emma-Jane Goode, Toxicology Dept, UKHSA Chilton, UK

P.32 Rebalancing immune checkpoints in rheumatoid arthritis by targeting the synovial microenvironment
Linda Mies, University of Oxford, UK

P.33 Histopathological and transcriptomic analysis of lung tissue from rhesus macaques involved in preclinical SARS-CoV-2 vaccine studies to characterise immune signatures associated with pathology
Cillian Gartlan, University of Oxford, UK

P.34 Development and Preclinical Characterization of Bispecific Monoclonal Antibody (BiMAb) for Colorectal Cancer Immunotherapy
Norah Alrishedan, University of Oxford, UK

P.35 Iron restricted CD8+ T-cells display metabolic perturbations and show sensitivity to aspartate supplementation
Megan The, University of Oxford, UK

P.36 Identification and characterisation of Th17 subpopulations in colorectal cancer patients
Declan Pang, University of Oxford, UK

P.37 Discordant role for germinal centres in adenovirus vector- and mRNA vaccine-induced antibody responses
Lyn Yong, University of Oxford, UK

P.38 Lipid presentation by CD1c in cancer
Rita Szoke-Kovacs, Immunocore Ltd

P.39 Mapping vaccine adjuvants in space, time and cells
Eloise Nee, University of Oxford, UK

P.40 Investigating the impact of iron limitation on regulatory T cell function in transplantation
Marie Sion, University of Oxford, UK

P.41 An ex vivo model of inflammation in humans; lymph node responses to vaccine adjuvant
Joannah Fergusson, University of Oxford, UK

P.42 LARP1 regulates macrophage metabolism and polarisation in the immune microenvironment of ovarian cancer
James Chettle, University of Oxford, UK

P.43 Understanding signalling from immune checkpoint in T cells
Sumana Sharma, University of Oxford, UK

P.44 Preclinical models for the assessment of vaccine efficacy against hazard group 4 pathogens
Stuart Dowall, University of Oxford, UK

P.45 Discovery, pharmacophore characterisation and in vitro molecular evolution of anti-chemokine peptides
Serena Vales, University of Oxford, UK

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Poster presentations

P.46 Mapping T Cell Epitopes in SARS-CoV-2 Variants of Concern
Sandra Adele, University of Oxford, UK

P.47 Big Autofluorescent Lipid-Laden Macrophages Regulate Adrenal Corticosteroid Output
Conan J O O'Brien, University of Oxford, UK

P.48 Molecular determinants underpinning MAIT cells self-reactivity
Robert Simmons, Immunocore Ltd, UK

P.49 Engineering T cells with enhanced ligand discriminatory powers
Jose Cabezas-Caballero, University of Oxford, UK

P.50 Exploring the specificity of γδ Tumour Infiltrating Lymphocytes
Alina Popa, Immunocore Ltd, UK

P.51 A high affinity soluble MAIT TCR as a tool to monitor MR1 antigen presentation
Richard Suckling, Immunocore Ltd, UK

P.52 The divergent localisation and trafficking of the pre-TCR is signalling independent
Sam J. Garforth, University of Warwick, UK

P.53 Development of Bivalent vaccines targeting Ebola and Sudan, or Marburg and Lassa viruses: pre-clinical immunogenicity and efficacy and early clinical safety and immunogenicity
Amy Flaxman, University of Oxford, UK

P.54 The early emergence of aquaporin 4-specific B cells characterises neuromyelitis optica spectrum disorders
Halwan Bayuangga, University of Oxford, UK; Gadjah Mada University, Indonesia

P.55 Delineating the causal role of the gut microbiome in experimental colitis
Rebecca Jeffery, University of Oxford, UK

P.56 The Microbiome and Airway Cytokines in Upper and Lower Airways in Severe Asthma
M Jabeen, University of Oxford, UK

P.57 Updated Therapeutic Antibody Profiling Contextualises the Developability of Human Lambda Antibodies
Oliver Turnbull, University of Oxford, UK

P.58 A single B-cell method to study the immunobiology underlying CASPR2-autoantibody encephalitis
Sofija Paneva, University of Oxford, UK

P.60 Genetic contribution towards TCR repertoire
Esther Ng, University of Oxford, UK

P.61 The embryonic origins of human finger joints reveals a≈cellular and anatomical basis for arthritis pathology
Sarah Davidson, University of Oxford, UK

P.62 Investigating the role of ZIP7 in modulating peripheral B cell function
Jie Yan, University of Oxford, UK

P.63 The role of costimulatory risk genes for polygenic inflammatory disease in CD4+ T cells
Chloe Moscrop, University of Oxford, UK

P.64 Objective quantification of neutrophil maturation by live 3d imaging of nuclear morphology
J. Salafranca, University of Oxford, UK

P.65 The effect of co-signalling on the biogenesis and release of supramolecular attack particles by CD8+ induced T regulatory cells
Margaritaki O, University of Oxford, UK;

P.66 Tonsil organoids reveal that plasmacytoid dendritic cells modulate the humoral immune response to ChAdOx1 nCoV-19
Maria Fransiska Pudjohartono, University of Oxford, UK

P.67 The role of adaptive nk cells during acute hiv-1 infection with different subtypes
Aljawharah Alrubayyi, University of Oxford, UK

P.69 Improving nivolumab blocking efficiency through antibody engineering
Martin Fellermeyer, University of Oxford, UK

P.70 TIGIT: friend or foe in cancer development?
Sakina Amin, University of Oxford, UK

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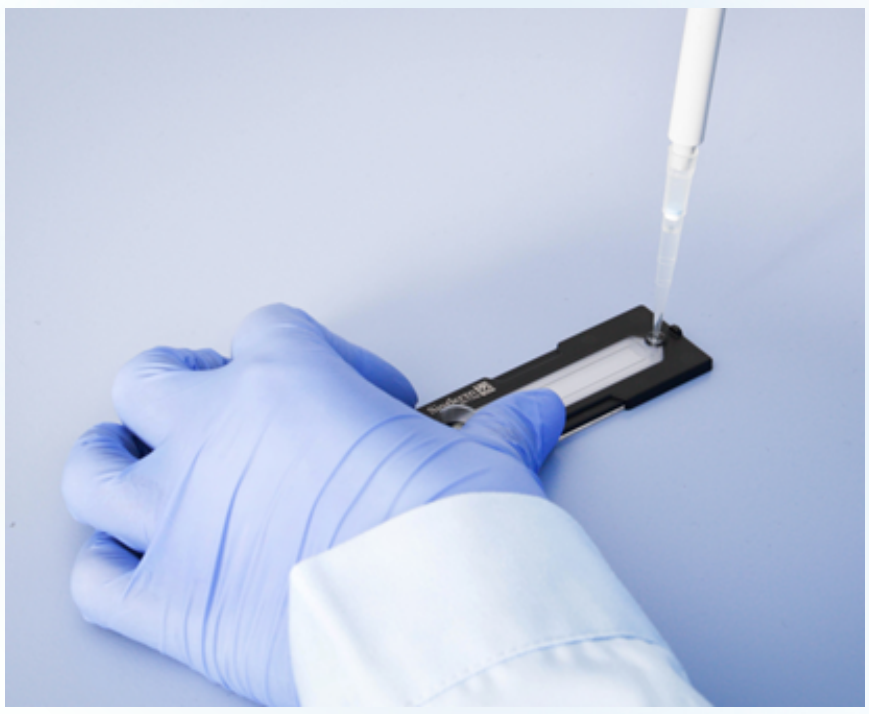

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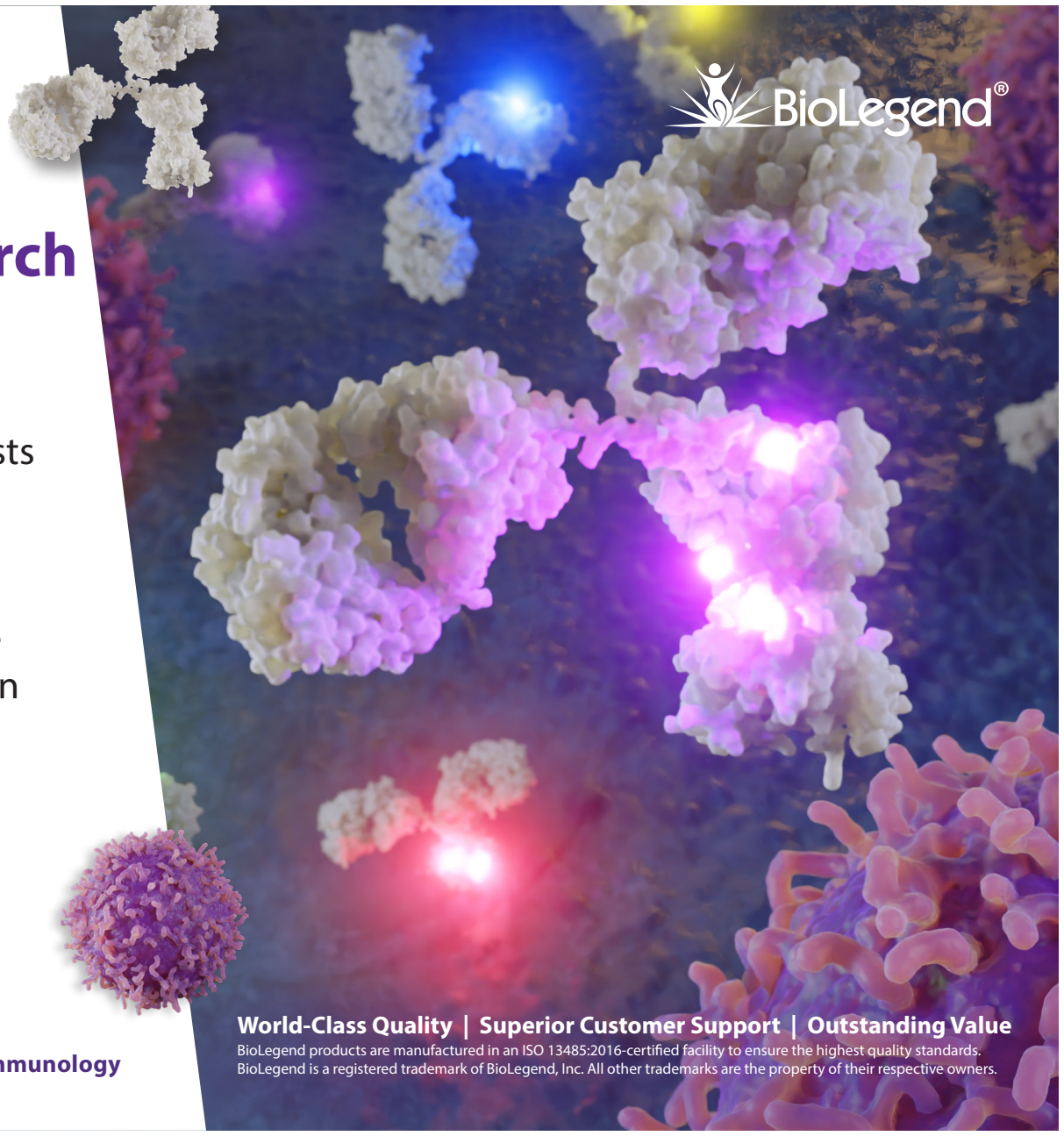

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