

**UPDATE**

**Cytokines**  **2022**  
International Cytokine & Interferon Society ICIS

**ILC4** <sup>4<sup>th</sup></sup> International Conference  
2022 on Innate Lymphoid Cells

# FINAL PROGRAM

10<sup>th</sup> Annual Meeting of the  
International Cytokine  
& Interferon Society

Joint with

4<sup>th</sup> International Conference on  
Innate Lymphoid Cells (ILC4)

**20 - 23 September 2022**

Hilton Waikoloa Village  
Big Island, Hawaii, USA  
**HYBRID MEETING**

[www.hawaii.cytokinesociety.org](http://www.hawaii.cytokinesociety.org)  
[www.ilc2020.org](http://www.ilc2020.org)

Followed by  
the satellite meeting:



When you want to save humans from disease, ask science.

It will make the breakthrough.

Because science is relentless, it never gives up.

It keeps asking questions until it finds what it's looking for.

Science wants to cure people more than any disease wants to exist.

Just ask the ones it's already beaten.

But science is humble, it never rests.

Because it has to reinvent itself every day, prove itself again and again.

Until science makes the breakthrough, it isn't done.

We believe science can cure every human disease.

And we're going all in.

Because in the end,

**SCIENCE WILL WIN™**

 **Pfizer**



Visit [pfizer.com](http://pfizer.com) to see how #ScienceWillWin

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**EXPLORE**  
our virtual exhibit hall



**EXPLORE**  
the possibilities

**WIN...**

opportunities, prizes and more with our exhibitor's booth promos and the Cytokines Tournament!



**START NOW!**

# Virtual Meeting Platform



## Committee Members

### Cytokines 2022 Local Organizing Committee

**James Turkson**

*Cedars-Sinai Medical Center, US,  
Meeting Chair*

**Yasmine Belkaid**

*National Institute  
of Allergy and Infectious Diseases  
(NIAID), US*

**Akinori Takaoka**

*Hokkaido University, JP*

**Elina Zúñiga**

*University of California, US*

### ILC4 Organizing Committee

**Richard Locksley**

*University of California San Francisco, US,  
Meeting Chair*

**Ari Molofsky**

*University of California San Francisco, US,  
Meeting Co-Chair*

**Mark Ansel**

*University of California San Francisco, US*

**Lewis Lanier**

*University of California San Francisco, US*

**Susan Lynch**

*University of California San Francisco, US*

**Anna Molofsky**

*University of California San Francisco, US*

**Tiffany Scharschmidt,**

*University of California San Francisco, US*

### Cytokines 2022 International Advisory Committee

**Sunil K. Arora**

*Panjab University, IN*

**Chen Dong**

*Tsinghua University, CN*

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*Weill Cornell Medicine, US*

**Anne O'Garra**

*The Francis Crick Institute, UK*

### ILC4 International Organizing & Advisory Committee

**David Artis**

*Weill Cornell Medical Center, US*

**Gabrielle Belz**

*Walter and Eliza Hall Institute, AU*

**Marco Colonna**

*Washington University, US*

**James Di Santo**

*Institut Pasteur, FR*

**Andreas Diefenbach**

*Charite University of Medicine, DE*

**Gerard Eberl**

*Institut Pasteur, FR*

**Richard Flavell**

*Yale University, US*

**Georg Gasteiger**

*University of Würzburg, DE*

**Shigeo Koyasu**

*RIKEN, JP*

**Lydia Lynch**

*Harvard Medical School, US*

**Susan Lynch**

*University of California San Francisco, US*

**Andrew McKenzie**

*MRC Laboratory, UK*

**Jenny Mjösberg**

*Karolinska Institute, SE*

**Anna Molofsky**

*University of California San Francisco, US*

**Kazuyo Moro**

*Osaka University, JP*

**Chiara Romagnani**

*DRFZ, DE*

**Tiffany Scharschmidt**

*University of California San Francisco, US*

**Hergen Spits**

*Amsterdam UMC, NL*

**Henrique Veiga-Fernandes**

*Champalimaud, Portugal*

**Christoph Wilhelm**

*University of Bonn, DE*

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**Co-Chair: Ludmila Prokunina-Olsson**

*National Cancer Institute, US*

**Co-Chair: Ivan Zanoni**

*Harvard Medical School, US*

**Rune Hartmann**

*University of Aarhus, DK*

**Juan L. Mendoza**

*University of Chicago, US*

**Thomas R. O'Brien**

*National Cancer Institute, US*

**Deanna Santer**

*University of Manitoba, CA*

## **ICIS Officers & Council Members**

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**Sarah Gaffen**

**President-Elect (2021–2023)**

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**Dusan Bogunovic**

**Treasurer (2022–2024)**

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**Past-President (2021–2023)**

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**(2022–2025)**

**Curt M. Horvath**

**(2021–2024)**

**You-Me Kim**

**(2022–2025)**

**Thirumala-Devi Kanneganti**

**(2021–2024)**

**Ruby Dawson**

**(Jan 2022 – Jan 2024)**

**Justina Kulikauskaite**

**(Jan 2021 – Jan 2025)**

**James Turkson**

**Cytokines 2022 Chair**

**Joan Oefner**

**Managing Director (Ex-Officio)**

## **ICIS Committee Chairs**

**Awards Committee:**

**Hiroki Yoshida (Chair)**

**Katherine A. Fitzgerald (Co-Chairs)**

**Development Committee:**

**David Artis (Chair)**

**Eleanor Fish (Co-Chair)**

**Finance Committee:**

**Dusan Bogunovic**

**Membership/Communications:**

**Stacy M. Horner & Howard Young**

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**Brendan Jenkins**

**Nomenclature Committee:**

**Juan Mendoza**

**Nominating Committee:**

**Paul Hertzog**

**Publications Committee:**

**Scott Durum (Chair)**

**Cristina Bergamaschi (Co-Chair)**

**Standards Committee:**

**Gareth Jones**

**Early Career (ECR) Committee:**

**Adriana Forero & Juan Mendoza**

**(Co-Chairs)**

## Invited Speakers

**Moshe Arditi** (*Cedars Sinai Medical Center, US*)

**David Artis** (*Weill Cornell Medicine, US*)

**Megan Baldrige** (*Washington University St. Louis, US*)

**Yasmine Belkaid** (*NIH/NIAID, US*)

**Gabrielle Belz** (*The University of Queensland, AU*)

**Jean-Laurent Casanova** (*Rockefeller University, US*)

**Gloria Choi** (*Picower Institute, US*)

**Marco Colonna** (*Washington University St. Louis, US*)

**James Di Santo** (*Institut Pasteur, FR*)

**Andreas Diefenbach** (*Charité, DE*)

**Ana Domingos** (*University of Oxford, UK*)

**Gerard Eberl** (*Institut Pasteur, FR*)

**Christopher Garcia** (*Stanford University, US*)

**Adolfo Garcia Sastre** (*Icahn School of Medicine, US*)

**Georg Gasteiger** (*University of Würzburg, DE*)

**James Harker** (*Imperial College London*)

**Tiffany Horng** (*Shanghai Tech University, CN*)

**Juliana Idoyaga** (*Stanford University, US*)

**Bana Jabri** (*University of Chicago, US*)

**Susan Kaech** (*Salk Institute, US*)

**Brian Kim** (*Icahn School of Medicine at Mount Sinai, US*)

**Hye Young Kim** (*Seoul National University, KR*)

**You-Me Kim** (*Korea Advanced Institute of Science and Technology, KR*)

**Jonathan Kipnis** (*Washington University St. Louis, US*)

**Ekaterina Koltsova** (*Cedars Sinai Medical Center, US*)

**Shigeo Koyasu** (*RIKEN Center for Integrative Medical Sciences, JP*)

**Lewis Lanier** (*University of California San Francisco, US*)

**Heung Kyu Lee** (*KAIST Graduate School of Medical Science and Engineering, KR*)

**Richard Locksley** (*University of California San Francisco, US*)

**Carolina Lopez** (*Washington University St. Louis, US*)

**Lydia Lynch** (*Harvard Medical School, US*)

**Laura Mackay** (*University of Melbourne, AU*)

**Andrew McKenzie** (*MRC Laboratory of Molecular Biology, UK*)

**Jenny Mjösberg** (*Karolinska Institutet, SE*)

**Julie Magarian Blander** (*Weill Cornell Medicine, US*)

**Dorian McGavern** (*NINDS, NIAID NIH, US*)

**Ruslan Medzhitov** (*Yale University, US*)

**Anna Molofsky** (*University of California San Francisco, US*)

**Ari Molofsky** (*University of California San Francisco, US*)

**Kazuyo Moro** (*RIKEN, JP*)

**Daniel Mucida** (*The Rockefeller University, US*)

**Shruti Naik** (*NYU Langone Health, US*)

**Mihai Netea** (*Radboud UMC, NL*)

**Virginia Pascual** (*Weill Cornell Medicine, US*)

**Fiona Powrie** (*University of Oxford, UK*)

**Bali Pulendran** (*Stanford Medicine, US*)

**Hai Qi** (*Tsinghua University, CN*)

**Manuela Raffatellu** (*University of California San Diego, US*)



**Chiara Romagni** (*German Rheumatism Center (DRFZ) and Charitè Medical University Berlin, DE*)

**Carla Rothlin** (*Yale University, US*)

**Feng Shao** (*National Institute of Biological Sciences, Beijing, CN*)

**Sunny Shin** (*University of Pennsylvania, US*)

**Gregory Sonnenberg** (*Weill Cornell Medicine, Cornell University, US*)

**Hergen Spits** (*Amsterdam UMC, NL*)

**Elia Tait Wojno** (*University of Washington, US*)

**Akinori Takaoka** (*Hokkaido University, JP*)

**Yoshiya Tanaka** (*University of Occupational and Environmental Health, JP*)

**James Turkson** (*Cedars-Sinai Medical Center, US*)

**Henrique Veiga Fernandes** (*Champalimaud Foundation, PT*)

**Carola Vinuesa** (*Australian National University, AU*)

**Eric Vivier** (*Hôpitaux de Marseille, FR*)

**Akihiko Yoshimura** (*Keio University School of Medicine, JP*)

**Dario Zamboni** (*FAPESP, BR*)

**Elina Zuniga** (*University of California San Diego, US*)

**2022  
ICIS Award  
Winners**

**The ICIS-Pfizer Award**  
for Excellence in Cytokine & Interferon Research



**Akihiko Yoshimura, PhD**  
Professor of Microbiology and Immunology, Keio University School of Medicine, Tokyo, Japan



**ICIS-BioLegend William E. Paul Award**  
for Excellence in Cytokine Research



**David Artis, PhD**  
Michael Kors Professor of Immunology, Director, Jill Roberts Institute for Research in Inflammatory Bowel Disease Director, Friedman Center for Nutrition and Inflammation, Weill Cornell Medical College, New York City, USA



**Wanjun Chen, MD**  
Senior Investigator, Chief, Mucosal Immunology Section, National Institute of Dental and Craniofacial Research National Institutes of Health Bethesda, MD, USA

**ICIS-LUMINEX John R. Kettman Award**  
for Excellence in Cytokine & Interferon Research



**Lydia Lynch, PhD**  
Principle Investigator, Associate Immunologist, Brigham and Women's Hospital/ Harvard Medical School, Director, Metabolic Core, Brigham and Women's Hospital, Boston, USA



**ICIS Mentorship Award**



**Ludmila Prokunina-Olsson, PhD**  
Chief, Senior Investigator, Head, Prokunina-Olsson Laboratory, Laboratory of Translational Genomics, Division of Cancer Epidemiology and Genetic sat the National Cancer Institute

**ICIS Honorary Lifetime Membership Award**



**Luke A. J. O'Neill, PhD**  
Trinity College Dublin, Professor and Chair of Biochemistry, Trinity Biomedical Sciences Institute, Dublin, Ireland

**ICIS Distinguished Service Award**



**Curt M. Horvath, PhD**

Biochemistry, Molecular Biology and Cell Biology, Northwestern University Department of Molecular Biosciences Evanston, USA

**2022 ICIS-Regeneron New Investigator Awards**  
for Excellence in Cytokine & Interferon Research



**Charlotte Odendall, PhD**  
Sir Henry Dale Fellow King's College London London, UK



**David Olagnier, PhD**  
Assistant Professor Aarhus University Aarhus, Denmark



**Timothy O'Sullivan, PhD**  
Assistant Professor University of California, Los Angeles Los Angeles, USA



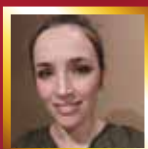
**Christopher Schneider, PhD**  
Assistant Professor Institution of Physiology University of Zurich Zurich, Switzerland



**Kellie Ann Jurado, PhD**  
Presidential Assistant Professor, Department of Microbiology, Perelman School of Medicine University of Pennsylvania Philadelphia, USA

**2022  
ICIS Award  
Winners**

**2022 Amanda Proudfoot Tribute Graduate Student/Postdoc Award** for Advances in Chemokine Biology by a Trainee



**Mélanie Bruchard, PhD**

*INSERM U1231, Dijon, France*

*Sponsored by the Friends, Family & Colleagues of the Late Amanda Proudfoot (ICIS Honorary Lifetime Member)*

**The Sidney & Joan Pestka Graduate & Post Graduate Awards** for Excellence in Cytokine & Interferon Research – sponsored by PBL Assay Science



Sponsored by

Post-Graduate



**Ryan G. Gaudet, PhD**

*Yale University Systems Biology Institute, West Haven, USA*

Graduate



**Conor Gruber, PhD**

*Icahn School of Medicine at Mt. Sinai, New York City, USA*

**2022 ICIS-Pfizer Junior Investigator Award Winners at Cytokines 2022**



**Michel Enamorado, PhD**

*CRI Postdoctoral Fellow NIAID/National Institutes of Health (NIH) Bethesda, USA*



**Fotis Karagiannis, PhD**

*Postdoc, Institute of Clinical Chemistry & Clinical Pharmacology University Hospital Bonn, University of Bonn Bonn, Germany*



**Etienne Masle-Farquhar, PhD**

*Postdoctoral Scientist Garvan Institute of Medical Research Darlinghurst, Australia*



**Claire E. O'Leary, PhD**

*Postdoctoral Research Associate Howard Hughes Medical Institute – UCSF San Francisco, USA*

## Contact of the International Cytokine & Interferon Society (ICIS):

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## Program Day 1

## Tuesday 20 September

	Monarchy Ballroom	Kona Ballroom 4-5	Kohala Ballroom 1-3
14.00-15.00			
15.00-16.00			14:40-15:55 Cytokines and Tissue Resident Lymphocytes
16.00-17.00	16:00 - 18:00 Cytokines Opening Session & Awards Ceremony		16:15 - 18:00 ILC4 Opening Session, Controversies and Opportunities in ILCs
17.00-18.00			
18.00-19.00	18:00 - 18:30 Coffee break, Visit of Exhibition & Exhibitor Breaking News Thermo Fischer Scientific, Curiox, Moderna, BioLegend		
	18:30 - 19:15 Joint Keynote: Multikingdom Control of Tissue Immunity		
19.00-20.00	19:15 - 21:00 Welcome Reception, Visit of Exhibition in the Grande promenad and Lagoon Lanai		
20.00-21.00			

## Program Day 2

### Wednesday 21 September

	Monarchy Ballroom	Kona Ballroom 4-5	Kohala Ballroom 1-3
07.00-08.00		<b>07:15 - 08:15</b> BMS Industry Sponsored Breakfast Session: Cytokine Modules in Inflammatory Skin Diseases	
08.00-09.00			
09.00-10.00	<b>08:30 - 10:30</b> Philip I. Marcus Symposium: Interferons and Antiviral Immunity		<b>08:30 - 10:30</b> ILC Development & Differentiation
10.00-11.00	<b>10:00 - 11:00</b> Coffee break, Visit of Exhibition & Exhibitor Breaking News Surface Oncology, Curiox, 10x Genomics, BioTechne, Olink, PBL Assay Science		
11.00-12.00	<b>11:00 - 12:30</b> Symposium 1: Cytokines induction	<b>11:00 - 12:30</b> Symposium 2: Cytokine signaling	<b>11:00 - 12:30</b> ILC Homeostasis, Niches, and Lifespan
12.00-13.00	<b>12:40 - 13:40</b> Lunch break on own Lagoon Grill will be set up at the Lagoon Lanai outside the Convention Center		
13.00-14.00			
14.00-15.00	<b>13:50 - 15:20</b> Symposium 3: Cytokines and Metabolism/ Macrophages	<b>13:50 - 15:20</b> Symposium 4: Cytokines and Dendritic Cells	<b>13:50 - 15:20</b> ILC1 & NK Cells
15.00-16.00	<b>15:20 - 16:00</b> Lightning Talks 1: Cytokine Regulation and Consequences	<b>15:20 - 16:00</b> Lightning Talks 2: Cytokine-related Interventions/Therapies	<b>15:20 - 16:00</b> ILC Lightning Talks 1
16.00-17.00	<b>16:00 - 17:30</b> Poster Discussions in Kings Ballroom & Kohala 4		
17.00-18.00			
18.00-19.00	<b>17:30 - 19:00</b> Symposium 5: Cytokines and T Cells	<b>17:30 - 19:00</b> Symposium 6: Cytokines and B Cells	<b>17:30 - 19:00</b> ILC2s
19.00-20.00	<b>19:10 - 20:40</b> Young Investigators Meet the Publishers Networking Event in Water's Edge Ballroom (For Students & Postdocs only)		
20.00-21.00			

# Program Day 3

## Thursday 22 September

	Monarchy Ballroom	Kona Ballroom 4-5	Kohala Ballroom 1-3
07.00-08.00	07:15 - 08:15 Thermo Fisher Scientific Industry Sponsored Breakfast Session: Next Generation Immunoassays: How career development in academia is fueling innovation in industry		
08.00-09.00	08:30 - 10:30 Joint Plenary: Cytokines and ILCs - Host-microbe Context		
09.00-10.00			
10.00-11.00	10:30 - 11:00 Coffee break, Visit of Exhibition & Exhibitor Breaking News Pfizer, Quanterix, PeproTech, Bio-Techne, Boehringer Ingelheim		
11.00-12.00	11:00 - 12:30 Symposium 7: Cytokines and Microbiome	11:00 - 12:30 Symposium 8: Cytokines and General Host Defense	11:00 - 12:30 ILC3 & LTICs
12.00-13.00	12:30 - 13:50 Young Investigator Careers in Academia Panel Discussion in Water's Edge Ballroom (For Students & Postdocs only)		
13.00-14.00			
14.00-15.00	13:50 - 15:20 Symposium 9: Cytokines and Anti-bacterial Defense	13:50 - 15:20 Symposium 10: Cytokines and Anti-viral Defense	13:50 - 15:20 ILCs in Cancer and Metabolism
15.00-16.00	15:30 - 16:00 Lightning Talks 3: Cytokines Induction and Metabolism	15:30 - 16:00 Lightning Talks 4: Cytokines, Inflammation & Autoimmunity	15:30 - 16:00 ILC4 Lightning Talks 2
16.00-17.00	16:00 - 17:30 Poster Discussions in Kings Ballroom & Kohala 4		
17.00-18.00	17:30 - 19:00 Symposium 11: Cytokines and Host Physiology/ Homeostasis		
18.00-19.00			
19.00-20.00	19:10 - 20:40 Young Investigator Careers in Industry Job Fair and Panel Discussion in the Water's Edge Ballroom (For Students & Postdocs only)		
20.00-21.00			

## Program Day 4

# Friday 23 September

	Monarchy Ballroom	Kona Ballroom 4-5	Kohala Ballroom 1-3
07.00-08.00		<b>07:15 - 08:15</b> Luminex Industry Sponsored Breakfast Session. Pancreas Derived Peptide Presentation by HLA-DQ in Diabetes	<b>07:15 - 08:15</b> Olink Industry Sponsored Breakfast Session. From Discovery to Quantified Cytokines: Actionable Insights from the Low Abundant Plasma Proteome
08.00-09.00			
09.00-10.00	<b>08:30 - 10:30</b> Joint Plenary: Cytokines and ILCs (Neuro/homeostasis Context)		
10.00-11.00	<b>10:30 - 11:00</b> Coffee break, Visit of Exhibition & Exhibitor Breaking News ThermoFisher Scientific		
11.00-12.00	<b>11:00 - 12:40</b> Symposium 13: Cytokines and Neuro	<b>11:00 - 12:40</b> Symposium 14: Cytokines, Inflammation & Autoimmunity	<b>11:00 - 12:30</b> Human ILCs
12.00-13.00			
13.00-14.00	<b>12:40 - 14:10</b> Cytokines Award Winners Panel in the Water's Edge Ballroom		
14.00-15.00		<b>14:10 - 14:55</b> Joint Keynote: Checkpoints of Host-microbial Interactions in Health and Disease	
15.00-16.00		<b>14:55 - 15:05</b> Closing Remarks. Cytokines 2023 Kick-off!	
16.00-17.00			
17.00-18.00			
18.00-19.00	<b>18:00 - 21:30</b> Joint Evening Networking Event (Paniolo BBQ) In Ocean View Terrace		
19.00-20.00			
20.00-22.00			

## Satellite Meeting Day 1

### Saturday 24 September



<https://interferonlambda.cytokinesociety.org>  
Big Island, Hawaii, USA  
September 24-25, 2022

Kohala Ballroom 1	
07.00-08.00	
08.00-09.00	<b>08:00 - 10:20</b> Welcome and Session 1: Inflammation and Infection in Experimental Models
09.00-10.00	
10.00-11.00	<b>10:20 - 10:50</b> Coffee Break & Poster Visit
11.00-12.00	<b>10:50 - 13:02</b> Session 2: COVID-19, Regulation and Tissue Microenvironment
12.00-13.00	

## Satellite Meeting Day 2

### Sunday 25 September

Kohala Ballroom 1	
07.00-08.00	
08.00-09.00	<b>08:00 - 10:10</b> Session 3: Human Genetic Associations and Molecular Functions
09.00-10.00	
10.00-11.00	<b>10:10 - 10:50</b> Coffee Break & Poster Visit
11.00-12.00	<b>10:50 - 13:10</b> Session 4: Crosstalk, Structure and Therapeutics
12.00-13.00	



# Program Day 1

## Tuesday 20 September

14:40 – 15:55

Kohala Ballroom

### Cytokines and Tissue Resident Lymphocytes

*Co-Chairs: You-Me Kim (Korea Advanced Institute of Science and Technology, KR),  
Wan-Uk Kim (Seoul St. Mary's Hospital, KR)*

Sponsored by the Korean Association of Immunologists

- 
- 14:40 **Obesity-induced Vaginal Microbiota- $\gamma$  T Cell Crosstalk Protects Female Reproductive Tract from Viral Infection**  
*Heung Kyu Lee (KAIST Graduate School of Medical Science and Engineering, KR)*
- 
- 15:05 **Innate Lymphoid Cells are Key Players of Chronic Respiratory Diseases**  
*Hye Young Kim (College of Medicine, Seoul National University, KR)*
- 
- 15:30 **Programming Tissue-Resident Memory T Cell Responses**  
*Laura Mackay (University of Melbourne, AU)*

16:00 – 18:00

Monarchy Ballroom

### Cytokines Opening Session & Awards Ceremony

*Co-chairs: James Turkson (Cedars-Sinai Medical Center, US) & Sarah Gaffen (University of Pittsburgh, US)*

- 
- 16:00 **Hawaiian Chant**
- 
- 16:04 **Welcome and Opening Remarks**  
*James Turkson (Cedars-Sinai Medical Center, US)*
- 
- 16:07 **President's Address**  
*Chris Hunter (University of Pennsylvania, US)*
- 
- 16:10 **Senior & Mid-Career Awards Presentations**  
*Kate Fitzgerald (Umass Medical School, US), Hiroki Yoshida (Saga University, JP)*
- 
- 16:10 **Award Presentation Lecture 1 - Pfizer Award: SOCS, SPRED, and NR4a; Negative Regulators of Cytokine Signaling and Transcription in Immune Tolerance**  
*Akihiko Yoshimura (Keio University School of Medicine, JP)  
Presented by Trey Gieseck (Pfizer, US)*
- 
- 16:35 **Award Presentation Lecture 2 - ICIS BioLegend Award 1: Cytokine Regulation of Immunity and Tissue Protection**  
*David Artis (Weill Cornell Medicine, US)  
Presented by Jessie Ni (BioLegend, US)*

**16:55 Award Presentation Lecture 2 - ICIS BioLegend Award 2: TGF- $\beta$  regulation of Immune Responses**

*Wanjun Chen (National Institute of Dental and Craniofacial Research, US) Presented by Jessie Ni (BioLegend, US)*

**17:20 Award Presentation Lecture 3 - ICIS Luminex Mid-Career Award: IL-17, Neuropeptide First, Cytokine Second?**

*Lydia Lynch (Harvard Medical School, US)  
Presented by April Scott (Luminex, US)*

**17:40 Young Investigator Awards Presentations**

*Regeneron Awards presented by Leonia Bozzacco; Christina Fleischmann Award presented by Hiroki Yoshida; PBL Awards presented by Hong-Gee Lee; Amanda Proudfoot Tribute Award presented by Eleanor Fish*

**16:15 – 18:00**

**Kohala Ballroom**

**ILC4 Opening Session, Controversies and Opportunities in ILCs**

*Co-Chairs: Ari Molofsky (UCFS, US) & Richard Locksley (UCFS, US)*

**16:15 Hawaiian Chant**

**16:20 Welcome and Award Announcements. Review Nuts and bolts**

*Richard Locksley (UCFS, US)*

**16:35 Panel Interactive Discussion: Early Days and Future Perspectives Regarding ILCs**

*Gabrielle Belz (Diamantina Institute, AU), Bana Jabri (University of Chicago, US), Shigeo Koyasu (RIKEN Center for Integrative Medical Sciences (IMS), JP), Lewis Lanier (UCFS, US) Hergen Spits (UMC, NL), Eric Vivier (Hôpitaux de Marseille, FR)*

**18:00 – 18:30 Coffee Break**

**Visit of Exhibition & Exhibitor Breaking News**

**Monarchy Ballroom**

**18:00 – 18:15 Breaking News: Thermo Fisher Scientific: Procartaplex™ Assays Offer Great Flexibility for Protein Analysis**

**18:15 – 18:30 Breaking News: Moderna: Working at Moderna**

**Kohala Ballroom**

**18:00 - 18:15 Breaking News: Curiox: The Impact of Automation on Sample Prep - Laminar Wash™**

**18:15-18:30 Breaking News: Biolegend: What's New from BioLegend for ICIS/Cytokines 2022?**

18:30 – 19:15

Monarchy Ballroom

**Joint Keynote**

*Co-Chairs: James Turkson (Cedars-Sinai Medical Center, US) & Richard Locksley (UCFS, US)*

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**18:30 Multikingdom Control of Tissue Immunity**

*Yasmine Belkaid (National Institute of Allergy and Infectious Diseases, US)*

19:15 - 21:00

Grand Promenade and Lagoon Lanai

**Welcome Reception, Visit of Exhibition**

# Program Day 2

## Wednesday 21 September

07:15 – 08:15

Kona ballroom

### BMS Industry Sponsored Breakfast Session: Cytokine Modules in Inflammatory Skin Diseases

*Brian Kim (Icahn School of Medicine at Mount Sinai, US)*

08:30 – 10:30

Monarchy Ballroom

### Philip I. Marcus Symposium: Interferons and Antiviral Immunity

*Co-Chairs: Raymond P. Donnelly (Mary Ann Liebert, US) & Chris Hunter (University of Pennsylvania, US)*

Sponsored by an unrestricted education grant from the Journal of Interferon & Cytokine Research / Mary Ann Liebert, Inc. Publishers

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8:30 **Keynote lecture: Non-standard Viral Genomes are Important Elements of the Virus Community**

*Carolina Lopez (Washington University St. Louis, US)*

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9:00 **Philip Marcus Memorial Lecture: The human genetic and immunological determinants of life-threatening COVID-19**

*Jean-Laurent Casanova (Rockefeller University, US)*

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9:25 **Type I Interferon Exhaustion after a Viral Infection**

*Elna Zuniga (University of California San Diego, US)*

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9:50 **The Glutamate-cysteine Antiporter XCT is Important for the CGAS Dependent IFN Response to HSV and Cytosolic DNA**

*Julia Blay Cadanet (Aarhus University, DK)*

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10:03 **Identification of Midline1 as a Checkpoint Regulator in Antiviral Innate Immunity**

*Junji Xing (Houston Methodist Research Institute, US)*

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10:16 **STAT1 Gain of Function Mutation Impairs Immune Response to Viral Infections**

*Rachael Philips (National Institutes of Health, US)*

08:30 – 10:30

Kohala Ballroom

### ILC Development & Differentiation

Co-Chairs: Christoph Schneider (University of Zurich, CH) & Andrew McKenzie (MRC Laboratory of Molecular Biology, UK)

8:30 An IL-25-ILC2-MDSC Microenvironment Promotes Intestinal Tumorigenesis

*Andrew McKenzie (MRC Laboratory of Molecular Biology, UK)*

8:55 Functional Adaptation of Intestinal Group 3 Innate Lymphoid Cells

*James Di Santo (Institut Pasteur, FR)*

9:20 Role of T-BET, RORYT and RORA in Regulating Intestinal Epithelial Differentiation and Homeostasis

*Christina Stehle (German Rheumatism Research Centre and Charité Berlin, DE)*

9:33 Tissue Niches and Transcriptional Programs Regulating ILC1 Differentiation During Ontogeny and Infection

*Christin Friedrich (University Wuerzburg, DE)*

9:46 Embryonic Type 3 Innate Lymphoid Cells Sense Maternal Dietary Cholesterol to Shape Mucosal Lymphoid Organ Development

*Andrea Reboldi (UMass Chan Medical School, US)*

9:59 In Vitro Generation of Human Innate Lymphoid Cells from Tissue-Derived CD34+ Hematopoietic Progenitors

*Daniela Hernández Torres (German Rheumatism Center, DE)*

10:12 Discussion

10:30 – 11:00 Coffee Break  
Visit of Exhibition & Exhibitor Breaking News

### Monarchy Ballroom

10:30 – 10:45 Breaking News: Surface Oncology: A deep dive on Surface Oncology's poster presentation on IL-27

10:45 – 11:00 Breaking News: Bio-Techne: Visualize Cytokine Expression in Tissues Using the RNAScope Technology

### Kona Ballroom

10:30 – 10:45 Breaking News: Curiox: Laminar Wash™ next generation solution for Automation sample prep

10:45 – 11:00 Breaking News: Olink: Next Generation Proteomics

## Kohala Ballroom

- 10:30 – 10:45 **Breaking News: 10x Genomics: Resolving complex biology with ultra-high parameter, single cell multiomic phenotyping**
- 10:45 – 11:00 **Breaking News: PBL Assay Science: Human IL-15 & IL-22 ELISA kits for sub-picogram endogenous level quantitation**

11:00 – 12:30

## Monarchy Ballroom

### Symposium 1: Cytokines induction

*Co-Chairs: Kate Fitzgerald (Umass Medical School, US) & Kate Jeffrey (Massachusetts General Hospital, US)*

**Sponsored by an unrestricted education grant from Moderna**

- 11:00 **RIG-I, a "two-way" Player in the Innate Antiviral Defense System**  
*Akinori Takaoka (Hokkaido University, JP)*
- 11:25 **Inflammasome Activation by SARS-CoV-2 and in Fatal Cases of COVID-19**  
*Dario Zamboni (FAPESP, BR)*
- 11:50 **MEF2A is a Regulator of Interferon-Mediated Inflammation**  
*Adriana Forero (The Ohio State University, US)*
- 12:03 **A Bacterial Lecithinase Shapes the Inflammatory Landscape via Activation of the NLRP3 Inflammasome**  
*Anukriti Mathur (Australian National University, AU)*
- 12:16 **The Role of Interleukine 17 in Ultraviolet Radiation Induced Senescence-Associated Secretory Phenotype in Skin and Tumor Growth**  
*Hui Xu (University of Alabama at Birmingham, AU)*

11:00 – 12:30

## Kona Ballroom

### Symposium 2: Cytokine Signaling

*Co-Chairs: You-Me Kim (Korea Advanced Institute of Science and Technology, KR) & Zina Polonskaya (Bristol Myers Squibb, US)*

**Sponsored by an unrestricted education grant from BMS**

- 11:00 **First JAK Structure**  
*Christopher Garcia (Stanford university school of Medicine, US)*
- 11:25 **Targeting STAT3 Signaling**  
*James Turkson (Cedars-Sinai Medical Center, US)*
- 11:50 **The Sidney & Joan Pestka Graduate Award Winner: SOCS1 Variants Underly a Spectrum of Rare and Common Immunologic Diseases**  
*Conor Gruber (Icahn School of Medicine at Mount Sinai, US)*

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12:03 **Therapeutic Modulation of Sting**  
*Fiachra Humphries (Umass Medical School, US)*

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12:16 **Family-wide Identification of Latent Stat Dimers in Living Cells**  
*Sebastian Krause (University of Nottingham, UK)*

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11:00 – 12:30

Kohala Ballroom

### ILC Homeostasis, Niches and Lifespan

*Co-chairs: Kazuyo Moro (RIKEN, JP) & Leonia Bozzacco (Regeneron Pharmaceuticals, US)*

**Sponsored by an unrestricted education grant from Regeneron**

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11:00 **Local Differentiation and Tissue-Adaptation of Innate Lymphoid Cells**  
*Georg Gasteiger (University of Würzburg, DE)*

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11:25 **ILC - Epithelial Cell Interactions**  
*Andreas Diefenbach (Charité, DE)*

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11:50 **Spatial and Functional Compartmentalization of Small Intestine Group 2 Innate Lymphoid Cells (ILC2S)**  
*Satoshi Koga (UCSF, US)*

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12:03 **Type 1 and 2 Lymphocyte Niche Boundaries During Mixed Inflammation**  
*Kelly Cautivo (University of California San Francisco, US)*

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12:16 **Innate Lymphoid Cells Arise Early in the Foetal Thymus Alongside Developing Medullary Thymic Epithelial Cells**  
*Morgan Heycock (MRC Laboratory of Molecular Biology, UK)*

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13:50 – 15:20

Monarchy Ballroom

### Symposium 3: Cytokines and Metabolism/Macrophages

*Co-Chairs: Luke O'Neill (Trinity College Dublin, IE) & Dhan Kalvakolanu (University of Maryland, USA)*

**Sponsored by an unrestricted education grant from Cytokine Journal/ Elsevier Publishers**

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13:50 **Metabolic Regulation of Inflammatory Responses**  
*Tiffany Horng (Shanghai Tech University, CN)*

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14:15 **Neuroimmunometabolism**  
*Ana Domingos (University of Oxford, UK)*

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14:40 **Regeneron Award Winner: Itaconate Derivative Suppresses RIG-I/ MAVS and Type I IFN Signaling to Potentiate Oncolytic Virotherapy**  
*David Olagnier (Aarhus University, DK)*

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14:53 **The Ketone Body B-Hydroxybutyrate Metabolically Restores T-Cell Function in Severe COVID-19**

*Fotios Karagiannis (University Hospital Bonn, DE)*

15:06 **A Novel Role for Endogenous Pancreatic Beta CELL IL-22 Signaling in Maintaining Systemic Metabolic Homeostasis**

*Haresh Sajiir (Master Research Institute - UQ, AU)*

13:50 – 15:20

Kona Ballroom

## Symposium 4: Cytokines and Dendritic Cells

*Co-Chairs: Evangelos Andreacos (Academy of Athens, GR) & Dylan Kwart (Regeneron Pharmaceuticals, US)*

**Sponsored by an unrestricted education grant from Regeneron**

13:50 **Noncanonical Antigen Cross-Presentation by Dendritic Cells**

*Julie Magarian Blander (Weill Cornell Medicine, US)*

14:15 **At the Focal Point: Monocyte Differentiation and the Outcome of Cancer Treatment**

*Juliana Idoyaga (Stanford University, US)*

14:40 **Regeneron Award Winner: GM-CSF-Mediated Lung Myeloid Cell-Niche Crosstalk in Development and Homeostasis**

*Christoph Schneider (University of Zurich, CH)*

14:53 **Clinical Development of Heterodimeric IL-15 (HETIL-15) for Cancer Immunotherapy**

*George Pavlakis (National Cancer Institute at Frederick, US)*

15:06 **Type I Interferon Exhaustion in Plasmacytoid Dendritic Cells: Underlying Mechanism and Potential Benefit**

*Trever Greene (University of California San Diego, US)*

13:50 – 15:20

Kohala Ballroom

## ILC1 & NK Cells

*Co-Chairs: Timothy O'Sullivan (University of California, US) & Chiari Romagnani (DRFZ & Charité, DE)*

13:50 **Clonal Expansion and Epigenetic Inheritance of Long-Lasting NK Cell Memory**

*Chiari Romagnani (DRFZ & Charité, DE)*

14:15 **Natural Killer Cell Activation**

*Lewis Lanier (UCFS, US)*

14:40 **GFI1 Co-Regulates Eomesodermin and FOXO1 to Sculpt NK Cell Maturation and Function**

*Qitong Huang (Walter and Eliza Hall Institute, Australia)*



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14:53 Identification and Characterisation of Novel NK Cell-Restricted ACE-NK Progenitors

*Noe Rodriguez Rodriguez (Cambridge, US)*

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15:06 Single-Cell RNA-sequencing Analysis Reveals T-BET and EOMES are Required for Maintaining Mature NK Cell Transcriptional Program

*Pamela Wong (Washington University School of Medicine, US)*

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15:30 – 16:00

Monarchy Ballroom

### Lightning Talks 1: Cytokine Regulation and Consequences

*Co-Chairs: Juan Mendoza (University of Chicago, US) & Juliana Idoyaga (Stanford University, US)*

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15:30 Commensal Myeloid Crosstalk in Neonatal Skin Regulates Long-Term Cutaneous Type 17 Inflammation

*Miqdad Dhariwala (University of California San Francisco, US)*

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15:36 The Analysis of Eosinophilic Gastrointestinal Disorders Pathophysiology by Using Spatial Transcriptomic Approaches

*Julia Young Baik (College of Medicine, Seoul National University, KR)*

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15:42 ARAP2 is a Positive Regulator of the IFN-GAMMA Response

*Narelle Keating (The Walter and Eliza Hall Institute of Medical Research, AU)*

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15:48 Immunity to the Microbiota Promotes Sensory Neuron Regeneration

*Michel Enamorado (NIH/NIAID, US)*

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15:54 Gain-of-Function STAT3 Mutations Connect Autoimmunity and Leukemia by Pathological CD8 T CELL Dysregulation

*Etienne Masle-Farquhar (Garvan Institute of Medical Research, AU)*

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15:30 – 16:00

Kona Ballroom

### Lightning Talks 2: Cytokine-Related Interventions/Therapies

*Co-Chairs: Sunny Shin (UPenn, US) & Ekaterina Koltsova (Cedars Sinai Medical Center, US)*

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15:30 CD40-AGONIST Treatment can Reverse Checkpoint Inhibitor Resistance in Melanoma Via Priming the Inflammatory Response of Macrophages

*Gabriela Pizzurro (Yale University, US)*

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15:36 Eliminating the Immunotoxicity of Interleukin-12 Through Protease-Sensitive Masking

*Aslan Mansurov (University of Chicago, US)*

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15:42 Novel Small Molecular Inhibitors as Possible Targeted Therapeutics for Breast Cancer Metastasis

*Cody Wolf (Boise State University, US)*

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15:48 **IL-27 Gene Therapy Induces Expansion of CD11B+GR1+ Myeloid Cells Without Compromising Anti-Tumor Activity**

*Xue-Feng Bai (The Ohio State University, US)*

15:54 **Decoy Resistant IL-18 Expands Highly Functional C-MAF+ CD8 T Cells in the Bone Marrow Tumor Microenvironment**

*Simone Minnie (Fred Hutchinson Cancer Research Center, US)*

15:30 – 16:00

Kohala Ballroom

## ILC Lightning Talks 1

*Co-Chairs: Mark Ansel (University of California San Francisco, US) & Elia Tait-Wojno (University of Washington, US)*

15:30 **Innate type 2 Immunity Controls Hair Follicle Commensalism by Demodex Mites**

*Roberto Ricardo-Gonzalez (University of California San Francisco, US)*

15:36 **Group-3 Innate Lymphoid Cells Protect from Intestinal Inflammation via SYNDECAN-4**

*Brooke Fiedler (Weill Cornell Medicine, Cornell University, US)*

15:42 **ILC3S Select for RORGT+ TREGS and Establish Tolerance to Intestinal Microbiota**

*Mengze Lyu (Weill Cornell Medical College, US)*

15:48 **Early Life Infections Extensively Reshape the Transcriptional Profile and Functionality of NK cells**

*Carmen Rožmanić (Faculty of Medicine, HR)*

15:54 **RBP/J Regulates Tissue Specific Adaptations of Group 2 Innate Lymphoid Cells**

*Kyle Burrows (University of Toronto, CA)*

16:00 – 17:30

Kings Ballroom

## Cytokines Poster Discussions

Refer to pages 48 - 59 for details of posters

16:00 – 17:30

Kohala Ballroom

## ILC4 Poster Discussion

Refer to pages 61 - 64 for details of posters

17:30 – 19:00

Monarchy Ballroom

## Symposium 5: Cytokines and T Cells

*Co-Chairs: Akihiko Yoshimura (Keio University School of Medicine, JP) & Susan Kaech (Salk Institute for Biological Studies, US)*

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17:30 **Copting of Tissue Resident Macrophages in Anti-Tumor Immunity**  
*Susan Kaech (Salk Institute for Biological Studies, US)*

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17:55 **Systems Analysis of Immune Responses to Vaccination**  
*Bali Pulendran (Stanford Medicine, US)*

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18:20 **IL-17 Production by Skin Resident Innate T Cells is Hardwired by Epithelial Derived Cholesterol Metabolites for Tissue Immunity**  
*Michela Frascoli (UMass Chan Medical School, US)*

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18:33 **IFN-Signature TREGS in Viral Infections**  
*Michael Farrar (University of Minnesota, US)*

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18:46 **NKG2D Regulates the Effector Functions of CD4+ T Cells and Shapes the Inflammatory Programs of Microglia and Monocyte-Derived Cells During Neuroinflammation**  
*Christoforos Dimitropoulos (DRFZ, DE)*

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17:30 – 19:00

Kona Ballroom

### Symposium 6: Cytokines and B Cells

Co-Chairs: *Virginia Pascual (Weill Cornell Medicine, US)* & *Alison Budelsky (Eli Lilly, US)*

**Sponsored by an unrestricted education grant from Eli Lilly**

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17:30 **Title TBC**  
*Carola Vinuesa (Australian National University, AU)*

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17:55 **Germinal Center-Derived B Cell Memory**  
*Hai Qi (Tsinghua University, CN)*

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18:20 **Type III Interferon Drives Thymic B Cell Activation and Central Tolerance**  
*Ryan Martinez (University of Minnesota, US)*

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18:33 **Psychological Stress Promotes Colonic Tertiary Lymphoid Organ Formation Through IL-23 Signaling and Confers Protection Against Secondary Injury**  
*Adrian Gomez-Nguyen (Case Western Reserve University, US)*

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18:46 **Memory B Cells in SARS-COV-2 Convalescent Patients Re-Engage in the Immune Response after Vaccination**  
*Matthias Bruhn (Institute for Experimental Infection Research, DE)*

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17:30 – 19:00

Kohala Ballroom

### ILC2s

Co-Chairs: *Kevin Hart (Pfizer, US)* & *Arthur Mortha (University of Toronto, CA)*

**Sponsored by an unrestricted education grant from Pfizer**

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17:30 **Innate Allergy**  
*Richard Locksley (UCFS, US)*

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## Wednesday 21 September

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17:55 Prostaglandin Regulation of Type 2 Inflammation at Mucosal Barriers

*Elia Tait-Wojno (University of Washington, US)*

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18:20 CRISPR-mediated Genome-Wide Transcription Factor Screening Identifies MEF2D as a Novel Regulator of ILC2 Function

*Aydan Szeto (MRC - Laboratory of Molecular Biology, UK)*

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18:33 C-MAF Enforces Cytokine Production and Promotes Memory-Like Responses in Mouse and Human Type 2 Innate Lymphoid Cells

*Sara Trabanelli (University of Geneva, Switzerland)*

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18:46 Inhibition of Diacylglycerol Acyltransferase 2 Restrains Group 2 Innate Lymphoid Cells and Allergic Lung Inflammation

*Jorg Fritz (McGill University, CA)*

19:10 – 20:40

Water's Edge Ballroom

**Young Investigators Meet the Publishers Networking Event  
For students and postdocs – Upon Registration**

# Program Day 3

## Thursday 22 September

07:15 – 08:15

Kona ballroom

### Thermo Fisher Scientific Industry Sponsored Breakfast Session Next Generation Immunoassays: How Career Development in Academia is Fueling Innovation in Industry

*Chair: Tiffany Foli (Thermo Fisher Scientific, US)*

*Speaker: Stefan Jellbauer (Thermo Fisher Scientific, US)*

08:30 – 10:30

Monarchy Ballroom

### Joint Plenary: Cytokines and ILCs (Host-microbe Context)

*Co-Chairs: Elina Zuniga (University of California San Diego, US) & Richard Locksley (UCFS, US)*

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8:30 **Keynote Lecture: Cytokine and Environmental Triggers of Inflammation**

*David Artis (Weill Cornell Medicine, US)*

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9:00 **ILC2s and Pulmonary Fibrosis**

*Kazuyo Moro (Osaka University, JP)*

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9:25 **Dynamics of Tissue Lymphocyte Niches**

*Ari Molofsky (University of California San Francisco, US)*

---

9:50 **IL-12 Controls Host Protection and Pathology During Sterile Inflammation via a Tissue-Resident CDC1-ILC1 Circuit**

*Timothy O'Sullivan (UCLA, US)*

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10:03 **Amanda Proudfoot Tribute Award Winner: Recruitment and Activation of Type 3 Innate Lymphoid Cells Promotes Anti-Tumor Immune Responses after a Cisplatin Treatment**

*Mélanie Bruchard (INSERM U1231, FR)*

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10:16 **Distinct 3D Remodeling of IL4-IL13-IL5 LOCI Mediates Differential Type 2 Responses in Innate Versus Adaptive Lymphocytes**

*Hiroyuki Nagashima (National Institutes of Health, US)*

10:30 – 11:00 Coffee Break  
Visit of Exhibition & Exhibitor Breaking News

## Kohala Ballroom

10:30 – 10:45 Breaking News: Pfizer: Careers: Part 1

10:45 – 11:00 Breaking News: Pfizer: Careers: Part 2

## Kona Ballroom

10:30 – 10:45 Breaking News: Quanterix: High-definition Multiplex Measurement of Cytokines & Interferons with Simoa®

10:45 – 11:00 Breaking News: Bio-Techne: From Discovery to Validation with Bio-Techne Immunoassay Solutions

## Kohala Ballroom

10:30 – 10:45 Breaking News: PeproTech, part of Thermo Fisher Scientific: Selecting a Cytokine Supplier for Use in Cell and Gene Therapeutics

10:45 – 11:00 Breaking News: Boehringer Ingelheim: Discovery Research Global Post-Doc Program

11:00 – 12:30 Monarchy Ballroom

## Symposium 7: Cytokines and Microbiome

Co-Chairs: Sunny Shin (UPenn, US) & Manuela Raffatellu (UCSD, US)

11:00 New Insights on Mucosal Immunity to Commensal and Pathogenic Bacteria  
*Manuela Raffatellu (UCSD, US)*

11:25 Commensal Bacteria-Derived Extracellular Vesicles for Cancer Immunotherapy  
*You-Me Kim (Korea Advanced Institute of Science and Technology, KR)*

11:50 Regulation of Biliary Immunity by Tuft Cells and the Microbiome  
*Claire O'Leary (UCSF, US)*

12:03 The Metabolite Derived from High-Salt Diet-Induced Gut Microbiota Regulates Brain Tumor Environment  
*Chae Won Kim (Korea Advanced Institute of Science and Technology, KR)*

12:16 IGA Controls the Microbiota from Driving Dysregulated Host Adaptive Immune Responses  
*Zachary Earley (University of Chicago, US)*

11:00 – 12:30 Kona Ballroom

## Symposium 8: Cytokines and General Host Defense

Co-Chairs: Ruslan Medzhitov (Yale University, US)  
& Adriana Forero (The Ohio State University, US)

- 
- 11:00 **Role of the SARS-CoV2 Superantigen and Autoimmunity-MIS-C and Long COVID**  
*Moshe Arditi (Cedars Sinai Medical Center, US)*
- 
- 11:25 **Trained Immunity: A Memory for Innate Host Defense**  
*Mihai Netea (Radboud UMC, NL)*
- 
- 11:50 **A Subset of CD4+ Effector Memory T Cells Limit Immunity to Pulmonary Viral Infection and Prevent Tissue Pathology via Activation of Latent TGF-BETA**  
*Mark Travis (University Of Manchester, UK)*
- 
- 12:03 **Histone Deacetylase 1 Restricts Pro-Inflammatory Cytokine Release in T Cell-Mediated Antifungal Immunity**  
*Philipp Penninger (Medical University of Vienna, AT)*
- 
- 12:16 **Interleukin-17 Receptor Signaling Promotes PANETH Cell Stemness and their Ability to Regenerate Gut Epithelium after Irradiation Induced Injury**  
*Cody Kempen (Stony Brook University, US)*

11:00 – 12:30

Kohala Ballroom

### ILC3 & LTICs

Co-chairs: Marco Colonna (Washington University in St.Louis, US) & Stefan Jellbauer (Thermo Fisher Scientific, US)

Sponsored by an unrestricted education grant from Thermo Fisher Scientific

- 
- 11:00 **Innate Lymphoid Cell Regulation of Intestinal Health, Inflammation and Cancer**  
*Gregory Sonnenberg (Weill Cornell Medicine, Cornell University, US)*
- 
- 11:25 **Regulation of Brain Activity by Microbiota and Cytokines**  
*TBC*
- 
- 11:50 **TOX2 is Required for Metabolic Adaptation of ILC3 in Gut but not Central Lymphoid Tissues**  
*Arundhoti Das (National Institutes of Health, US)*
- 
- 12:03 **Postnatal ILC Homeostasis and Function is Controlled by Distinct Subset-Specific MicroRNA Regulomes**  
*Mario Witkowski (Charité, DE)*
- 
- 12:16 **Microbiota-instructed Regulatory T Cell Differentiation is Mediated by a Distinct Antigen Presenting Cell Subset**  
*Ranit Kedmi (Weizmann Institute of Science, IL)*

12:40 – 13:40

Water's Edge Ballroom

**Young Investigator Careers in Academia Panel Discussion Lunch (For Students & Postdocs Upon Registration)**

13:50 – 15:20

Monarchy Ballroom

**Symposium 9: Cytokines and Anti-bacterial Defense**

*Co-Chairs: Manuela Rafatellu (UCSD, US) & Stefan Jellbauer (Thermo Fisher Scientific, US)*

Sponsored by an unrestricted education grant from Thermo Fisher Scientific

13:50 Pyroptosis in Antibacterial and Antitumor Immunity

*Feng Shao (National Institute of Biological Sciences, Beijing, CN)*

14:15 IL-1 and GM-CSF-mediated Myeloid Cell: Alveolar Epithelium Crosstalk Promotes Antibacterial Inflammation

*Sunny Shin (UPenn, US)*

14:40 **Regeneron Award Winner:** A Family of Conserved Shigella Effectors Dampens IFN Responses by Blocking Calcium Signalling

*Charlotte Odendall (King's College London, UK)*

14:53 **The Sidney & Joan Pestka Post Graduate Award Winner:** A Human IFN-induced Apolipoprotein I with Detergent-Like Activity Kills Intracellular Pathogens

*Ryan Gaudet (Yale University/HHMI, US)*

15:06 A Bacterial Autotransporter Impairs Innate Immune Responses by Targeting the Transcription Factor TFE3

*Atri Ta (UConn Health, US)*

13:50 – 15:20

Kona Ballroom

**Symposium 10: Cytokines and Anti-viral Defense**

*Co-Chairs: Bali Pulendran (Stanford Medicine, US) & Meghan Baldrige (Washington University St. Louis, US)*

13:50 SARS-CoV-2 Inhibition of Host Responses

*Adolfo Garcia Sastre (Icahn School of Medicine, US)*

14:15 Murine Norovirus Tropism and Virulence Dictated by Interactions Between Type I, II and III IFNs

*Meghan Baldrige (Washington University St. Louis, US)*

14:40 **Christina Fleischmann Award Winner:** IL-27 Contributes to Antiviral Immune Responses at Maternal-Fetal Interface During Congenital Infection

*Kellie Jurado (University of Pennsylvania, US)*

14:53 Type I and III Interferon Drive Non-Redundant and Airway Site-Specific Antiviral Immune Responses in Human Metapneumovirus Infection

*Jorna Sojati (University of Pittsburgh School of Medicine, US)*



- 
- 15:06 **HSV-1 Degrades Multiple CGAMP Channels to Evade Extracellular CGAMP Responses**  
*Henry Blest (University of Oxford, UK)*

13:50 – 15:20

Kohala Ballroom

### ILCs in Cancer and Metabolism

*Co-Chairs: Gabrielle Belz (Diamantina Institute, AU) & Sandro Vivona (Synthekine, US)*

**Sponsored by an unrestricted education grant from Synthekine**

- 
- 13:50  **$\gamma\delta$  T cells - Can we Harness these 550-million-Year-Old ILCs for Cancer**  
*Lydia Lynch (Harvard Medical School, US)*
- 
- 14:15 **Regulation of ILC2S by Adipokine Adiponectin**  
*Meilian Liu (University of New Mexico HSC, US)*
- 
- 14:40 **Eicosanoid Metabolism and Function in Human Innate Lymphoid Cells**  
*Lorenz Wirth (Karolinska Institutet & AstraZeneca, Sweden)*
- 
- 14:53 **The NK Cell Receptor NKG2D Contributes to Tumor Progression in Mucosal Cancers by Driving IL-17A-Mediated Inflammation**  
*Sophie Curio (University of Queensland, AU)*
- 
- 15:06 **Distinct Pathways Regulate Human ILC Proliferation and Function**  
*Laura Surace (University Hospital Bonn, DE)*

15:30 – 16:00

Monarchy Ballroom

### Lightning Talks 3: Cytokines Induction and Metabolism

*Co-Chairs: Tiffany Horng (Shanghai Tech University, CN) & Adolfo Garcia Sastre (Icahn School of Medicine, US)*

- 
- 15:30 **Citraconate Improves Mitochondrial Respiration during Macrophage Activation by Reducing ACOD1-Mediated Itaconate Synthesis**  
*Fangfang Chen (TWINCORE Centre for Experimental and Clinical Infection Research, DE)*
- 
- 15:36 **Heterodimeric IL-15 (HETIL-15) Immunotherapy Synergizes with a Fatty Acid Metabolism Modulator, Reversing the Metabolic Dysfunction of Tumor Infiltrating CD8+T Cells and Leading to Tumor Eradication in TNBC Mouse Model**  
*Sevasti Karaliota (National Cancer Institute at Frederick (NCI/NIH), US)*
- 
- 15:42 **Immune Regulator LGP2 Targets UBC13 to Mediate Widespread Interference with K63-Polyubiquitination, IRF3 and NFKB Activation**  
*Curt Horvath (Northwestern University, US)*
- 
- 15:48 **Regulation of TLR4 and Type I Interferon Gene Induction Responses by the Elongator Complex**  
*Jamie Murphy (Trinity college Dublin, Trinity Biomedical Sciences Institute, IE)*
- 
- 15:54 **MAPKAPK5AS1 LNCRNA Regulates IFNG Levels by an M6A Dependent Mechanism in Activated T Cells**  
*Ainara Castellanos-Rubio (UPV-EHU, ES)*

15:30 – 16:00

Kona Ballroom

### Lightning Talks Cytokines 4: Inflammation & Autoimmunity

*Co-Chairs: Moshe Arditi (Cedars Sinai Medical Center, US) & Ekaterina Koltsova (Cedars Sinai Medical Center, US)*

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**15:30 IL-33 Activates CD73-expressing Cells Promoting Tumorigenesis During Colitis-Associated Colorectal Cancer**

*Loris Riccardo Lopetuso (Fondazione Policlinico Universitario "A. Gemelli" IRCCS - Università Cattolica del Sacro Cuore, IT)*

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**15:36 Lung Immunopathology Due to Influenza A Infection is Dependent on the Oncostatin M Pathway in C57BL/6 Mice**

*Carl Richards (MCMaster University, CA)*

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**15:42 Regulation of TAU Pathology by the Interleukin-1 Receptor Accessory Protein**

*Somayeh Dadras (University of New Mexico, US)*

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**15:48 Intestinal Interferon-Lambda Receptor 1 Expression and Responses are Significantly Decreased in Pediatric Inflammatory Bowel Disease Patients**

*Deanna Santer (University of Manitoba, CA)*

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**15:54 Cytokine-induced Epigenetic Rewiring of Pathogenic Fibroblasts in Patients with Crohns Disease**

*Matthias Friedrich (University of Oxford, UK)*

15:30 – 16:00

Kohala Ballroom

### ILC4 Lightning Talks 2

*Co-Chairs: Claire O'Leary (UCSF, US) & Anna V. Molofsky (UCSF, US)*

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**15:30 Teloocyte TSLP Initiates the ILC2-TUFT Cell Small Intestinal Circuit in Response to Feeding**

*Chang Liao (UCSF, US)*

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**15:36 Group 3 Innate Lymphoid Cells Program a Distinct Subset of IL-22BP-producing Dendritic Cells Demarcating Solitary Intestinal Lymphoid Tissues**

*Fabian Guendel (Institut Pasteur, FR)*

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**15:42 EOMES+ NK Cell Subsets Accumulate in the Intestinal Lamina Propria During Inflammation**

*Nils Müller (German Rheumatism Center, DE)*

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**15:48 TH2 Cell-Derived IL-4 induces the Expression of Type 2 Alarmins to Activate Pulmonary ILC2S**

*Rama Gurram (NIAID, NIH, US)*

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**15:54 Role for ILC2-derived Leukaemia Inhibitory Factor (LIF) in Acute Type 2 Lung Challenge**

*Mayuri Gogoi (MRC Laboratory of Molecular Biology, UK)*

16:00 – 17:30

Kings Ballroom

### Cytokines Poster Discussion

Refer to pages 66 - 79 for details of posters

16:00 – 17:30

Kohala Ballroom

### ILC4 Poster Discussion

Refer to pages 80 - 84 for details of posters

17:30 – 19:00

Monarchy Ballroom

### Symposium 11: Cytokines and Host Physiology/Homeostasis

*Co-Chairs: Curt Horvath (Northwestern University, US) & Trey Gieseck (Pfizer, US)*

**Sponsored by an unrestricted education grant from Pfizer**

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17:30 Mechanisms of Immune-Mediated Tissue Repair

*Shruti Naik (NYU Langone Health, US)*

---

17:55 Cytokine Signalling in the Post-COVID19 Lung

*James Harker (Imperial College London, UK)*

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18:20 Interferon Receptor Gene Dosage Determines Diverse Hallmarks of Down Syndrome

*Katherine Waugh (Linda Crnic Institute for Down Syndrome, US)*

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18:33 Role of Endogenous Retroviruses in the Control of Tissue Threshold of Activation and Responses to the Microbiota

*Alexandria Wells (NIAID/NIH, US)*

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18:46 A Newly Identified Transcript of the LNCRNA, HOXA11OS, Promotes Gut Homeostasis Through Regulation of Immunometabolism

*Liraz Galia (UMass Chan medical school, US)*

17:30 – 19:00

Kona Ballroom

### Symposium 12: Immune Regulation in Cancer, CNS, and CVS

*Co-Chairs: Yasmine Belkaid (NIH/NIAID,US) & Jonathan Hill (Surface Oncology, US)*

**Sponsored by an unrestricted education grant from Surface Oncology**

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17:30 IL-27R Signaling Controls Innate Cytotoxic Cells in Liver Cancer

*Ekaterina Koltsova (Cedars Sinai Medical Center, US)*

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17:55 Coordinated Innate Immune Remodeling of Damaged Cerebrovasculature

*Dorian McGavern (NINDS, NIAID NIH, US)*

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18:20 The RNA Binding Protein ARID5A Mediates IL-17 Signaling and Disease Pathogenesis in Autoimmune Glomerulonephritis

*Yang Li (University of Pittsburgh, US)*

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**18:33** Single-cell and Spatial Transcriptomics Reveal an IL-1B Mediated VSMC Phenotypic Switch During Vasculitis and Cardiovascular Inflammation

*Rebecca Porritt (Cedars Sinai Medical Center, US)*

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**18:46** PI3K-DELTA Shapes TH1 and TH2 Identity Through Coordination of IL-2 Signaling, FOXO1 Inactivation and Epigenetic Remodeling

*Dominic Golec (Bethesda, Maryland, US)*

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**17:30 – 19:00**

**Kohala Ballroom**

## **ILCs in Inflammation and Pathology**

*Co-Chairs: Steven Van Dyken (Washington University School of Medicine, US) & Shigeo Koyasu (RIKEN Center for Integrative Medical Sciences, JP)*

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**17:30** Lung Homeostasis and Protection

*Gabrielle Belz (The University of Queensland, AU)*

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**17:55** Early-life Respiratory Infection Suppresses Lung Resident Group 2 Innate Lymphoid Cells and Bronchioalveolar Stem Cells Resulting in Abnormal Lung Development

*Malcolm Starkey (Monash University, AU)*

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**18:20** ZBTB46 Defines and Regulates Group 3 Innate Lymphoid Cells that Protect the Intestine

*Wenqing Zhou (Weill Cornell Medical College, US)*

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**18:33** Notch-dependent IL9 Signaling in ILC2 Regulates Fibrosis

*Cong Xu (Friedrich-Alexander-University Erlangen-Nürnberg and Universitätsklinikum Erlangen, DE)*

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**18:46** Group 2 Innate Lymphoid Cells Suppress Innate Type 3/17 Responses in Hepatic Fibrosis

*Julia Sbierski-Kind (University of California San Francisco, US)*

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19:10 – 20:40

Water's Edge Ballroom

**Young Investigator Careers in Industry Job Fair and Panel Discussion (For Students & PostDocs upon registration)**

*Moderators: Adriana Forero, Juan Mendoza, Ruby Dawson, Justina Kulikauskaite*

**Panel:**

**BMS:** Aisling O'Hara Hall, PhD, Associate Scientific Director, Translational Early Development, Immunology, Cardiovascular, Fibrosis (ICF) Thematic Research Center (TRC)

**Pfizer:** Dr. Richard (Trey) Gieseck III, Director of Leukocyte Tissue Interface Group, Inflammation & Immunology Research Unit

**Genentech:** Jonathan Sockolosky, Senior Scientist, Antibody Engineering

**Moderna:** Kate Jeffrey, Executive Director

**Thermo Fisher Scientific:** Tiffany L. Foli, Director of Technical Sales

**Companies available at the event:**

10x Genomics, Biolegend, Bio-Techne, Bristol Myers Squibb, Curiox Biosystems, CytomX, Genentech Inc., Luminex, Moderna, Olink, PBL Assay Science, PeproTech, part of Thermo Fisher Scientific, Pfizer, Regeneron, Surface Oncology, Thermo Fisher Scientific

# Program Day 4

## Friday 24 September

07:15 – 08:15

Kona Ballroom

**Luminex Industry Sponsored Breakfast Session  
Pancreas Derived Peptide Presentation by HLA-DQ in Diabetes**

*Angela Lombardi Albert Einstein College of Medicine (US)*

07:15 – 08:15

Kohala Ballroom

**Olink Industry Sponsored Breakfast Session  
From Discovery to Quantified Cytokines: Actionable Insights  
from the Low Abundant Plasma Proteome**

*Dale Yuzuki (Olink Proteomics, US)*

08:30 – 10:30

Monarchy Ballroom

**Joint Plenary: Cytokines and ILCs (Neuro/homeostasis  
Context)**

*Co-Chairs: Akinori Takaoka (Hokkaido University, JP) & Ari Molofsky (University of California San Francisco, US)*

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8:30 **Keynote Lecture: Understanding the Spectrum of Human ILC3 and ILC3-like Cells in Immunity**

*Marco Colonna (Washington University in St. Louis, US)*

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9:00 **Type 2 Immune Regulation of Brain Development**

*Anna Molofsky (UCSF, US)*

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9:25 **Neuroimmune Control of Homeostasis**

*Henrique Veiga Fernandes (Champalimaud Foundation, PT)*

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9:50 **Neuronal Regulation of Non-Redundant Functions of Innate Lymphoid Cells**

*Hiroshi Yano (Weill Cornell Medicine, US)*

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10:03 **PD-1 Regulates ILC3-driven Intestinal Immunity and Homeostasis**

*Cyril Seillet (The Walter and Eliza Hall Institute of Medical Research, AU)*

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10:16 **Microbial Energy Metabolism Fuels a CSF2-dependent Intestinal Macrophage Niche**

*Pailin Chiaranunt (University of Toronto, CA)*

10:30 – 11:00 Coffee Break  
Visit of Exhibition & Exhibitor Breaking News

Monarchy Ballroom

10:30 – 10:45 Breaking News: Thermo Fisher Scientific: Cytokines Detection with Free, Expert Flow Cytometry Panel Design Service

11:00 – 12:40 Monarchy Ballroom

**Symposium 13: Cytokines and Neuro**

*Co-Chairs: Simon Jones (Cardiff University, UK) & Gloria Choi (Picower Institute, US)*

11:00 Role of Intraepithelial Lymphocytes in Colorectal Cancer

*Daniel Mucida (The Rockefeller University, US)*

11:25 Neuroimmune Interactions Shaping Social Behavior

*Gloria Choi (Picower Institute, US)*

11:50 How do Cytokines Control Behavior?

*Jonathan Kipnis (Washington University St. Louis, US)*

12:15 Neuroimmune Regulation of Itch

*Brian Kim (Icahn School of Medicine at Mount Sinai, US)*

11:00 – 12:40 Kona Ballroom

**Annual Jürg Tschopp Memorial Symposium: Cytokines, Inflammation & Autoimmunity**

*Co-Chairs: Luke O'Neill (Trinity College Dublin, IE) & Carola Vinuesa (Australian National University, AU)*

11:00 Inflammation and Homeostasis

*Ruslan Medzhitov (Yale University, US)*

11:25 Principles of Resolving and Non-Resolving Inflammation

*Carla Rothlin (Yale University, US)*

11:50 Mechanism-based Treatment Approach to Rheumatic Diseases

*Yoshiya Tanaka (University of Occupational and Environmental Health, JP)*

12:03 Unusual suspects in Lupus pathogenesis

*Virginia Pascual (Weill Cornell Medicine, US)*

11:00 – 12:30

Kohala Ballroom

## Human ILCs

*Co-Chairs: Hergen Spits (Amsterdam UMC, NL) & Nikklas Björkström (Karolinska Institutet, SE)*

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### 11:00 Human Innate Lymphoid Cells in Mucosal Inflammation

*Jenny Mjösberg (Karolinska Institutet, SE)*

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### 11:25 Translating Immunology into New Therapies for IBD

*Fiona Powrie (University of Oxford, UK)*

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### 11:50 Human Unconventional ILC2 Show Immunological Memory Properties

*Itziar Martinez Gonzalez (Karolinska Institute, SE)*

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### 12:03 The Effect of Tissue Environment on the Epigenetic Signatures in Human Innate Lymphoid Cells (ILC)

*Elia Diem (Medical School Hanover, DE)*

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### 12:16 Pro-inflammatory Epigenetic Changes Convert Type 2 ILCS to ILC1-LIKE Cells Following Allogeneic HSCT

*Sonia Laurie (UNC Chapel Hill School of Medicine, US)*

12:40 – 14:10

Water's Edge Ballroom

## Cytokines Award Winners Panel

*David Artis (Weill Cornell Medicine, US), Wanjun Chen (National Institute of Dental and Craniofacial Research, US), Lydia Lynch (Harvard Medical School, US), Akihiko Yoshimura (Keio University School of Medicine, JP)*  
*Chair: Sarah Gaffen (University of Pittsburgh, US)*

14:10 – 14:55

Kona Ballroom

## Keynote lecture: Checkpoints of Host-Microbial Interactions in Health and Disease

*Bana Jabri (University of Chicago, US)*

*Chair: Yasmine Belkaid (National Institute of Allergy and Infectious Diseases, US)*

14:55 – 15:05

Kona Ballroom

## Closing Remarks

*James Turkson (Cedars-Sinai Medical Center, US)*

## Cytokines 2023 Kick-off!

*Evangelos Andreakos (Academy of Athens, GR)*

18:00 – 21:30

Ocean View Terrace

## Joint Evening Networking Event (Paniolo BBQ) Upon Registration



# Satellite Meeting Day 1

Saturday 24 September



08:00 – 10:20

Kohala Ballroom

## Inflammation and Infection in Experimental Models

*Chair: Juan Mendoza (University of Chicago, US)*

08:00 Opening Remarks

*Ludmila Prokunina-Olsson (National Cancer Institute, US)*

08:05 Interferon Lambda Signaling Restrains Development of Experimental Autoimmune Encephalitis

*Nabiha Yusuf (University of Alabama at Birmingham, US)*

08:18 Age-Dependent Role of Interferon Lambda in an Infant Mouse Model of Bordetella Pertussis Infection

*Da' Kuawn Johnson (University of Maryland School of Medicine, US)*

08:31 Type III Interferon Drives Thymic B Cell Activation and Central Tolerance

*Ryan Martinez (University of Minnesota, US)*

08:44 Cellular Crosstalk by IFN-Lambda Controls Enteric Murine Norovirus

*Meghan Baldrige (Washington University School of Medicine in St. Louis, US)*

09:07 Interferon Lambdas are Expressed in Tuberculosis Granulomas and Promote Macrophage Antimycobacterial Activity

*Priyanka Talukdar (University of Pittsburgh School of Public Health, US)*

09:20 Interferon: Tug of War Between Host and Pathogen

*Charlotte Odendall (King's College London, UK)*

09:43 Interferon Lambda Alters Immune Function During Influenza, Bacteria Super-Infection

*Danielle Antos (University of Pittsburgh, US)*

09:56 Interferon Lambda Controls Intestinal Inflammation

*Ivan Zanoni (Harvard Medical School, Boston Children's Hospital, US)*

10:20 – 10:50 Coffee Break and Poster Visit

10:50 – 13:02

Kohala Ballroom

**COVID-19, Regulation and Tissue Microenvironment**

*Chair: Deanna Santer (University of Manitoba, CA)*

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10:50 **Pegylated-IFN-lambda as a therapeutic for COVID-19**

*Jordan Feld (Toronto General Hospital Research Institute, CA)*

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11:13 **Interferon-Lambda Signaling Regulates Disease Severity and CD8 T Cell Immunity in a Murine Model of SARS-Cov-2 Infection**

*Emily Hemann (Ohio State University, US)*

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11:26 **Innate Immune Signaling in Trophoblast and Decidua Organoids Defines Differential Antiviral Defenses at the Maternal-Fetal Interface**

*Liheng (Henry) Yang (Duke University, US)*

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11:38 **Low Oxygen Levels in the Human Gut Influences the Immune Functions of Intestinal Epithelial Cells**

*Steeve Boulant (University of Florida, US)*

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12:01 **CRISPR Screens Identify Interferon Regulatory Factor 6 as a Potential Regulator of Interferon Signaling in the Intestinal Epithelium**

*Austin Wright (Oregon Health and Science University, US)*

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12:14 **Interferon Induced Isgylation is Differentially Regulated as Induced-Pluripotent Stem Cells Differentiate to Epithelial Cells**

*Emmanuel Thomas (University of Miami School of Medicine, US)*

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12:27 **Type III IFNs in Antiviral Immunity and Beyond**

*Evangelos Andreakos (Academy of Athens, GR)*

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12:50 **Intracellular Domains of Type I and III Interferon Receptors Encode Differences in JAK-Stat Signaling Magnitude**

*Emily Mesev (Princeton University, US)*

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Actionable Insights on the Low Abundant  
Plasma Proteome

Speaker:

Dale Yuzuki, M.A., M.Ed.

Time:

Friday, Sept. 23, 2022  
7:15-8:15AM

Location:

3. Kohala Ballroom



Dale Yuzuki, M.A., M.Ed.

# Satellite Meeting Day 2

Sunday 25 September



08:00 – 10:10

Kohala Ballroom

## Human Genetic Associations and Molecular Functions

*Chair: Thomas O'Brien (National Cancer Institute, US)*

08:00 **Leishmania Donovanii Infection Induces IFN- $\lambda$ 3 in Cells, Mice, and Humans**

*Sreedhar Chinnaswamy (National Institute of Biomedical Genomics, IN)*

08:13 **Human Herpesvirus 8 Infection is Associated with Prostate Cancer Among IFNL4- $\Delta$ g Carriers**

*Tsion Minas (National Cancer Institute, US/ET)*

08:26 **No Association of IFNL4 Genotype with Opportunistic Infections and Malignancies Among Men with HIV-1 Infection**

*Michelle Fang (National Cancer Institute, US)*

08:35 **Exploring the Association of IFNL4 Variants with the Risk of Burkitt Lymphoma in 4000 Children from Sub-Saharan Africa**

*Francine Baker (National Cancer Institute, US)*

08:48 **IFNLs in Some Other Placental Organoids**

*Carolyn Coyne (Duke University, US)*

09:11 **Cell Type Specific Response to Viral Infection in the Human Gastrointestinal Tract**

*Megan Stanifer (University of Florida, US)*

09:24 **New Insights into Molecular Functions of IFNL4**

*Ludmila Prokunina-Olsson (National Cancer Institute, US)*

09:47 **The Common IL-10 Receptor Chain Finds Space for Private Interactions Away from the Crowd**

*Ram Savan (University of Washington, US)*

10:10 – 10:50 Coffee Break and Poster Visit

10:50 – 13:10

Kohala Ballroom

**Crosstalk, Structure and Therapeutics**

*Chair: Rune Hartmann (University of Aarhus, DK)*

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**10:50 Crosstalk between Type I and Type III Interferons**

*Paul Hertzog (Hudson Institute, AU)*

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**11:13 Type I and III Interferon Drive Non-Redundant and Airway Site-Specific Antiviral Immune Responses in Human Metapneumovirus Infection**

*Jorna Sojati (University of Pittsburgh School of Medicine, US)*

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**11:26 HCMV Exploits Sting Signaling and Counteracts ISG And IFN-B, but not IFN-A1 Induction to Facilitate Viral Gene Expression in Monocyte-Derived Dendritic Cells**

*Bibiana Costa (Center for Experimental and Clinical Infection Research, DE)*

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**11:39 Type I and III Interferons at the Interface Between Bacterial Pathogens and their Host**

*Noemie Alphonse (King's College London, UK)*

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**12:02 Dysregulated Interferon-Lambda Receptor Levels in Children with Inflammatory Bowel Disease**

*Deanna Santer (University of Manitoba, CA)*

---

**12:14 The Role of JAK-Receptor Interactions in Tuning the Activity of Type III Interferons**

*Juan Mendoza (University of Chicago, US)*

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**12:36 Towards Structural and Functional Studies of IFN-Lambda1-4 Using Protein Engineering and Molecular Dynamics Simulations**

*William Grubbe (University of Chicago, US)*

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**12:50 Development of IFN-Based Therapeutics**

*Sergei Kotenko (Rutgers University, US)*

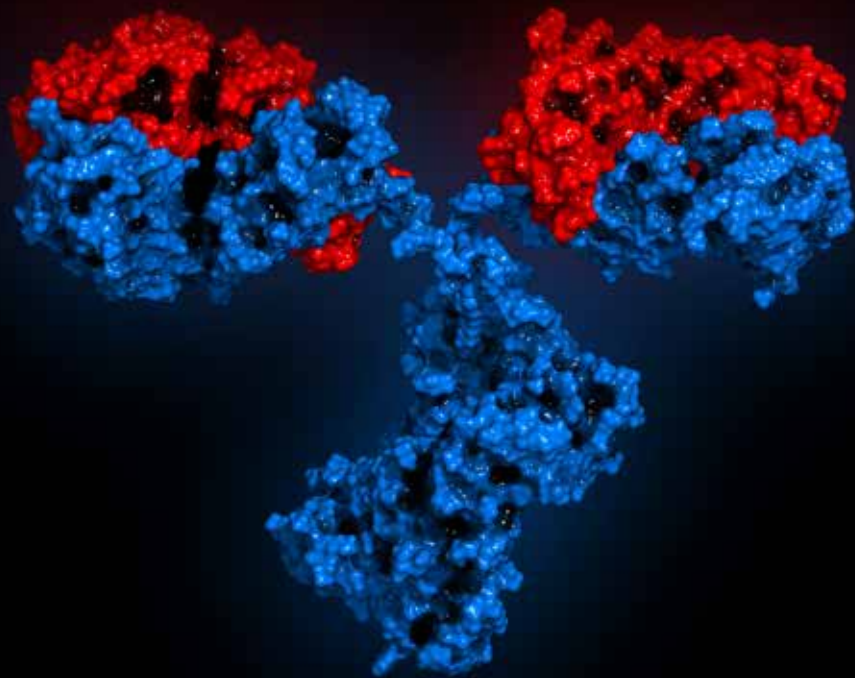
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**13:12 Closing Remarks**

*Ivan Zanoni (Harvard Medical School, Boston Children's Hospital, US)*

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## Cytokines Poster Session 1

### 01 Cytokine Induction/Production

- P1** RATIONAL ENGINEERING OF A FOLDING PATHWAY CHANGES MECHANISM AND CHAPERONE DEPENDENCY OF INTERLEUKIN SECRETION / I. Aschenbrenner\* (DE) and Cellular Protein Biochemistry Lab
- P2** DEVELOPING A DEEP UNDERSTANDING OF THE IMMUNE RESPONSE IN HEPATITIS B VACCINATED NON-RESPONSIVE INDIVIDUALS USING A KNOWLEDGE-DRIVEN APPROACH / S. Baseer\* (DE) - A. Ziegler - S. Dost - K. M. Endris - F. Pessler - M.-E. Vidal - U. Kalinke
- P3** METHOTREXATE BLOCKS SLC46A2 MEDIATED TRANSPORT OF NOD1 AGONISTS AND INHIBITS PSORIASIS PROGRESSION / R. Bharadwaj\* (US) - N. N. Silverman
- P4** NOVEL REGULATORS OF TYPE III CYTOKINE EXPRESSION IN TYPE III INNATE LYMPHOID CELLS IDENTIFIED BY CRISPR SCREENS / R. A. Brown\* (US) - A. W. Dangel - A. Saini - P. L. Collins - E. M. Oltz
- P5** CHARACTERIZATION OF THE COMPLEMENT SYSTEM IN CYTOKINE-DRIVEN NEUROINFLAMMATION / H. Bulen\* (AU) - T. Woodruff - M. Hofer
- P6** TL1A PROMOTES DEVELOPMENT OF MULTI-CYTOKINE SECRETING TH9 CELLS / M. Chu\* (US) - M. Kaplan
- P7** THE EPIGENETIC REGULATOR TET2 IS ESSENTIAL FOR VIRUS-STIMULATED HUMAN PDC DIFFERENTIATION FROM IFN-PRODUCING CELLS TO ANTIGEN PRESENTING CELLS / A. L. Codrington\* (US) - S. L. Singh - P. L. Fitzgerald-Bocarsly
- P8** CGAS AND STING CONTRIBUTE TO THE INDUCTION OF INTERFERON- RESPONSES IN ASTROCYTES EXPOSED TO RNA VIRUSES / O. L. Gern\* (DE) - A. Pavlou - F. Mulenge - L. Ghita - V. Durán - B. Costa - J. Lütke Börding - V. Breitkopf - I. Steffen - M. Stangel - U. Kalinke
- P9** EARLY IL-1 BLOCKING: GAMECHANGER IN COVID-19? / R. Gupta\* (IN)
- P10** IL-35 SUBUNITS ARE ANTI-INFLAMMATORY CYTOKINES / K. Hildenbrand\* (DE) and Cellular Protein Biochemistry Laboratory
- P11** CCL3-CCR5 AXIS IMPROVE INNATE IMMUNE RESPONSES DURING SEPTIC PERITONITIS / Y. Ishida\* (JP) - Y. Kuninaka - M. Nosaka - A. Kimura - A. Ishigami - M. Kawaguchi - N. Mukaida - T. Kondo
- P12** RECOGNITION OF CELL WALL TEICHOIC ACIDS DISPLAYED ON INTACT CELL WALLS OF LACTIPLANTIBACILLUS PLANTARUM BY MURINE MACROPHAGES LEADS TO IL-12 SECRETION / N. Kojima\* (JP) - Y. Touura - E. Onohara - S. Kojima
- P13** REGULATION OF MDA5 SIGNALING AND INTERFERON INDUCTION BY THE E3 UBIQUITIN LIGASE, HOIL1 / D. Cheng - G. Liu - J. Zhu - M. U. Gack - D. A. MacDuff\* (US)



- P14** TRANSCRIPTOMIC PROFILING OF MICROGLIA REVEALS ARTEFACTUAL SIGNATURES ASSOCIATED WITH CELL SORTING / *F. Mulenge\* (DE) - A. Pavlou - G. O. Luise - I. Waltl - U. Kalinke*
- P15** DEVELOPMENT OF BEAD-BASED MULTIPLEX ASSAY PANELS FOR SIMULTANEOUS QUANTIFICATION OF PROINFLAMMATORY CHEMOKINES IN HUMAN AND MOUSE SAMPLES / *A. Nikolenko\* (US) and Binggang Sun, Elise Nguyen, Amy Zhao and Jessie Ni*
- P16** PIVOTAL ROLE OF THE CCL5/CCR5 AXIS IN ACCELERATED THROMBOLYSIS IN MURINE DVT MODEL / *M. Nosaka\* (JP) - Y. Ishida - Y. Kuninaka - A. Kimura - A. Ishigami - M. Kawaguchi - N. Mukaida - T. Kondo*
- P18** STUDY OF CYTOKINE PRODUCTION BY ERYTHROBLASTS INDUCED FROM BONE MARROW CD34 PRECURSORS / *J. A. Shevchenko\* (RU) - R. Y. Perik-Zavodskii - K. V. Nazarov - I. A. Obleukhova - V. V. Denisova - S. V. Sennikov*
- P19** ELEVATED LEVELS OF CXCL16 IN SEVERE COVID-19 PATIENTS: EFFECTS ON MORTALITY / *S. P. Smieszek\* (US)*
- P20** INFLAMMATORY CYTOKINES AND PROCALCITONIN IN NEWBORNS FOLLOWING SPONTANEOUS DELIVERY AND ELECTIVE CESAREAN SECTION / *J. Živný\* (CZ) - M. Mojzisek - J. Janota*
- LB-01** PROTEOMIC PROFILING OF EPIGENETIC MECHANISMS MEDIATING TRAINED IMMUNITY IN MACROPHAGES / *I. Parker\* (US) - K. Nakedi - N. Suarez - J. Blackburn*
- LB-02** IMMUNE PROFILE OF ACTIVATED NATURAL KILLER CELLS / *M. Larson\* (US) - B. Astry - S. Degese - J. Rivard - H. Mishra - L. Peng - K. Flynn - C. Goetz - D. Bryant*
- LB-03** SINGLE CELL MULTI-OMICS REVEALS ENHANCED PRO-INFLAMMATORY CYTOKINE MEDIATED CELLULAR CROSSTALK IN THE NF1 MUTANT GLIOBLASTOMA TUMOR IMMUNE MICROENVIRONMENT / *M. E. Chipman\* (US) - C. D. Jayewickreme - Z. Wang - A. M. Pedraza - S. Misale - S. V. Iyer - Y.-J. Chen - D. B. Zmler - T. Shingua - D. Sun - J. Hu - L. F. Parada*
- LB-04** MITO+ RBCS PHAGOCYTOSIS PROMOTES TYPE I IFN-DEPENDENT IL-1B RELEASE IN SLE MONOCYTES / *S. Caielli\* (US) - P. Balasubramanian - U. Balaji - Z. Wan - J. Baisch - L. Walters - J. Banchereau - J. Gu - T. Wright - V. Pascual*

## 02 Cytokine Signaling Induction, Attenuation and Silencing

- P21** TOWARDS BIOPHYSICAL AND STRUCTURAL CHARACTERIZATION OF ANTI-INFLAMMATORY IL-37 COMPLEXES WITH IL-18RA, SIGIRR AND IL-18BP / *J. Andries\* (BE) - D. Clancy - S. N. Savvides*
- P22** RNA METHYLATION AND DEMETHYLATION IN IMMUNE/INFLAMMATORY RESPONSES / *R. Bechara\* (US)*

- P23** FROM THE CRADLE TO THE GRAVE: MECHANISTIC INSIGHTS INTO CYTOKINE REGULATION BY MRNA DECAY / A. M. Bestehorn\* (AT) - J. Laurin - J. Fesselet - P. Kovarik
- P24** SOCS3HIGH IMMATURE NATURAL KILLER CELLS WITH DECREASED GRANZYME AND INCREASED WNT EXPRESSION PROMOTE TUMOR PROGRESSION IN TRIPLE NEGATIVE BREAST CANCER / R. Chakrabarti\* (US) - G. Thacker
- P25** COMPUTATIONAL MODELING OF STAT ACTIVATION FEATURES THAT PREDICT GENE EXPRESSION PROFILES / N. Cheemalavagu\* (US) - K. E. Shoger - Y. M. Cao - B. A. Michalides - S. A. Botta - J. R. Faeder - R. A. Gottschalk
- P26** IDENTIFICATION OF A NOVEL INTERLEUKIN-9 RECEPTOR COMPLEX IN NON-HEMATOPOIETIC CELLS / C. L. Cheung\* (US) - M. Kaplan
- P27** THE AIM2 DNA SENSOR PROMOTES GASTRIC INFLAMMATION AND TUMORIGENESIS THROUGH INFLAMMASOME-DEPENDENT AND -INDEPENDENT MECHANISMS / R. E. Dawson\* (AU) - V. Deswaerte - E. Sun - K. Tang - M. Oshima - Y. Zavros - P. Tan - B. Jenkins
- P28** SYSTEMIC IL-15, IFN-GAMMA, AND IP-10/CXCL10 SIGNATURE ASSOCIATED WITH EFFECTIVE IMMUNE RESPONSE TO SARS COV-2 IN BNT162B2 MRNA VACCINE RECIPIENTS / B. K. Felber\* (US) - C. Bergamaschi - M. Angel - M. Rosati - A. Ullah - M. Pagoni - S. Gigantes - M.-A. Dimopoulos - E. Terpos - G. N. Pavlakis
- P29** SYSTEMATIC PREDICTION OF STAT-COOPERATING PATHWAYS THAT SUPPORT CYTOKINE-SPECIFIC GENE EXPRESSION / N. Cheemalavagu - S. M. Kruszelnicki - K. E. Shoger - M. Olive - B. A. Michalides - S. A. Carr - J. R. Faeder - S. A. Myers - R. A. Gottschalk\* (US)
- P30** TOWARDS STRUCTURAL AND FUNCTIONAL STUDIES OF IFN-LAMBD A1-4 USING PROTEIN ENGINEERING AND MOLECULAR DYNAMICS SIMULATIONS / W. S. Grubbe\* (US) - O. Onabajo - L. Prokunina-Olsson - J. J. de Pablo - J. L. Mendoza
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**P126 ABLATING IFN-I RESPONSES IN ASTROCYTES IS PROTECTIVE IN A MOUSE MODEL OF IFN-ALPHA-MEDIATED NEUROTOXICITY** / E. Hayashida\* (AU) - M. Hofer

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**P128 EXPLORING SYNOVITIS' HETEROGENEITY THROUGH NEXT GENERATION SEQUENCING** / S. T. O. Hughes\* (UK) - D. Costa - R. Andrews - A. Cardus Figueras - D. Hill - J. Burston - G. Jones - S. Turner - T. Tiganis - S. Jones

**P130 NEW BIOLOGICAL DRUG TO IMMUNOMODULATE THE CYTOKINE STORM ASSOCIATED TO INFECTIOUS DISEASES: IN VITRO AND IN VIVO SAFETY AND EFFICACY** / J. P. Lapuente\* (ES)

**P131 IL-17 PROTECTS AGAINST HYPERACTIVATION AND EXHAUSTION BY REGULATING IFN-GAMMA DURING CHRONIC VIRAL INFECTION** / S. Majumder\* (US) - H. Banerjee - A. Bansal - L. P. Kane - M. J. McGeachy

- P132** A NOVEL DUAL NLRP1 AND NLRP3 INFLAMMASOME INHIBITOR FOR THE TREATMENT OF INFLAMMATORY DISEASES / A. S. Mansell\* (AU) - C. A. Docherty - A. A. Fernando - S. Rosli - M. Lam - M. Tate - C. Murphy - A. G. Rossi
- P133** MYELOID AUTOPHAGY GENES PROTECT MICE AGAINST FATAL TNF- AND LPS-INDUCED CYTOKINE STORM SYNDROMES / A. Orvedahl\* (US) - Y. Wang - A. Sansone - A. Smirnov - C. Stallings
- P134** THE CORRELATION OF ADM, ANGIOTENSIN II, HIF-1A, MIF, AND THE CYTOKINE RESPONSE (IL1B, IL-6, TNF-A) IN THE HYPOXIC CONDITIONS DURING INFLAMMATION / P. Rapti\* (GR) - T. Palouka
- P135** DETERMINING HNRNP-A2/B1'S ROLE IN INFLAMMATION AND RHEUMATOID ARTHRITIS PATHOLOGY / M. Mohammed Salih\* (US) - S. Carpenter
- P136** CIRCULATING LEVELS OF CXCL-9, CXCL-10 AND IL-6 ARE AUGMENTED IN PATIENTS WITH LONG-TERM PULMONARY DYSFUNCTION 4 AND 12 MONTHS AFTER COVID-19 / S. A. Sanhuesa Novoa\* (CL) - E. A. Nova Lamperti - C. Cabrera - R. Quiroga - B. Antilef
- P137** TNF-ALPHA PREDICTS LONG COVID SYMPTOMS AND CIRCULATING AUTOANTIBODIES AT 12 MONTHS POST-RECOVERY / K. Son\* (CA) - R. Jamil - A. Chowdhury - M. Mukherjee - C. Venegas - K. Miyasaki - K. Zhang - Z. Patel - B. Salter - A. Yuen - K. Lau - B. Cowbrough - K. Radford - C. Huang - M. Kjarsgaard - A. Dvorkin-Gheva - J. Smith - C. Ryerson - P. Nair - T. Ho - N. Balakrishnan - I. Nazy - D. Bowdish - S. Svenningsen - C. Carlsten - M. Mukherjee
- P138** INFLAMMATORY MARKERS ASSOCIATED WITH IN-HOSPITAL MORTALITY IN CHILDREN WITH CEREBRAL MALARIA IN UGANDA / G. Turyasingura\* (US) - R. Namazzi - C. Bond - R. O. Opoka - C. C. John - A. L. Conroy
- P139** CHARACTERIZING COVID-19, CASTLEMAN'S DISEASE AND RHEUMATOID ARTHRITIS BASED ON PATIENTS' SERUM CYTOKINE AND CHEMOKINE PATTERNS BEFORE AND AFTER TOCIRIZMAB TREATMENT USING PARTIAL LEAST SQUARES REGRESSION 2 ANALYSIS / K. Uno\* (JP) - K. Yoshizaki - T. Tanka - S. Hashimoto - M. Iwahashi - E. Nakayama - T. Shiota - H. Fujimiya
- P140** QUALITY, LOCATION, & TIMING OF INTERFERON PRODUCTION DICTATES THE IMMUNE RESPONSE / I. Zanon\* (US)
- LB-13** TRACKING INTERLEUKIN-17 PRODUCING CELLS IN THE COLORECTAL TUMOURS OF LIVE MICE / A. Preaudet\* (AU) - K. Y. Fung - T. L. Putoczki
- LB-14** PLASMA CYTOKINE LEVELS AS PROGNOSTIC BIOMARKERS AND REPARATIVE MICROSURGERY OUTCOME MEASURES FOR BREAST CANCER-RELATED LYMPHEDEMA / A. R. Vang\* (US) - W. Chan - S. F. Shaitelman - M. B. Aldrich

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## ILC Poster Session 1

### 01 ILC Development and Trajectories

- P141** LUNG-RESIDENT ILC3 ARE ESTABLISHED BY T LINEAGE-DERIVED CELLS / M. Romera Hernandez\* (CA) - L. Mathae - M. Orangi - D. Khijakadze - C.-K. Chang - F. Rossi - F. Takei
- P142** MUCOSAL ORGANOID PROMOTE THE DEVELOPMENT OF TISSUE-SPECIFIC INNATE LYMPHOID CELLS / G. M. Jowett - E. Read - L. B. Roberts - D. Coman - M. V. González - T. Zabinski - U. Niazi - T.-J. Trieu - D. Danovi - E. Gentleman - L. Vallier - M. A. Curits - G. M. Lord - J. F. Neves\* (UK)
- P143** THYMUS-DEPENDENT CIRCULATING ILC PRECURSORS / X.-H. Sun\* (US) - S. Bajana - A. Pankow - K. Liu - W. R. Chen
- LB-41** INNATE LYMPHOID CELLS LACKING SURFACE EXPRESSION OF CD90 ARE FUNCTIONAL / J.-H. Schroeder\* (UK) - T. Zabinski - J. Neves - G. M. Lord

### 02 ILC Tissue Niches

- P144** SPATIAL PROFILING OF MURINE ILCs DURING A SYSTEMIC INFLAMMATION USING MULTIPLEXED HISTOLOGY / S. Bauherr\* (DE) - A. Pascual-Reguant - R. Köhler - R. Mothes - R. Günther - R. Uecker - L. Philippen - K. Holzwarth - R. A. Niesner - A. E. Hauser
- P145** HETEROGENEITY OF SKIN ILC / T. Kobayashi\* (JP) - K. Moro
- P146** INNATE IMMUNE-MEDIATED CONTROL OF SKIN EPITHELIAL CELL RENEWAL AND STAPHYLOCOCCAL COMMENSALISM / B. Rocha Cordeiro Costa\* (DE) - J. Ehl - A. Diefenbach
- LB-42** GROUP 2 INNATE LYMPHOID CELLS AT THE FETAL MATERNAL INTERFACE / S. Helfrich - C. Duerr\* (DE)

### 03 ILC1s and NK cells

- P147** THE CD3-ZETA ADAPTOR STRUCTURE DETERMINES FUNCTIONAL DIFFERENCES BETWEEN HUMAN AND MOUSE CD16 FC-GAMMA RECEPTOR SIGNALING IN NATURAL KILLER CELLS / O. A. Aguilar\* (US) - L.-K. Fong - K. Ishiyama - W. F. DeGrado - L. L. Lanier
- P148** IFN $\alpha$ 14 IS A POTENT ENHANCER OF NATURAL KILLER CELL ACTIVITY AGAINST LEUKAEMIA / S. A. Barnes\* (AU) - K. M. Audsley - H. V. Newnes - S. Fernandez - E. de Jong - J. Waithman - B. Foley
- P149** THE HISTONE METHYLTRANSFERASE, G9A, NEGATIVELY REGULATES NK CELL DIFFERENTIATION IN MICE / A. Beaulieu\* (US) - M. Brillantes - E. Tang - P. Conaty - M. Cheong

- P150 CD8A EXPRESSION ON MEMORY-LIKE AND CONVENTIONAL NATURAL KILLER CELLS MARKS A POPULATION WITH IMPAIRED IL-15 INDUCED PROLIFERATION** / C. C. Cubitt\* (US) - P. Wong - J. Tran - J. A. Foltz - N. D. Marin - L. Marsala - C. C. Neal - M. Foster - T. Schappe - M. M. Berrien-Elliott - T. A. Fehniger
- P151 REGULATION OF TBX21 EXPRESSION IN NK AND ILC CELLS** / S. Davat\* (US) - Y. Ding - D. Desai - A. Sharma
- P152 IL-2 AND TGF-B1 SYNERGIZE TO INDUCE REGULATORY ACTIVITY IN NATURAL KILLER CELLS** / J. A. Mathews\* (CA) - D. Borovsky - J. M. Murphy - K. T. Reid - S. J. Colpitts - S. Q. Crome
- P153 A CIS-REGULATORY ELEMENT LIMITS TCF7 EXPRESSION IN LYMPHOCYTES** / M. McCullen\* (US) - M. Murphy - M. Colonna - T. Egawa - E. Oltz
- P154 ESSENTIAL ROLE OF GLYCOSPHINGOLIPID METABOLISM FOR NATURAL KILLER CELL DEVELOPMENT AND FUNCTION** / T. A. Morrison\* (US) - D. Randazzo - A. Mujala - J. Vige - H. Dada - R. Phillips - H. Nagashima - S. Brooks - I. Rozich - K. Hudspeth - H.-W. Sun - C. M. Lau - C. Yao - M. Dustin - R. Proia - Y. Kanno - J. C. Sun - H.-Y. Shih - J. J. O'Shea
- P155 ANALYSIS FOR INDUCTION MECHANISMS OF PERITONITIS REGULATED BY ADIPOSE TISSUE** / R. Nagata\* (JP) - N. Satoh-Takayama - T. Terooatea - Y. Akama - A. Minoda - M. Shimaoka - H. Ohno
- P156 GENOME ENGINEERED NATURAL KILLER CELLS FOR OSTEOSARCOMA IMMUNOTHERAPY** / G. M. Robbins\* (US) - K. Yamamoto - W. W. Lahr - J. G. Skeate - B. Moriarity
- P157 IRF4 CONTROLS NK CELL CLONAL EXPANSION AND DIFFERENTIATION DURING VIRAL INFECTION** / E. Santosa\* (US)
- P158 EMBRYONIC AND NEONATAL WAVES GENERATE DISTINCT POPULATIONS OF HEPATIC ILC1S** / C. Sparano\* (CH) - D. Solis-Sayago - A. Vijaykumar - C. Rickenbach - M. Vermeer - F. Ingelfinger - G. Litscher - A. Fonseca - C. Mussak - M. Mayoux - C. Friedrich - C. Nombela-Arrieta - G. Gasteiger - B. Becher - S. Tugues
- P159 UNTIMELY TGFB RESPONSES IN COVID-19 LIMIT ANTIVIRAL FUNCTIONS OF NK CELLS** / C. Tizian\* (DE) - M. Witkowski - M.-F. Mashreghi - M. Ferreira-Gomes - A. Diefenbach
- LB-43 SEX DIFFERENCES IN NK CELLS MEDIATED BY THE X-LINKED EPIGENETIC REGULATOR UTX** / M. I. Cheng\* (US) - L. Riggan - J. H. Li - R. Yakshi Tafti - S. Chin - F. Ma - M. Pellegrini - T. E. O'Sullivan - M. A. Su
- LB-44 CYCLIC FASTING INDUCES NATURAL KILLER CELL ANTI-TUMOR IMMUNITY** / R. B. Delconte\* (US) - J. C. Sun

## 04 ILC2s

- P160** **DIETARY FIBER PROMOTES MICROBIOTA-DERIVED BILE ACIDS AND TYPE 2 INFLAMMATION** / *M. Arifuzzaman\** (US) - *T. H. Won* - *T. Li* - *H. Yano* - *C.-J. Guo* - *F. Schroeder* - *D. Artis*
- P161** **'BOOLEAN ILC2 MICE' – USING MULTIPLE INTERSECTIONAL RECOMBINASES TO MEDIATE IMPROVED ILC2-RESTRICTED GENE DELETION OR CELL ABLATION** / *P. A. Clark\** (UK) - *M. W. Heycock* - *E. Jou* - *A. C. Szeto* - *H. E. Jolin* - *A. N. McKenzie*
- P162** **CYTOKINE ACTIVATED ILC2 ESTABLISH AN INFLAMMATORY TISSUE MEMORY IN THE GUT** / *V. Cortez\** (US) - *S. Koga* - *C. O'Leary* - *H. E. Liang* - *R. Locksley*
- P163** **TYPE 1 INTERFERON LIMITS ILC2 EFFECTOR FUNCTIONS THROUGH SUPPRESSION OF THE CCR8-CCL1/CCL8 AXIS** / *S. S. Krisna\** (CA) - *B. Mindt* - *R. Deagle* - *J. Postat* - *C. Duerr* - *J. Mandl* - *D. Langlais* - *J. Fritz*
- P164** **HOIL1 REGULATES GROUP 2 INNATE LYMPHOID CELL NUMBERS AND TYPE 2 INFLAMMATION IN THE SMALL INTESTINE** / *M. J. Wood* - *J. N. Marshall* - *V. L. Hartley* - *T.-C. Liu* - *T. S. Stappenbeck* - *D. A. Macduff\** (US)
- P165** **TYPE 2 INNATE LYMPHOID CELL DYSFUNCTION IN SEVERE ASTHMA AND RESPONSE TO TREATMENT WITH MEPOLIZUMAB AND OMALIZUMAB** / *B. Malik\** (AU) - *R. McKerrow* - *J. Harrington* - *J. Upham* - *N. Bartlett* - *P. Wark*
- P166** **ESTABLISHING A MODEL OF MEMORY GROUP 2 INNATE LYMPHOID CELLS IN ATOPIC DERMATITIS** / *L. Mathä\** (SE) - *I. Martinez-Gonzalez*
- P167** **A GUT COMMENSAL PROTOZOA REMOTELY REGULATES AN ILC2-DEPENDENT LUNG NICHE FOR ASTHMA-PROMOTING EOSINOPHILS** / *A. Mortha\** (CA) - *K. Burrows*
- P168** **GROUP 2 INNATE LYMPHOID CELLS INDUCE RECURRENCE OF ALLERGIC PATHOLOGY VIA AN INNATE AMPLIFICATION CIRCUIT** / *Y. Motomura\** (JP) - *K. Moro*
- P169** **IL-33 STIMULATED ILC2S REGULATE STEADY STATE AND DEMAND-ADAPTED MYELOPOIESIS** / *P. Naef\** (US) - *C. A. Jaeger-Ruckstuhl* - *N. Schnueriger* - *S. Forster* - *I. de Paula Costa Monteiro* - *D. Brigger* - *A. Eggel* - *C. Riether* - *A. F. Ochsenbein*
- P170** **INNATE LYMPHOID CELLS ARE CRITICAL IN DIET AND ALCOHOL INDUCED IN STEATOHEPATITIS AND FIBROSIS** / *M. Orangi\** (CA) - *L. Mathae* - *M. Romera Hernandez* - *D. Khijakadze* - *F. Takei*
- P171** **IL-10-PRODUCING HUMAN GROUP 2 INNATE LYMPHOID CELLS LIMIT GRAFT-VERSUS-HOST DISEASE AND REGULATE ALLOGENEIC T CELL RESPONSES** / *K. T. Reid\** (CA) - *S. J. Colpitts* - *J. A. Mathews* - *A. S. Carreira* - *J. An* - *M. Mak* - *I. N. Basso* - *J. Mattsson* - *S. Q. Crome*

- P173** **EX VIVO MODEL FOR LARGE-SCALE GENERATION OF PRIMARY MURINE AND HUMAN GROUP 2 INNATE LYMPHOID CELLS** / C. U. Duerr - B. C. Mindt - S. S. Krisna - A. Roy-Dorval\* (CA) - M. T. Koellner - R. Cencic - T.-A. Al-Aubodah - J. Pelletier - J. H. Fritz
- P174** **THE PROTECTIVE ROLE OF STOMACH ILC2 INDUCED BY THE COLONIZATION OF A STRAIN S24-7** / N. Satoh-Takayama\* (JP) - Y. Shigeno - R. Nagata - T. Kageyama - N. Tachibana - Y. Benno - H. Ohno
- P175** **RETINOIC ACID DRIVES INTESTINE-SPECIFIC ADAPTATION OF EFFECTOR ILC2S ORIGINATING FROM DISTANT SITES** / N. Shaikh\* (DE) - A.-C. Gnirck - A. Waterhölter - M. Becker - V. Adamiak - M. Wunderlich - W. Hartmann - L. Linnemann - T. B. Huber - U. Panzer - C. Wilhelm - M. Breloer - J.-E. Turner
- P176** **CORTICOSTEROIDS INDUCE DIFFERENTIATION OF ILC2S TOWARDS AN IMMUNOMODULATORY PHENOTYPE CHARACTERIZED BY HIGH AMPHIREGULIN PRODUCTION** / E. K. Van Der Ploeg\* (NL) - M. van Nimwegen - A. van Krimpen - M. J. de Bruijn - D. Huylebroeck - E. Bindels - R. W. Hendriks - R. Stadhouders and The Molecular Immunology group
- P177** **TYPE 2 CYTOKINES AND ILC2S CONTROL TISSUE ADAPTATIONS TO CHITIN** / S. Van Dyken\* (US)
- P178** **IL-4/IL-13-PRODUCING ILC2 ARE REQUIRED FOR TIMELY CONTROL OF INTESTINAL HELMINTH INFECTION** / D. Voehringer\* (DE) - F. Varela - C. Symowski - S. Wirtz
- P179** **ACTIVATION-INDUCED CELL DEATH OF ILC2 REGULATES CHRONIC ALLERGIC INFLAMMATION** / T. Yamada\* (JP) - M. Tatematsu - S. Takasuga - K. Yamagata - K. Shibuya - A. Shibuya - T. Yamada - T. Ebihara
- LB-45** **TARGETING THE TUFT CELLS-TYPE 2 INNATE LYMPHOID CELL CYTOKINE CIRCUIT IN GASTRIC CANCER** / R. O'keefe\* (AU) - A. Carli - S. Sterle - C. Seillet - R. Locksley - M. Ernst - M. Buchert



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## Cytokines Poster Session 2

### 07 Microbiome Function and Intestinal Barrier

- P180** DISSECTING NOVEL MECHANISMS UNDERLYING BV RECURRENCE USING A LONGITUDINAL ANALYSIS OF THE FEMALE REPRODUCTIVE TRACT IN WOMEN AFTER BV TREATMENT / M. M. Ahmad - C. Broedlow\* (US) - C. Basting - J. Short-Miller - A. Z. Salazar - P. Raccamarich - L. Schifanella - M. Alcaide - N. R. Klatt
- P181** PRO-INFLAMMATORY RESPONSE TO DIETARY B-FRUCTAN FIBRES IS DRIVEN BY NLRP3 INFLAMMASOME ACTIVATION AND CYTOKINE SECRETION IN INFLAMMATORY BOWEL DISEASE PATIENTS / M. Bording-Jorgensen - D. Santer - R. Mahmood - Z. Zhang - M. W. Carroll - H. Q. Huynh - W. El-Matary - C. N. Bernstein - T. Vasanthan - E. Wine - H. Armstrong\* (CA)
- P182** INCREASED INFLAMMATION AND GUT BARRIER DAMAGE BIOMARKERS IN HOSPITALIZED PATIENTS WITH SEVERE COVID-19 / C. Basting\* (US) - C. Broedlow - R. Cromarty - J. Short-Miller - L. Schifanella - N. R. Klatt
- P183** DIETARY REGULATION OF MICROBE - IMMUNE - STEM CELL INTERACTIONS IN THE INTESTINE / S. Beyaz\* (US)
- P184** SEX-BASED MICROBIAL ENRICHMENT IN IBD AND IMPLICATIONS FOR MUCOSAL FUNCTION AND CYTOKINES PATTERN / R. Del Pinto\* (IT) - D. Pietropaoli - H. H. Wargo - C. De Salvo - F. Cominelli - T. T. Pizarro
- P185** CCR2-DEPENDENT MIGRATION OF CX3CR1-HI ANTIGEN PRESENTING CELLS FACILITATES ENTEROCOCCUS FAECALIS DISSEMINATION / K. Jennings\* (US) - R. Chakraborty - C. Kristich - N. Salzman
- P186** NASAL MICROBIOME STAPHYLOCOCCUS EPIDERMIDIS LIMITS IL-33 PRODUCTION IN ALLERGIC NASAL MUCOSA BY REGULATING RIPK3-MLKL-MEDIATED NECROPTOSIS / Y. J. Jeon\* (KR) - H. J. Kim
- P187** ROLE OF INTESTINAL FUNGAL COLONIZATION IN SHAPING NEUROLOGICAL RESPONSES / W.-Y. Lin\* (US)
- P188** INTERFERON-G-MEDIATES ANTIGEN PRESENTATION BY INTESTINAL EPITHELIAL CELLS TO CONFER PATHOGENIC INFLAMMASOME AND GM-CSF RESTRICTING CAPACITY TO T CELLS / A. Malik\* (US) - D. Sharma - S. McGrath - B. Jabri
- P189** CRISPR SCREENS IDENTIFY INTERFERON REGULATORY FACTOR 6 AS A POTENTIAL REGULATOR OF INTERFERON SIGNALING IN THE INTESTINAL EPITHELIUM / A. P. Wright\* (US) - T. J. Nice
- LB-16** COMMENSAL BACTERIA PROMOTE TYPE I INTERFERON SIGNALING TO MAINTAIN IMMUNE TOLERANCE / A. Vasquez Ayala - C.-Y. Hsu - K. Matsuo - H. Chu\* (US)

## 08 Host Defense Against Infections

- P190** **TRANSLATION CONTROL OF INNATE IMMUNITY AND VIRAL ONCOLYSIS** / *H.-D. Hoang - A. Said - V. H. Gilchrist - N. Vaidya - X. Xiang - A. Pelin - K. Mossman - S. T. Beug - S. M. Jafarnejad - S. T. Workenhe - T. E. Graber - T. Alain\** (CA)
- P191** **TYPE I AND III INTERFERONS AT THE INTERFACE BETWEEN BACTERIAL PATHOGENS AND THEIR HOST** / *N. Alphonse\** (UK) - *J. Wanford - A. Alrehailli - R. E. Dickenson - A. Broggi - C. Rosadini - A. Wack - C. Odendall*
- P192** **INTERFERON LAMBDA ALTERS IMMUNE FUNCTION DURING INFLUENZA, BACTERIA SUPER-INFECTION** / *D. Antos\** (US) - *H. E. Rich - S. Kupul - J. F. Alcorn*
- P193** **IMPACT OF STAPHYLOCOCCUS AUREUS COLONIZATION OF THE NASAL CAVITY ON THE OUTCOME OF RESPIRATORY VIRAL INFECTION IN THE MOUSE MODEL** / *A. Aringo\** (DE) - *S. Holtfreter - S. Strahlendorff-Herppich - L. M. F. Harzig - M. Darispuldi - A. Martinuic - A. Pavlou - F. Mulenge - B. Costa - A. Ziegler - B. M. Bröker - J. Huehn - U. Kalinke*
- P194** **LIPID-NANOPARTICLE DELIVERY OF HUMAN MRNAS ENCODING ANTI-VIRAL GENES FOR PROTECTION OF HOST AIRWAY EPITHELIUM DURING INFLUENZA A AND SARS-COV2 INFECTIONS** / *C. Siem Bach-Nielsen\** (DK) - *C. Kanstrup Holm*
- P195** **EXPLORING THE ASSOCIATION OF IFNL4 VARIANTS WITH THE RISK OF BURKITT LYMPHOMA IN 4000 CHILDREN FROM SUB-SAHARAN AFRICA** / *F. S. Baker\** (US) - *J. Wang - L. Prokunina-Olsson - S. M. Mbulaiteye and Malawi and EMBLEM GWAS Group*
- P196** **HIGH RESOLUTION KINETIC CHARACTERIZATION AND DYNAMIC MATHEMATICAL MODEL OF THE RIG-I SIGNALING PATHWAY AND THE ANTIVIRAL RESPONSES** / *M. Binder\** (DE) - *S. S. Burkart - D. Schweinoch - J. Frankish - C. Sparn - S. Wüst - C. Urban - A. Piras - A. Pichlmair - J. Willemsen - L. Kaderali*
- P197** **LOW OXYGEN LEVELS IN THE HUMAN GUT INFLUENCES THE IMMUNE FUNCTIONS OF INTESTINAL EPITHELIAL CELLS** / *S. Muenchau - M. Stanifer - S. Boulant\** (US)
- P198** **THE DNA SENSING PLATFORM CGAS/STING IS CRITICALLY NEEDED FOR THE CONTROL OF RNA VIRAL ENCEPHALITIS** / *L. M. Busker\** (DE) - *A. Pavlou - F. Mulenge - P.-K. Larsen - L. Ghita - O. L. Gern - I. Waltl - U. Kalinke*
- P199** **TYPE I INTERFERON STIMULATES NATURAL KILLER CELL SUPPRESSION OF ANTIVIRAL T CELLS** / *L. M. Canaday\** (US) - *A. Ali - H. A. Feldman - D. Krishnamurthy - H. Seelamneni - S. N. Waggoner*
- P200** **INFLUENZA PATHOGENESIS AND TYPE 3 IMMUNITY IN THE PREGNANT NON-HUMAN PRIMATE MODEL** / *O. Cervantes\** (US) - *T. Lewis - M. Dacanay - H. Huang - Y. Wu - J. Munson - C. Fountain - B. Curtis - M. Berg - S. Kapnadak - B. Altemeier - S. Dross - A. Germond - R. Kapur - A. Baldessari - M. Fredericks - H. Li - D. Fuller - K. Adams Waldorf*

- P201** SERUM TRANSCRIPTOMIC ANALYSIS OF HUMAN MONOCYTES UPON EXPOSURE TO ACUTE AND CONVALESCENT SERA FROM LYME DISEASE PATIENTS / *B.-Y. Hong - J. L. Cervantes\* (US)*
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- P243** COMPARISON OF T-SPOT SARS-COV-2 AND MABTECH IFN-GAMMA ELISPOT KIT IN SARS-COV-2 VACCINEES AND WHO RECOVERED FROM SARS-COV-2 INFECTION / *E. Y. Song\* (KR) - Y. Seo - I. Oh - E. Y. Roh*
- P244** CELL TYPE SPECIFIC RESPONSE TO VIRAL INFECTION IN THE HUMAN GASTROINTESTINAL TRACT / *S. Triana - C. Metz-Zumaran - T. Alexandrov - S. Boulant - M. Stanifer\* (US)*
- P246** NRF2 CONTROLS ANTIVIRAL GENES IN THE AIRWAY EPITHELIUM / *J. Storgaard\* (DK) - C. K. Holm*
- P247** A TLR4-INDEPENDENT CRITICAL ROLE FOR CD14 IN INTRACELLULAR LPS SENSING / *S. Ollikara Vasudevan\* (US) - A. Russo - P. Kumari - S. Kailasan Vanaja - V. Rathinam*
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- P249** CASPASE-8-CASPASE-3 AXIS INHIBITS CYTOKINE RELEASE BY INACTIVATING GSDMD DURING INFECTIONS / *Y. Wang\* (US) - R. Karki - M. Zheng - B. Kancharana - S. Lee - S. Kesavardhana - B. Hansen - S. Pruet-Miller - T.-D. Kanneganti*
- P250** E3 UBIQUITIN LIGASE SEVEN IN ABSENTIA HOMOLOG-1 TARGETS SPECIFIC DEUBIQUITINASE FOR THE POSITIVE REGULATION OF HOST INNATE IMMUNE SIGNAL / *A. S. Weerawardhana\* (KR) - J.-S. Lee*
- P251** 4-OCTYL ITACONATE REDUCES INFLUENZA A REPLICATION BY TARGETING THE NUCLEAR EXPORT PROTEIN CRM1 / *H. J. Weiss\* (IE) - P. Ribó-Molina - S. Balasubramaniam - S. van Nieuwkoop - L. Persoons - Y. Zheng - M. Ruzek - D. Daelemans - R. A. M. Fouchier - B. G. van den Hoogen - L. A. J. O'Neill and O'Neill group*
- P252** INNATE IMMUNE SIGNALING IN TROPHOBLAST AND DECIDUA ORGANOIDS DEFINES DIFFERENTIAL ANTIVIRAL DEFENSES AT THE MATERNAL-FETAL INTERFACE / *L. H. Yang\* (US) - E. C. Semmes - C. Oviés - C. Megli - S. Permar - J. B. Gilner - C. B. Coyne*
- P253** YERSINIA TYPE III-SECRETED EFFECTORS EVADE HUMAN CASPASE-4-DEPENDENT INFLAMMASOME ACTIVATION IN INTESTINAL EPITHELIAL CELLS / *J. Zhang\* (US) - I. E. Brodsky - S. Shin*
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- LB-18 INTERACTION BETWEEN MIR-15/16 AND THE LONG NONCODING RNA MALAT1 REGULATES T CELL RESPONSES** / K. M. Ansel\* (US) - B. Wheeler - W. S. Zhu - J. D. Gagnon - D. Simeonov - A. Marson
- LB-19 T-CELL DERIVED INTERFERON GAMMA IS REQUIRED FOR RESTRICTION OF MYCOBACTERIUM TUBERCULOSIS IN THE INFECTED MURINE LUNG** / K. Maciag\* (US) - C. Plumlee Burdette - S. Cohen Elmore - K. Urdahl
- LB-20 BASOPHILS SUPPORT OPTIMAL INTESTINAL TH2 CELL RESPONSES** / L. Webb\* (US) - P. Sundaravaradan - S. Smita - E. Tait Wojno
- LB-21 THE LACK OF IL-17 RECEPTOR C LIMITS HOST RESISTANCE AND SUSTAINS TYPE 17 INFLAMMATION DURING AIRWAY CHRONIC INFECTIONS BY PSEUDOMONAS AERUGINOSA** / F. Saliu - G. Rizzo - A. Migliara - F. Nicola - A. Bragonzi - A. Lombardo - C. Cigana - D. Cirillo - N. I. Lorè\* (IT)
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- LB-28** DIETARY PROTEIN SHAPES THE PROFILE AND REPERTOIRE OF INTESTINAL CD4+ T CELLS / A. Lockhart\* (US) - A. Reed - T. Rezende de Castro - C. Herman - M. C. Campos Canesso - D. Mucida
- LB-29** A CONSERVED ANTIGEN DERIVED FROM COMMENSALS OF THE BACTEROIDETES PHYLUM DRIVES REGULATORY IMMUNE RESPONSES IN THE INTESTINE / D. Bousbaine - M. London - B. Reis - J. Bortolatto - G. Victora - D. Mucida - H. Ploegh - A. Bilate\* (US)
- LB-30** MATERNAL IL-33 SIGNALING IS ESSENTIAL FOR UTERINE TISSUE REMODELING AND PREGNANCY PROGRESSION IN MICE / N. Valero-Pacheco\* (US) - E. K. Tang - N. Massri - R. Loia - A. Chemerinski - T. Wu - S. Begum - D. W. El-Naccache - W. C. Gause - R. Arora - N. C. Douglas - A. M. Beaulieu
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- P283** IL-17A-SECRETING  $\gamma\delta$  T CELLS ARE REGULATED BY PD-1 IN A MODEL OF CENTRAL NERVOUS SYTEM AUTOIMMUNITY / C. M. Leane\* (IE) - K. H. G. Mills
- P284** THE CTRP3-ADIPOR2 AXIS REGULATES THE DEVELOPMENT OF EXPERIMENTAL AUTOIMMUNE ENCEPHALOMYELITIS BY SUPPRESSING TH17 CELL DIFFERENTIATION / M. A. Murayama\* (JP)
- P286** ROLE OF CYTOKINES IN ACQUIRED APLASTIC ANEMIA: A COMPARATIVE STUDY OF BONE MARROW AND BLOOD PLASMA LEVELS / V. Sharma\* (IN) - P. Kumar - M. Namdeo - D. K. Mitra - S. Sazawal - U. Kanga - T. Seth
- P287** INTERFERON LAMBDA SIGNALING RESTRAINS DEVELOPMENT OF EXPERIMENTAL AUTOIMMUNE ENCEPHALITIS / M. A. Sherwani - S. J. Duesman - C. Raman - N. Yusuf\* (US)
- LB-32** THE ROLES OF CLEC1A IN THE DEVELOPMENT OF EXPERIMENTAL AUTOIMMUNE ENCEPHALOMYELITIS AND COLITIS / X.-Q. Ye\* (JP) - Y. Makusheva - Y. Iwakura

## 11 Cytokine-Related Interventions/ Therapies

- P289** INTERFERON EPSILON LIMITS OVARIAN CANCER METASTASIS VIA TUMOUR-EXTRINSIC MECHANISMS / N. K. Campbell\* (AU) - L. J. Gearing - J. Gould - G. Wray-McCann - N. A. de Weerd - P. J. Hertzog
- P290** NONVIRAL DELIVERY STRATEGIES OF THE CRISPR SYSTEM FOR IN VIVO GENE EDITING AND CANCER IMMUNOTHERAPY / H. J. Chung\* (KR)
- P291** A NOVEL ALLOSTERIC MODULATOR OF IL-6R, HSJ633, REDUCED PRETERM BIRTH AND INFLAMMATION IN MICE / F. Cote\* (CA) - E. Prairie - L. Gobeil - T. Habelrih - X. Hou - C. Quiniou - S. Chemtob
- P292** GUANYLATE-BINDING PROTEINS (GBPS) PROVIDE A HOST-INSPIRED ROADMAP FOR THE DESIGN OF SYNTHETIC ANTIMICROBIAL PEPTIDES / D. Enosi Tuipulotu\* (AU) - S. Feng - S. M. Man

- P294** PRECLINICAL VALIDATION OF ALPHASEPT, AN ENGINEERED HUMAN CYTOKINE, AS A NEXT GENERATION IMMUNOTHERAPY TO TREAT SEPSIS / F. C. Franke\* (DE) - M. Laschinger - B. Holzmann - J. Behnke - M. Feige
- P295** IL-2 IS INACTIVATED BY THE ACIDIC PH ENVIRONMENT OF TUMORS ENABLING ENGINEERING OF A PH-SELECTIVE MUTEIN / S. Gaggero\* (FR) - J. Martinez-Fabregas - A. Cozzani - P. Fyfe - M. Leprohon - J. Yang - F. E. Thomasen - H. Winkelmann - R. Magnez - A. G. G. Conti - S. Wilmes - E. Pohler - M. van Gijssel Bonnelo - X. Thuru - B. Quesnel - F. Soncin - J. Piehler - K. Lindorff-Larsen - R. Roychoudhuri - I. Moraga - S. Mitra
- P296** STRUCTURES OF THE COMPLETE EXTRACELLULAR DOMAINS OF THE INTERLEUKIN 11 SIGNALLING COMPLEX AND THE INHIBITORY MECHANISM OF A CYTOKINE VARIANT / R. Metcalfe - K. Y. Fung - E. Hanssen - C. Zlatic - C. Kosasih - T. Putoczki - M. Griffin\* (AU)
- P297** IL-27 INHIBITS IMMUNE CELL REINVIGORATION MEDIATED BY PD-(L)1 BLOCKADE AND INDUCES A TYPE 1 INTERFERON GENE EXPRESSION SIGNATURE ASSOCIATED WITH RESISTANCE TO THERAPY IN CANCER PATIENTS / J. A. Hill\* (US) - K. Golan - J. Hua - Y. Ren - Y. Yang - R. Masia - D. Moodley - B. H. Lee - V. J. Palombella
- P298** INTERFERON-ALPHA RECEPTOR ANTISENSE OLIGONUCLEOTIDES REVERSE NEUROPATHOLOGY IN A MOUSE MODEL OF TYPE I INTERFERON NEUROTOXICITY / B. Viengkhou - C. Hong - F. Kamme - M. J. Hofer\* (AU)
- P299** NOVEL VACCINES AGAINST THE INFLAMMASOME COMPLEX COMPONENT ASC ARE SAFE IN HEALTHY MICE: A PRE-CLINICAL PILOT STUDY / J. Hulse\* (US) - J. Peabody - K. Bhaskar
- P300** NOVEL TREATMENT FOR OSTEOPOROSIS CAUSED BY LIVER FIBROSIS: SUPPRESSION OF LIVER-BONE CROSSTALK MEDIATED BY FGF23 / T. Mihara\* (JP) - T. Yoshiharu - M. Hori
- P301** AN ENGINEERED IL-2 PARTIAL AGONIST PROMOTES CD8+ T CELL STEMNESS / F. Mo\* (US) - W. J. Leonard
- P302** REPRODUCIBLE, MOA-REFLECTING REPORTER-BASED BIOASSAYS TO ENABLE DISCOVERY AND DEVELOPMENT OF CYTOKINE THERAPEUTICS / J. Nelson\* (US) - R. Moravec - J. Wilkinson - M. Cong - F. Fan
- P303** NOMALIZATION OF TUMOR VESSELS VIA CU06-1004 REDUCES IL-2-INDUCED VASCULAR LEAKY SYNDROME AND IMPROVES IMMUNOTHERAPY / S. Park\* (KR) - Y.-G. Kwon
- P304** PHARMACOLOGICAL DELINEATION OF THE TNF/TAK1 SIGNALING PATHWAY FOR THE TREATMENT OF AUTOIMMUNE DISEASES / S. Scarneo\* (US) - P. Hughes - R. Freeze - T. Haystead
- P305** CONTROL OF PRIMARY TUMOR AND METASTATIC BURDEN BY HETERODIMERIC IL-15 (HETIL-15) IMPROVES THE THERAPEUTIC BENEFIT OF CHEMOTHERAPY AND SURGERY / V. Stravokefalou\* (US) - D. Stellas - S. Karaliota - B. Myers - K. Dimas - G. N. Pavlakis
- P306** DAMPENING INFLAMMATION BY ENHANCING REGNASE-1 EXPRESSION WITH STEM-LOOP-TARGETING MORPHOLINO OLIGONUCLEOTIDES / K. M. Tse\* (JP) - O. Takeuchi

- P307** THE INTERLEUKIN-6 FAMILY OF CYTOKINES REPRESENT A THERAPEUTIC OPPORTUNITY FOR PANCREATIC CANCER / *G. Van Duijneveldt\** (AU) - *K. Y. Fung* - *B. Lee* - *A. Preaudet* - *R. Low* - *P. Gibbs* - *S. Grimmond* - *M. Griffin* - *T. Putoczki*
- P308** ENGINEERING A CYTOKINE/ANTIBODY FUSION PROTEIN THAT SELECTIVELY EXPANDS REGULATORY T CELLS AND CONFERS PROTECTION AGAINST AUTOIMMUNE DISEASES / *D. VanDyke\** (US) - *M. Iglesias* - *G. Raimondi* - *J. Spangler*
- P309** A PILOT STUDY OF PALLIATIVE RADIOTHERAPY AND SEQUENTIAL IMMUNOTHERAPY IN THREE PATIENTS WITH METASTATIC UVEAL MELANOMA: FEASIBILITY AND POSSIBLE BENEFITS OF COMBINATION / *S. P. Veum\** (US) - *D. Steinberger* - *J. Yuan* - *E. Domingo-Musibay*
- P310** SYNTHETIC KINES: A NOVEL COMBINATORIAL ARRAY OF BIASED SURROGATE CYTOKINE AGONISTS WITH ANTIBODY-LIKE DRUGGABILITY / *S. Vivona\** (US) - *M. Ramadass*
- P311** PROVIRAL EFFECTS OF ISG15 AND ANTIVIRAL POTENTIAL OF NRF2 ACTIVATORS AGAINST HUMAN CORONAVIRUS 229E INFECTION IN IPSC DERIVED VASCULAR ENDOTHELIAL CELLS / *F. Waqas\** (DE) - *F. Pessler*
- LB-33** NANOBODIES DISMANTLE POST-PYROPTOTIC ASC SPECKS AND COUNTERACT INFLAMMATION IN VIVO / *D. Bertheloot\** (DE) - *C. W. Wanderley* - *A. H. Schneider* - *L. D. Schiffelers* - *J. D. Wuert* - *J. M. Tödtmann* - *S. Maasewerd* - *I. Hawwari* - *F. Duthie* - *C. Rohland* - *L. S. Ribeiro* - *L.-M. Jenster* - *N. Rosero* - *Y. Mehari Tesfamariam* - *F. Q. Cunha* - *F. I. Schmidt* - *B. S. Franklin*
- LB-34** MITOCHONDRIA-TARGETED SULFIDE DELIVERY MOLECULES – NEW AND NOVEL PLAYERS THAT CAN SUPPRESS AND REVERSE CIGARETTE SMOKE-INDUCED INFLAMMASOME ACTIVITY / *N. Hansbro* - *D. Pacitti* - *A. Brown* - *R. Torregrossa* - *L. Balachandran* - *V. Kumar* - *T. J. Haw* - *C. Scotton* - *M. Whiteman* - *P. Hansbro\** (AU)
- LB-55** ENGINEERED HUMAN IL-2/IL-2RB ORTHOGONAL PAIRS SELECTIVELY ENHANCE ANTI-GPC3 CAR T CELLS TO DRIVE COMPLETE RESPONSES IN SOLID EPITHELIAL TUMOR MODELS / *P.-J. Aspuria\** (US) - *M. Semana* - *M. Ramadass* - *N. Ratti* - *S. Vivona* - *R. Riener* - *M. Bauer* - *M. Ali* - *D. Rokkam* - *R. A. Kastelein* - *P. J. Lupardus* - *M. Oft*

## 12 Other

- P312** EFFICACY ASSESSMENT NATURALLY OCCURRING BIOACTIVE MOLECULES AGAINST COVID-19(SARS-COV-2) USING MOLECULAR DOCKING / *S. Gupta\** (IN)
- P313** GUT MICROBIOTA REGULATES THE ANTITUMOR IMMUNE RESPONSES AGAINST GLIOBLASTOMA MULTIFORME / *H. C. Kim\** (KR) - *H. K. Lee*
- P314** NITROOLEIC ACID INHIBITS MACROPHAGE ACTIVATION INDUCED BY LIPOPOLYSACCHARIDE FROM PREVOTELLA INTERMEDIA / *S.-J. Kim\** (KR) - *E.-Y. Choi* - *J. E. Lee* - *A. R. Lee* - *I. S. Choi*



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- P315** BLOOD MONOCYTE-DERIVED CD169+ MACROPHAGES CONTRIBUTE TO THE ANTITUMOR IMMUNITY AGAINST GLIOBLASTOMA MULTIFORME / H.-J. Kim\* (KR) - J. H. Park - H. C. Kim - C. W. Kim - J. E. Oh - H. K. Lee
- P316** LANDSCAPE ANALYSIS OF SINGLE-CELL RNA SEQUENCING IN FcγRIIB DEFICIENCY AGAINST BRAIN CANCER / K. B. Ku\* (KR) - C. W. Kim - H. K. Lee
- P318** STAT3 AS AN ENABLER OF PANCREATIC CANCER / N. C. Reich\* (US) - S. D'Amico - V. Kirillov - J. Li - O. Petrenko
- P319** THE STAGE-SPECIFIC ROLE OF THE GLYCAN RECOGNITION MOLECULE GALECTIN-4 IN GASTRIC ADENOCARCINOMA / Y. Tian\* (JP) - M. J. Desamero - J. K. Chambers - K. Uchida - J. Nio-Kobayashi - J. Nakayama - S. Ogawa - Y. Iwakura - H. Nakayama - S. Kyuwa - S. Kakuta
- P320** ORAL ADMINISTRATION OF TRANSGENIC HUIFN-CONTAINING TOMATOES ALTERS THE CYTOKINE PROFILE AND ENSURES THE SURVIVAL OF VSV-INFECTED BALB/C MICE / O. Yaroshko\* (UA) - O. Ovcharenko - N. Zholobak - M. Guzyk - Y. Zozulia - V. Rudas - M. Kuchuk
- LB-35** IL-5RA+ PLASMA CELLS IN ASPIRIN-EXACERBATED RESPIRATORY DISEASE SHOW INCREASED CELLULAR PROLIFERATION / A. Sohail\* (US) - J. Hacker - T. Ryan - A. McGill - T. Laidlaw - K. Buchheit
- LB-36** THE ROLE OF PROTEIN KINASE R IN THE DEVELOPMENT OF INTESTINAL INFLAMMATION AND CANCER / A. Pandey\* (AU) - C. Shen - C. Ngo - S. M. Man
- LB-37** CANCER CELL-DERIVED TYPE I INTERFERONS INSTRUCT TUMOR MONOCYTE FUNCTIONAL POLARIZATION / D. Kwart\* (US) - J. He - S. Srivatsan - C. Lett - J. Golubov - E. Oswald - P. Poon - X. Ye - J. Waite - A. Glatman Zaretsky - S. Haxhinasto - E. Au-Yeung - N. Gupta - J. Chiu - C. Adler - S. Cherravuru - E. Malahias - N. Negron - K. Lanza - A. Coppola - M. Ni - H. Song - Y. Wei - G. Atwal - L. Macdonald - N. Stokes Oristian - W. Poueymiroou - V. Jankovic - M. Fury - I. Lowy - A. Murphy - M. Sleeman - B. Wang - D. Skokos
- LB-38** POSTOPERATIVE STIFFNESS IS ASSOCIATED WITH A DISTINCT PERIOPERATIVE INFLAMMATORY CYTOKINE RESPONSE TO TOTAL KNEE ARTHROPLASTY / M. A. Kirksey\* (US) - S. G. Lessard - D. Oliver - A. Sideris - P. K. Sculco - M. Otero
- LB-39** CYTOKINE PROFILES IN PATIENTS WITH LIVER DISEASES: EFFECTS OF DISEASE STAGE AND THE PNPLA3I148M VARIANT ALLELE ON CIRCULATING CYTOKINES IN NAFLD AND HCC PATIENTS / M. Kirchmeyer\* (LU) - F. A. Servais - A. GAIGNEAUX - M. Casper - A. Arslanow - M. Krawczyk - F. Lammert - I. Behrmann
- LB-40** ROLE OF T FOLLICULAR HELPER CELLS IN ANTI-TUMOR IMMUNITY / R. Nurieva\* (US) - Y. He - Z. Liu - N. Turner - A. Alekseev - S. T. Kim - R. Sudan - A. Antonova - B. Luccia - T. Ohara - J. L. Facchi - G. Grajales-Reyes - N. Jaeger - S. Gilfillan - M. Cella - M. Colonna

## ILC4 Poster Session 2

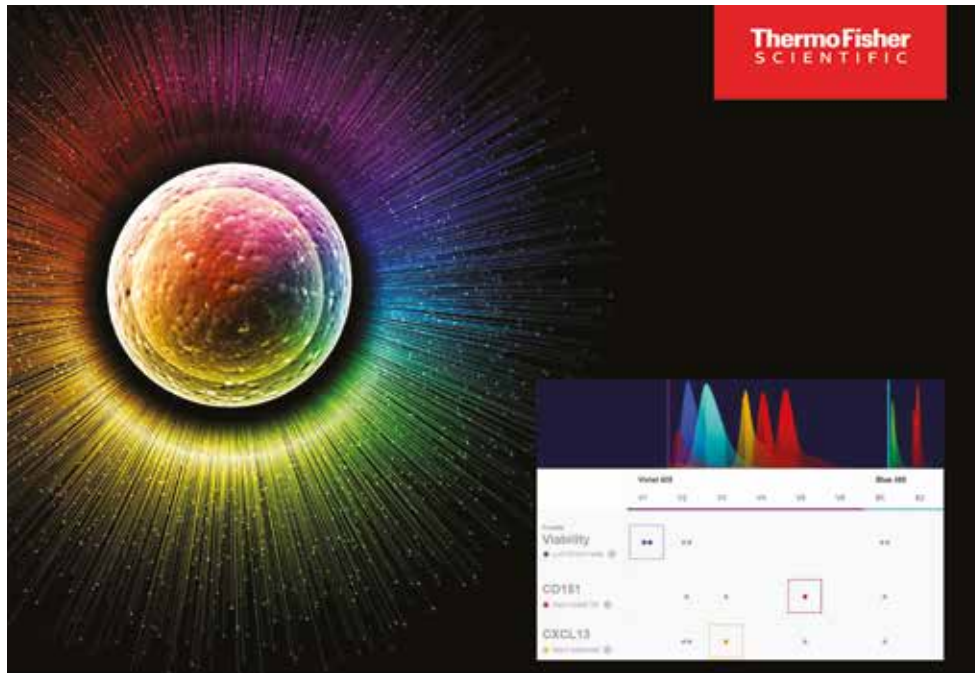
### 05 ILC3s

- P321 HIGH-FAT DIET CAUSES RAPID LOSS OF INTESTINAL GROUP 3 INNATE LYMPHOID CELLS THROUGH MICROBIOTA-DRIVEN INFLAMMATION** / *S. Boulenouar\** (US) - *E. Torrico* - *P. Kaptein* - *V. Mitsialis* - *E. Dimya-Htite* - *C. Gauthier* - *N. Djekidel* - *H. Maghzi* - *A. Tavakkoli* - *R. Rezende* - *L. Cox* - *K. Chantal* - *A. Schnell* - *L. Bod* - *R. El fatimy* - *S. Snapper* - *H. L. Weiner*
- P322 THE ROLE OF ARYL HYDROCARBON RECEPTOR IN CRYPTOPATCH 7 ISOLATED LYMPHOID FOLLICLE FORMATION** / *S. Gnafakis\** (DE) - *A. Diefenbach* - *M. Kofoed Branzk*
- P323 RIPK3- AND CASPASE 8-DEPENDENT SIGNALS CONTROL PROTECTIVE ILC3 RESPONSES IN THE GUT** / *A. Joseph\** (US) - *A. Ahmed* - *J. B. Grigg* - *B. Fiedler* - *G. F. Sonnenberg*
- P324 PREDOMINANCE OF GROUP 3 INNATE LYMPHOID CELLS IN PREDNISONE-DEPENDENT SEVERE ASTHMATICS WITH NEUTROPHILIC INFLAMMATION: EVIDENCE OF LOCAL AIRWAY INNATE LYMPHOID CELL PLASTICITY** / *X. Ju\** (CA) - *A. Bhalla* - *K. Radford* - *M. Mukherjee* - *P. Nair* - *R. Sehmi*
- P325 BI-DIRECTIONAL SIGNALLING BETWEEN THE INTESTINAL EPITHELIUM AND ILC3 REGULATES IMMUNE AND EPITHELIUM CELLS' PHENOTYPE AND FUNCTION** / *E. Read* - *G. M. Jowett* - *I. Coales* - *M. W. H. Chung* - *D. Coman* - *S. Syntaka* - *L. B. Roberts* - *U. Niazi* - *M. A. Curits* - *J. F. Neves\** (UK)
- LB-46 MICROBIOTA-DERIVED BUTYRATE REINFORCES INTESTINAL HOST DEFENSES AFTER HYPERBARIC OXYGENATION** / *J. L. Fachi\** (US) - *L. P. Pral* - *H. C. Assis* - *S. Oliveira* - *S. Giorgio* - *M. A. R. Vinolo* - *M. Colonna*
- LB-47 NOTCH SIGNALING IN ILC3 DEVELOPMENT AND FUNCTION** / *M. Edwards\** (US) - *L. Araujo* - *I. Ivanov*

### 06 Central and Peripheral Nervous System and ILCs

- P327 ILC2S LIMIT CORTICAL DAMAGE AND NEURONAL HYPEREXCITABILITY AFTER PHOTOTHROMBOTIC INJURY** / *N. M. Mroz\** (US) - *R. T. Han* - *N. A. Ewing-Crystal* - *L. C. Dorman* - *M. W. Dahlgren* - *I. D. Vainchtein* - *J. T. Paz* - *A. V. Molofsky* - *A. B. Molofsky*
- P328 ACTIVATION OF CD81+ SKIN ILC2S BY A COLD-SENSING TRPM8 - IL-18 AXIS REGULATES SKIN BARRIER THERMAL HOMEOSTATIC REGULATION** / *M. Xu\** (US) - *M. Xu* - *C. Li* - *J. Yang* - *A. Ye* - *L. Yan* - *B. San Yeoh* - *L. Shi* - *Y. S. Kim* - *J. Kang* - *M. Vijay-Kumar* - *N. Xiong*





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## 07 ILCs and Metabolism

- P329** REGULATING OBESITY VIA PD-1 EXPRESSING TYPE 2 INNATE LYMPHOID CELL IN ADIPOSE TISSUE / *J. Ham\* (KR) - H. Y. Kim*
- P330** INNATE LYMPHOID CELLS TYPE 2 AND CD8+ T CELLS ARE PERTURBED IN OVERWEIGHT/OBESE INDIVIDUALS WITH ASTHMA / *S. Björkander - P. Maier - M. Kere - S. Kedede Merid - W. Weigel - E. Melén - J. Mjösberg - C. Tibbitt\* (SE)*
- LB-48** SINGLE-CELL SEQUENCING OF HUMAN WHITE ADIPOSE TISSUE IDENTIFIES MATURE AND SHARED PRECURSOR ILC SUBSETS ENRICHED IN OBESITY / *A. D. Hildreth\* (US) - F. Ma - Y. Y. Wong - R. Sun - M. Pellegrini - T. O'Sullivan*

## 08 ILCs and Cancer

- P331** ALTERED ILC DEVELOPMENTAL PATHWAYS IN MYELODYSPLASTIC SYNDROME PATIENTS / *M. Calvi\* (IT) - C. Di Vito - A. Frigo - A. Russo - M. G. Della Porta - D. Mavilio*
- P332** INVESTIGATING INNATE LYMPHOID CELLS IN OVARIAN CARCINOMA / *D. Chung\* (CA) - K. Warner - A. Sayad - M. Ghaedi - S. Han - C. Garcia-Batres - S. Ferguson - P. Ohashi*
- P333** PPAR $\gamma$  DRIVES IL-33-DEPENDENT ILC2 PRO-TUMORAL FUNCTIONS / *G. Ercolano\* (IT) - A. Gomez Cadena - G. Vanoni - A. Ianaro - P.-C. Ho - M. Kopf - P. Romero - S. Trabanelli - C. Jandus*
- P334** NOVEL NEURO-IMMUNE REGULATOR AXIS IN BLADDER TYPE 2 INNATE LYMPHOID CELLS / *M. Falquet\* (CH) - H. El Ahanidi - A. Gomez Cadena - T. Wyss - D. Benamran - P. Tsantoulis - J.-C. Tille - M. Attaleb - K. Michaud - G. Ercolano - S. Trabanelli - C. Jandus*
- P336** GITR-INDUCED EPIGENETIC REMODELING OF IL9 LOCUS IN GROUP 2 INNATE LYMPHOID CELLS EXERT ANTI-TUMOR EFFECTS / *Y. G. Ko\* (KR) - H. Y. Kim*
- P337** INTRATUMORAL INNATE AND ADAPTATIVE LYMPHOCYTES IN METASTATIC COLORECTAL CANCER WITH PERITONEAL CARCINOMATOSIS TREATED WITH HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY (HIPEC) / *A. Marchalot\* (SE) - M. Ljunggren - I. Meningen - W. Weigel - C. Stamper - C. Tibbitt - R. V. Pandey - M. Ahlberg - U. Lindfors - G. Jansson-Palmer - C. Nordenvall - J. Mjösberg and Jenny Mjösberg's group*
- P338** THE PULMONARY ENDOTHELIUM ARMS NATURAL KILLER CELLS FOR ANTI-METASTATIC RESPONSES / *M. Vermeer\* (CH) - A. Fonseca da Silva - C. Sparano - T. Wertheimer - C. Mussak - D. Solís-Sayago - G. Litscher - M. Mayoux - B. Becher - L. Dieterich - S. Tugues*
- LB-49** A NOVEL GENE SIGNATURE IN ILC1-LIKE TISSUE-RESIDENT NK CELLS PREDICTS SURVIVAL IN PATIENTS WITH LUNG ADENOCARCINOMA / *M. Franklin\* (UK) - I.-H. Lin - E. Connolly - S. Knight - T. Hussell*

**LB-50** HSP70 AND BC12 EXPRESSION AS DIAGNOSTIC AND PROGNOSTIC TOOL IN ORAL PRECANCER AND CANCEROUS LESIONS / *S. Chandra\** (IN)

## 09 ILCs and Inflammatory Diseases

**P339** DISTINCT SUBSETS OF INNATE LYMPHOID CELLS IN NASAL POLYP / *W. Choi\** (KR) - *J. H. Kim*

**P340** INNATE LYMPHOID CELLS ARE ACTIVATED AND THEIR LEVELS CORRELATE WITH VIRAL LOAD IN PATIENTS WITH PUUMALA HANTAVIRUS CAUSED HEMORRHAGIC FEVER WITH RENAL SYNDROME / *M. Garcia\** (SE) - *A. Carrasco Garcia* - *J. Tauriainen* - *K. Maleki* - *A. Vaheri* - *S. Mäkelä* - *J. Mustonen* - *A. Smed-Sörensen* - *T. Strandin* - *J. Mjösberg* - *J. Klingström*

**P341** ILC3S IN HIV INFECTED LYMPH NODES UPREGULATE INFLAMMATORY PATHWAYS LINKED TO TISSUE FIBROSIS / *N. G. Herbert\** (ZA) - *O. E. Asowata* - *Y. Zungu* - *C. Kummerlowe* - *A. Singh* - *A. Ngoepe* - *N. Mthabela* - *D. Ramjit* - *F. Karim* - *F. G. Madela* - *V. G. Manzini* - *F. Anderson* - *A. K. Shalek* - *A. Leslie* - *H. Klooverpris*

**P342** THE ESOPHAGEAL ILC2S-EPITHELIAL STEM CELLS AXIS EXACERBATES EOSINOPHILIC ESOPHAGITIS FROM THE IL-33 MEDITATED INFLAMMATION / *M. Lim\** (KR) - *H. Kim*

**P343** INNATE LYMPHOID CELL (ILC1-ILC3) AXIS IS DYSREGULATED IN POST-MENOPAUSAL OSTEOPOROTIC MICE MODEL / *R. K. Srivastava\** (IN) - *A. Bhardwaj* - *L. Sapra*

**LB-51** RORA CONTROLS INNATE LYMPHOID CELL RESPONSES IN MUCOSAL INFLAMMATORY DISEASES / *A. Kabil\** (CA) - *K. McNagny* and *McNagny Research group*

**LB-52** IL-23-DEPENDENT TYPE 3 INNATE LYMPHOID CELLS (ILC3) LINK CRYSTAL-INDUCED INTRARENAL INFLAMMASOME ACTIVATION WITH KIDNEY FIBROSIS / *I. Ludwig-Portugall\** (DE) - *T. M. Frasca* - *P. Boor* - *J.-E. Turner* - *A. Pascual-Reguant* - *C. Kurts*

## 10 Human ILCs

**P344** PHENOTYPIC, FUNCTIONAL, AND TRANSCRIPTIONAL CHARACTERIZATION OF HUMAN CORD BLOOD ILC1 INDICATE CLOSE DEVELOPMENTAL RELATIONSHIPS WITH T CELLS / *S. B. Bennstein\** (DE) - *S. Weinhold* - *N. Scherenschlich* - *K. Raba* - *G. Kögler* - *L. Walter* - *M. Uhrberg*

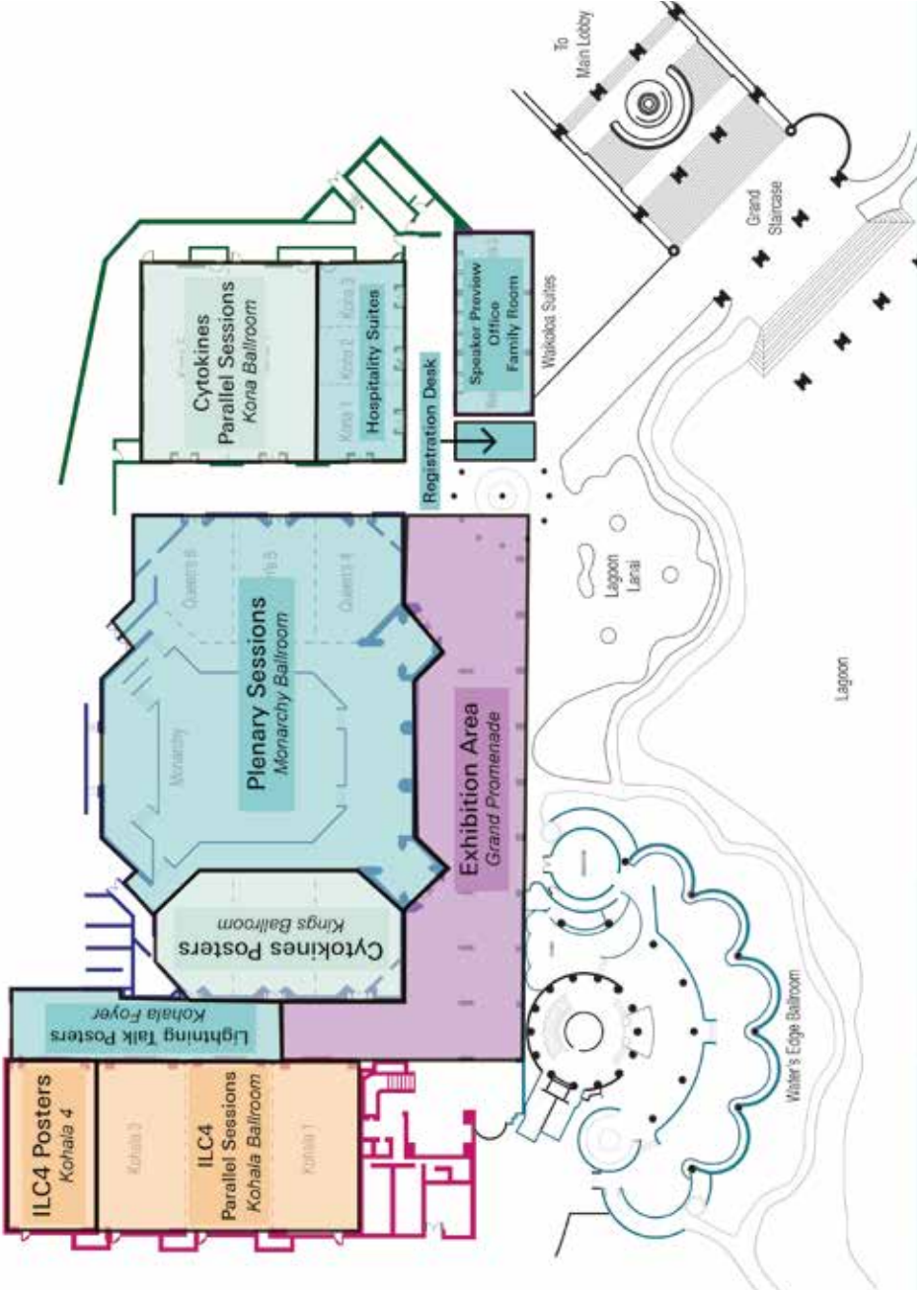
**P345** CD45RA+CD62L- ILCs IN HUMAN TISSUES REPRESENT A QUIESCENT LOCAL RESERVOIR FOR THE GENERATION OF DIFFERENTIATED ILCs / *E. Kokkinou\** (SE) - *R. V. Pandey* - *L. Mazzurana* - *I. Gutierrez-Perez* - *C. A. Tibbitt* - *W. Weigel* - *T. Soini* - *A. Carrasco* - *A. Rao* - *M. Nagasawa* - *S. Bal* - *M. Jangard* - *D. Friberg* - *U. Lindfors* - *C. Nordenvall* - *M. Ljunggren* - *S. Haapaniemi* - *Å. Keita* - *J. Söderholm* - *C. Hedin* - *H. Spits* - *Y. T. Bryceson* - *J. Mjösberg*

- P346** **CONFRONTING THE KILLERS: MAPPING NATURAL KILLER CELLS IN HEALTHY HUMAN KIDNEY AND ALLOGRAFT REJECTION AT SINGLE-CELL RESOLUTION** / J. M. Murphy\* (CA) - C. McEvoy - J. A. Mathews - J. An - S. Su - S. A. MacParland - G. Bader - A. Konvalinka - S. Q. Crome
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