

## Main Program 1. Day - Wednesday, 6 July 2022 - Room: Davos 1

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| <b>Session 1</b>  |  | <b>Antigen-specific T and B cells</b>  |
| <i>Chairs: Cezmi A. Akdis, Nicolas Gaudenzio</i>          |  |  |
| 08:30 - 09:00   | S01  | <b>Gillian M. Griffiths</b><br>New pathways modulating CTL synapses and function   |
| 09:00 - 09:30   | S02  | <b>Deborah K. Dunn-Walters</b><br>Peripheral B cell heterogeneity in health and disease  |
| 09:30 - 09:45   | S03  | <b>Milena Sokolowska</b><br>Metabolic checkpoints of pathogenic Th2 cells development  |
| 09:45 - 10:00   | S04  | <b>Ganesh Phad</b><br>Clonal structure, stability and dynamics of human memory B cells and circulating plasmablasts  |
| 10:00 - 10:30   | <i>Coffee break</i>  |  |
| <b>Session 2</b>  |  | <b>New perspectives of immune regulation</b>   |
| <i>Chairs: Gillian M. Griffiths, Deborah Dunn-Walters</i> |  |  |
| <b>Short Presentation 10xGenomics (5 min)</b>             |  |  |
| 10:30 - 10:35   | Barcode enabled antigen mapping using single cell technology from 10xGenomics  |  |
| 10:35 - 11:05   | S05  | <b>Nicolas Gaudenzio</b><br>Neural regulation of immune response: new perspectives for drug development  |
| 11:05 - 11:20   | S06  | <b>Marina Bekic</b><br>Gold nanoparticles conjugated with prostaglandin E2 potentiate suppressive mechanisms mediated by myeloid-derived suppressor cells and ameliorate experimental autoimmune encephalomyelitis |
| 11:20 - 11:35   | S07  | <b>Arlisa Alisjahbana</b><br>A single-cell map of vascular and tissue lymphocytes identifies highly proliferative TCF-1+ human innate lymphoid cells   |
| 11:35 - 11:50   | S08  | <b>Thiruni Adikari</b><br>Single-cell multi-omics reveal the heterogeneity and altered subset distribution of gut resident immune cells in active and refractory celiac disease                                    |
| 12:00 - 13:00   | <b>10xGenomics Lunch Symposium</b> ( <i>Room: Schwarzhorn</i> ) ( <i>Lunch provided to participants</i> )<br><b>Rea Dabelic</b> Multiomic profiling of the immune landscape<br><b>Yasutaka Mitamura</b> The Experience of Visium Spatial Transcriptomics in Atopic dermatitis and Beyond |  |
| 13:00 - 14:30   | <i>Lunch break</i>   |  |
| 14:30 - 16:00   | <b>Workshops 1 - 3</b> ( <i>please see workshop program</i> )  |  |
| 16:00 - 17:15   | <i>Coffee break (30 min) and time to visit the booths of our exhibitors</i>  |  |
| 17:15 - 17:30   | <b>Cezmi A. Akdis</b><br>Opening Address   |  |
| <b>Session 3</b>  |  | <b>T cell activation and immune response</b>   |
| <i>Chairs: Mübeccel Akdis, Günnur Deniz</i>               |  |  |
| 17:30 - 18:00   | S09  | <b>Carolyn King</b><br>T cells Sans Frontières: Division of labor in the lung during infection   |
| 18:00 - 18:30   | S10  | <b>Davide Angeletti</b><br>Antigen-specific B cells in viral infections  |
| 18:30 - 18:45   | S11  | <b>Katja Bärenfaller</b><br>Translational regulation and translation of non-coding RNAs in T helper 1 cell differentiation and activation  |
| 18:45 - 19:00   | S12  | <b>Nicole Joller</b><br>Early responder memory CD4+ T cells modulate heterologous disease outcome  |
| 19:00 - 19:15   | <b>Landammann Philipp Wilhelm</b><br>Welcome Address by the City Major of Davos  |  |
| 19:15 - 22:00   | <i>Dip &amp; Discuss Dinner Buffet</i>   |  |
| 19:30   | <b>Poster Sessions 1 - 3</b> , Room: Foyer A1 ( <i>please see poster program</i> )<br><b>Poster presentations of workshops 1 - 3</b> , Room: Main Corridor   |  |

## Main Program 2. Day - Thursday, 7 July 2022 - Room: Davos 1

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| <b>Session 4</b>  |  | <b>COVID-19 and severity</b>   |
| <i>Chairs: Maciej Chalubinski, Ashok Kuma</i>   |  |  |
| 08:30 - 09:00   | S13  | <b>Petter Brodin</b><br>Immune determinants of COVID-19 disease presentation and severity  |
| 09:00 - 09:30   | S14  | <b>Andreas Diefenbach</b><br>Untimely TGFβ responses in COVID-19 limit antiviral functions of NK cells   |
| 09:30 - 09:45   | S15  | <b>Nincy Debeuf</b><br>Inhaled GM-CSF treatment in acute respiratory distress syndrome (ARDS): a different story in mice and humans  |
| 09:45 - 10:00   | S16  | <b>Ismail Ögülür</b><br>Novel biomarkers of disrupted gut permeability in severe COVID-19 patients   |
| 10:00 - 10:30   | <i>Coffee break</i>  |  |
| <b>Session 5</b>  |  | <b>Viral infections and diseases</b>   |
| <i>Chairs: Petter Brodin, Claudia Traidl-Hoffmann</i>   |  |  |
| 10:30 - 11:00   | S17  | <b>James Gern</b><br>Contrasting effects of rhinovirus and SARS-CoV-2 infections on childhood asthma   |
| 11:00 - 11:15   | S18  | <b>Bernd Lepenies</b><br>Role of the C-type lectin receptor DCIR in immunopathology in the brain following Theiler's murine encephalomyelitis virus (TMEV) infection   |
| 11:15 - 11:30   | S19  | <b>Natalia Pikoro</b><br>Type I Interferon responses protect against pulmonary Coronavirus infection by attenuating viral replication, securing monocyte-derived macrophage survival and limiting neutrophilia |
| <b>Becton Dickinson Lunch Symposium</b> ( <i>Room: Schwarzhorn</i> )<br>(Lunch bags provided to participants) |  |  |
| 12:00 - 13:00   | <b>Diana Ordoñez-Rueda, Bob Balderas</b><br>Broadening the spectrum of highdimensional biomarker discovery: reveal more for your deep science single-cell research and innovate with fluorescence image-enabled technology |  |
| 13:00 - 14:30   | <i>Lunch break</i>   |  |
| 14:30 - 15:30   | <b>Workshops 4 - 6</b> ( <i>please see workshop program</i> )  |  |
| 15:30 - 16:00   | <i>Coffee break</i>  |  |
| <b>Meet the Expert</b>  |  |  |
| 16:00 - 17:00   | <b>Petter Brodin</b><br>Professor of Pediatric Rheumatology, Karolinska University Hospital, Sweden  |  |
| 17:00 - 17:15   | <b>Award Ceremony for poster &amp; workshop prizes of day 1</b>  |  |
| <b>Session 6</b>  |  | <b>Novel vaccine development</b>   |
| <i>Chairs: Claudio Rhyner, Fintan Moriarty</i>  |  |  |
| 17:15 - 17:45   | S20  | <b>Volker Thiel</b><br>Coronavirus replication and the way to live-attenuated vaccines   |
| 17:45 - 18:15   | S21  | <b>Pia Gattinger</b><br>From analysis of SARS-CoV-2-specific immune responses to a novel protein subunit vaccine   |
| 18:15 - 18:30   | S22  | <b>Luca M. Zaeck</b><br>Heterologous COVID-19 vaccination regimens prime for more functional antibodies upon mRNA-based booster vaccination  |
| 18:30 - 18:45   | S23  | <b>Maria Francisca Palomares</b><br>Toll-like receptor ligand conjugated with Pru p 3 peptides as novel vaccines for food allergy  |
| 19:00 - 22:00   | <i>Dip &amp; Discuss Dinner Buffet</i>   |  |
| 19:30   | <b>Poster Sessions 4 - 7</b> , Room: Foyer A1 ( <i>please see poster program</i> )<br><b>Poster presentations of workshops 4 - 6</b> , Room: Main Corridor   |  |

## Main Program 3. Day - Friday, 8 July 2022 - Room: Davos 1

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|---|-----|--|
| <b>Session 7</b>  |     | <b>Immune response and inflammation in cancer</b>  |
| <i>Chairs: Martin Bachmann, Andreas Diefenbach</i>  |     |  |
| 08:30 - 09:00   | S25 | <b>Greta Guarda</b><br>New circuits regulating immunity and cancer   |
| 09:00 - 09:30   | S26 | <b>Christian Münz</b><br>Novel pro and anti inflammatory pathways in human natural killer cells  |
| 09:30 - 09:45   | S27 | <b>Helene Sieberer</b><br>The role of eIF2a-signaling in NLRP3-driven AML  |
| 09:45 - 10:00   | S28 | <b>Mara Cenerenti</b><br>Molecular profiling of tumor-specific cytolytic CD4 T cells in human cancer   |
| 10:00 - 10:15   | S29 | <b>Jessica Guerra</b><br>NLRC5 interacts with UTX to regulate MHC1 transcription   |
| 10:15 - 10:45   |     | <i>Coffee break</i>  |
| <b>Session 8</b>  |     | <b>Novel disease models</b>  |
| <i>Chairs: Christian Münz, R. Sharon Chinthrajah</i>  |     |  |
| <b>Short Presentation Sengenics (5 min)</b>   |     |  |
| 10:45 - 10:50   |     | Autoantibody Biomarkers - A Precision Medicine Approach for Early Diagnosis & Response Prediction  |
| 10:50 - 11:20   | S30 | <b>Silvia Melgar</b><br>Use of organoids as a tool for understanding IBD   |
| 11:20 - 11:50   | S31 | <b>Wilfried Posch</b><br>SARS-CoV-2 infectivity of epithelial cells in human 3D models   |
| 11:50 - 12:05   | S32 | <b>Yagiz Pat</b><br>Differentiation of bronchial epithelial spheroids in the presence of IL-13 recapitulates characteristic features of asthmatic airway epithelia |
| <b>Fluidigm Lunch Symposium</b> ( <i>Room: Schwarzhorn</i> )<br>( <i>Lunch provided to participants</i> ) |     |  |
| 12:15 - 13:15   |     | <b>Aïda Meghraoui-Kheddar</b><br>When high dimensional single-cell technologies propel translational research from bench to bedside                                |
| 13:30 - 15:00   |     | <i>Lunch break</i>   |
| 15:00 - 16:00   |     | <b>Workshops 7 - 9</b> ( <i>please see workshop program</i> )  |
| <b>Special Lecture</b>  |     |  |
| 16:00 - 17:00   |     | <b>Louise Harra</b><br>Getting close to the Sun  |
| 17:00 - 17:30   |     | <i>Coffee break</i>  |
| 17:30 - 17:45   |     | <b>Award Ceremony for poster &amp; workshop prizes of day 2</b>  |
| <b>Session 9</b>  |     | <b>Threats to humanity and the nature of the world and immune response</b>   |
| <i>Chairs: Liam O'Mahony, Roger Lauener</i>   |     |  |
| 17:45 - 18:15   | S33 | <b>Kari Nadeau</b><br>Effect of global warming and climate change on the immune system and chronic diseases  |
| 18:15 - 18:45   | S34 | <b>Cezmi A. Akdis</b><br>Epithelial barrier hypothesis and mechanisms of allergy and autoimmunity development  |
| 18:45 - 19:00   | S35 | <b>Remo Frei</b><br>The starch-degrader <i>Ruminococcus bromii</i> is associated with fecal butyrate levels and atopic dermatitis in infancy                       |
| 19:00 - 22:00   |     | <i>Dip &amp; Discuss Dinner Buffet</i>   |
| 19:30   |     | <b>Poster Sessions 8 - 11</b> , Room: Foyer A1 ( <i>please see poster program</i> )<br><b>Poster presentations of workshops 8 - 12</b> , Room: Main Corridor       |

## Main Program 4. Day - Saturday, 9 July 2022 - Room: Davos 1

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|---|-----|--|
| <b>Session 10</b>   |     | <b>B cell responses and immune tolerance</b>   |
| <i>Chairs: Willem van de Veen, Davide Angeletti</i>         |     |  |
| 08:30 - 09:00   | S36 | <b>Klaus Warnatz</b><br>Exploring Tbet in a B cell world   |
| 09:00 - 09:30   | S37 | <b>Menno van Zelm</b><br>Differential diagnosis and monitoring of successful immunotherapy for allergic disease: a tale of basophils and B cells                               |
| 09:30 - 10:00   | S38 | <b>Mübecce Akdis</b><br>Antigen-specific B cell tolerance in immunotherapy and natural outgrow of food allergy   |
| 10:00 - 10:15   | S39 | <b>Marcus Robinson</b><br>The mediastinal lymph node is the dominant site of IgE production in mouse allergic airway disease models  |
| 10:15 - 10:30   | S40 | <b>Kristin Stirm</b><br>Regulatory T cells as drivers of tumor growth in diffuse large B cell lymphoma   |
| 10:30 - 11:00   |     | <i>Coffee break</i>  |
| <b>Session 11</b>   |     | <b>Epithelial responses, barrier, microbiome and diseases</b>  |
| <i>Chairs: Oscar Palomares, Jürgen Schwarze</i>             |     |  |
| 11:00 - 11:30   | S41 | <b>Mario Zaiss</b><br>The gut-joint axis in rheumatoid arthritis   |
| 11:30 - 12:00   | S42 | <b>Liam O'Mahony</b><br>Excessive inflammatory and metabolic responses to acute SARS-CoV-2 infection are associated with a distinct gut microbiota composition                 |
| 12:00 - 12:15   | S43 | <b>Thomas Conlon</b><br>PRMT7 promotes monocyte extravasation inducing ferroptotic cell death of epithelial cells in COPD  |
| 12:15 - 12:30   | S44 | <b>Yasutaka Mitamura</b><br>Spatial transcriptomics combined with single-cell transcriptomics unravels the complex inflammatory cell network in atopic dermatitis              |
| 12:30 - 12:45   |     | <b>Award Ceremony for poster &amp; workshop prizes of day 3</b>  |
| 12:45 - 14:00   |     | <i>Lunch break</i>   |
| 14:00 - 15:00   |     | <b>Workshops 10 - 12</b> (please see workshop program)   |
| subsequently  |     | <b>Award Ceremony for workshop prizes of day 4</b> (will be given directly in the workshop rooms by the chairpersons)  |
| 15:00 - 15:30   |     | <i>Coffee break</i>  |
| <b>Session 12</b>   |     | <b>Innate immune response, B cells and antibody synthesis</b>  |
| <i>Chairs: Katja Bärenfaller, Peter Schmid-Grendelmeier</i> |     |  |
| 15:30 - 16:00   | S45 | <b>Andrew Macpherson</b><br>Targets and functions of secretory IgA   |
| 16:00 - 16:15   | S46 | <b>Jingjing Liu</b><br>Cellular dynamics of the antibody-mediated immune responses in the respiratory tract  |
| 16:15 - 16:30   | S47 | <b>Sofia Bravermann</b><br>IL-1R signaling in kidney endothelial cells is essential for early neutrophil recruitment and control of systemic <i>Candida albicans</i> infection |
| 16:30 - 16:40   |     | <b>Cezmi A. Akdis</b><br>Closing Address   |
| 19:30   |     | <b>Dinner &amp; Dance Gala Night</b><br>(Ticket are available at the registration desk until Friday, 8 July 2022 at 12:00 lunch time)  |