



TOLL 2018
Editing Innate Immunity

June 6 - 9, 2018
Porto, Portugal



TOLL 2018 - Translating Innate Immunity

WEDNESDAY 6/6/2018

13:00 – 13:15
Room Archive Hall

Opening

Douglas Golenbock and Philipp Henneke

13:15 – 15:15
Room Archive Hall

Immunity to bacteria I

Chairs: Margarida Saraiva and Philipp Henneke

Greg Barton (USA)

New mechanisms controlling self vs. non-self discrimination by TLRs

Neal Silverman (USA)

Functional amyloids in innate immune signal transduction

Selected: Trude Flo (Norway)

Single-cell dynamics of pyroptosis in *M. tuberculosis* infected macrophages

Dana Philpott (Canada)

The role of NOD-like receptors in intestinal homeostasis

Arturo Zychlinsky (Germany)

Mechanisms of net formation

15:15 – 15:45

Coffee break



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June 6 - 9, 2018
Porto, Portugal



15:45 – 17:45
Room Archive Hall

Cellular transformation and innate immunity

Chairs: Kate Fitzgerald and Paul Hertzog

Andrea Ablasser (Switzerland)

Small molecule-mediated targeting of STING

Stefanie Vogel (USA)

How influenza “retrains” the host for increased susceptibility to secondary bacterial infection

Selected: Colin Adrain (Portugal)

Identification and physiological characterization of a novel protein essential for TNF release in humans and mice

Judy Lieberman (USA)

The search for gasdermin inhibitors

Douglas Golenbock (USA)

The development of innate immune training in falciparum malaria

17:45 – 18:15

Coffee break

18:15– 19:00
Room Archive Hall

Key note lecture

Chair: Eicke Latz

Emmanuelle Charpentier (Germany)

CRISPR-Cas9: A bacterial immune system harnessed as a revolutionary genetic engineering technology



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19:00 – 21.30

Networking Event I: Science and Portuguese Specialities

THURSDAY 6/7/2018

9:00 – 11:00

Room Archive Hall

Immunity to parasites & intracellular bacteria I

Chairs: Egil Lien and Clare Bryant

Bruno Lemaitre (Switzerland)

Drosophila antimicrobial peptides: popular so far, but what are they really doing?

P'ng Loke (USA)

Alternatively activated M2 macrophages during helminth infections

Selected: **André Barateiro** (Brazil)

AIM2 and NLRP3 inflammasomes induce poor pregnancy outcomes through IL1 axis activation during placental malaria

Terje Espevik (Norway)

Phagocytic signalling for antibacterial defence

Ricardo Gazzinelli (Brazil)

The circadian cycle in malaria



TOLL 2018
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11:00 – 11:25

Coffee break

11:25 – 13:25
Room Archive Hall

Immunity to viruses

Chairs: Shizuo Akira and Stefanie Vogel

Lynda Stuart

Transposon mutagenesis screens for host resistance

Sara Cherry (USA)

Harnessing functional genomics to explore the interface
between viruses and hosts

Selected: Lorena Zuliani-Alvarez (UK)

cGAS is activated by HIV-2, but not HIV-1, in primary
human macrophages

Katherine Fitzgerald (USA)

Regulation of inflammatory responses

Paul Hertzog (Australia)

Interferon epsilon regulates protective immunity in mucosal
infection and tumourigenesis

13:35-14:35
Exhibition Area

Poster and Lunch



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13:35 – 14:35
Room Archive Hall

Innate immune modifiers from bench to bedside

Sponsored by the Pillar Group (Lunch will be available)

Chair: Sudhir Agrawal

Cara Haymaker, MDACC

TLR9 agonist harnesses innate immunity to drive tumorinfiltrating T-cell expansion in distant lesions in a phase 1/2 study of intratumoral IMO-2125 + ipilimumab in anti-PD1 refractory melanoma patients

Alexander Poltorak, Tufts

Sting modulators

14:45 – 16:45
Room Archive Hall

Immunity to bacteria II

Chairs: Andrea Ablasser and Terje Espevik

Lalita Ramakrishnan (UK)

A TNF-mediated mitochondrial-lysosomal-ER circuit mediates pathogenic macrophage necrosis in tuberculosis.

Yasmine Belkaid (USA)

Non classical immunity to the microbiota

Selected: **Alanna Cameron (Germany)**

NAD salvage and DNA damage in inflammatory macrophages



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Philipp Henneke (Germany)

The daily grind of skin macrophages

Steven Holland (USA)

Rac2, Brute?

16:45 – 17:10

Coffee break

17:10 – 19:10
Room Archive Hall

Immunity to parasites & intracellular bacteria II

Chairs: Steven Holland and Maria Mota

Shankar Ghosh (USA)

Targeting of chromatin-remodeling factors by micro RNAs
regulate innate immune memory in sepsis

Dominique Ferrandon (France)

The yin and the yang of host defense: resilience to infections
and environment mediated by the cytoplasmic or lipidic purges
of enterocytes

Selected: Hiromitsu Hara (Japan)

A novel receptor recognizing mycobacterium cell wall
lipids that regulates mincle-induced inflammation

Clare Bryant (UK)

Pattern recognition receptor recognition of bacterial pathogens

Sergio Grinstein (Canada)

Molecular mechanisms of phagocytosis



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FRIDAY 6/8/2018

9:00 – 11:00
Room Archive Hall

Selected abstracts
Parallel Session I

Chairs: Eicke Latz and Greg Barton

Manfred Kopf (Switzerland)

The mechanism of NRF2-mediated inflammasome activation

Read Pukkila-Worley (USA)

A conserved nuclear hormone receptor functions in small molecule surveillance to drive a protective immune response in *c. elegans*

Dario Zamboni (Brazil)

The leishmania lipophosphoglycan triggers caspase-11 and the non-canonical activation of the NLRP3 inflammasome

Dan Weng (China)

RIP1 contributes to ER stress-induced inflammasome activation

Jack Green (UK)

Chloride channel activity is necessary for activation of the NLRP3 inflammasome



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Paula Saz-Leal (Spain)

Boosting trained immunity by targeting SHIP-1 in myeloid cells

Susan Carpenter (USA)

Genetic models reveal cis and trans immune-regulatory activities for lincRNA-Cox2

9:00 – 11:00
Room Infante Hall

Selected abstracts
Parallel Session II

Chairs: Ann Rothstein and Miguel Soares

Samuel Keating (Netherlands)

Lysine methylation sets the scene for innate immune memory

Alberto Yanez (USA)

Granulocyte-monocyte progenitors and monocyte-dendritic cell progenitors independently produce functionally distinct monocytes

Iain Fraser (USA)

A genome-wide screen identifies a critical role for mitochondrial NDP kinases in inflammasome activation

Leonie Unterholzner (UK)

cGAS-dependent and cGAS-independent modes of STING activation result in different signalling outcomes in human cells

Mojca Benčina (Slovenia)

Short DNA degradation products augment activation of toll-like receptor 9 with mammalian genomic DNA



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Nicolas Manel (France)

Implication of nuclear cGAS in the recognition of HIV
and self-DNA in the nucleus

Manuele Rebsamen (Austria)

Systematic mapping of necroptosis genes identifies
SLC39A7 as modulator of immune receptor trafficking

11:00 – 11:20

Coffee break

11:20 – 13:00

Gene and signaling regulation

Room Archive Hall

Chairs: Veit Hornung and Virginia Pascual

Hao Wu (USA)

Structures and functions of gasdermins in pyroptosis and IL-1
release

Caetano Reis e Sousa (UK)

Understanding the dendritic cell network in innate and adaptive
immunity

Steve Smale (USA)

Molecular mechanisms regulating stimulus-specific
transcriptional cascades

Chris Glass (USA)

Decoding gene by environment interactions that regulate
macrophage phenotypes

13:00 – 17:30

Exploring Porto (Individual/ organized)



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17:30 – 19:10

Room Archive Hall

Monocytes, macrophages and beyond I

Sponsored by the Portuguese Society of Immunology

Chairs: Dana Philpott and Nuno Alves

Miguel Soares (Portugal)

Metabolic regulation of disease tolerance to infection

Luis Teixeira (Portugal)

Growth regulation of the antiviral symbiont wolbachia

Ricardo Silvestre (Portugal)

Immunometabolic networks regulating host-pathogen interactions

Miriam Merad (USA)

Myeloid cells control of tumor immunity

19:10 – 19:40

Wine and olives/ bread

19:40 – 21:20

Room Archive Hall

Monocytes, macrophages and beyond II

Sponsored by the Portuguese Society of Immunology

Chairs: Luke O'Neill and Luis Graça

Maria Mota (Portugal)

Plasmodium ability to control host autophagy



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Alexandre Carmo (Portugal)

The role of SRCR proteins in infection and inflammation

Marc Veldohen (Portugal)

Maintaining intestinal epithelial T cells

Vishva Dixit (USA)

Death of innate immune cells drives inflammation

21:15 – 22:45

Networking Event II

Posters and Petiscos

SATURDAY 6/9/2018

9:00 – 11:00

Metabolism and immune regulation

Room Archive Hall

Chairs: Neal Silverman and Judy Lieberman

Jonathan Kagan (USA)

Regulation of innate immunity

Ken Rock (USA)

Identification and characterization of a novel damp receptor

Selected: Musa Mhlanga (South Africa)

Trained immune genes are regulated by LncRNAs in discrete nuclear compartments



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Egil Lien (USA)

Bacterial secretion systems target pathways controlling
GSDMD cleavage

Luke O'Neill (Ireland)

Krebs cycle reprogrammed for cytokines

11:00 – 11:25

Coffee break

11:25 – 13:05

Autoimmunity and interferons

Room Archive Hall

Chairs: Ken Rock and Yasmine Belkaid

Virginia Pascual (USA)

Tba

Veit Hornung (Germany)

Inflammasome signaling in the human system

Ann Marshak-Rothstein (USA)

TLR9 Regulation of Systemic Autoimmunity

James Chen (USA)

Innate Immune Sensing of DNA through cGAS

13:10-14:10

Poster and Lunch

Exhibition Area



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13:10– 14:10

Meet the Editors

Room Archive Hall

(Lunch will be available)

Chairs: Kate Fitzgerald and Gaia Trincucci

Which papers are we looking for? How do we wish to communicate with the authors? Which misperceptions by authors are common? What do we expect from revisions?

A round table discussion with **Ursula Weiss** (Nature), **Peter Lee** (Immunity), **Sri Devi Narasimhan** (Cell), **Alejo Chorny** (J. Experimental Medicine), **Ioana Visan** (Nature Immunology), **Sara Hamilton** (Cell Reports)

14:20– 16:20

Inflammation in specific niches

Room Archive Hall

Chairs: Sara Cherry and Riccardo Gazzinelli

Gabriel Núñez (USA)

NOD2, the microbiota and intestinal inflammation

Eicke Latz (Germany)

Posttranslational regulation of NLRP3 inflammasome activation

Selected: Kate Schroder (Australia)

A new model for inflammasome function and signal termination via an intrinsic proteolytic timer

Michael Heneka

NLRP3 knockout protects from tau pathology in TAU22 mice



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Shizuo Akira (Japan)

Towards understanding the mechanism of fibrosis

16:20 – 16:50

Coffee break

16:50 – 18:50

Mucosal Immunity

Room Archive Hall

Chairs: Lalita Ramakrishnan and Douglas Golenbock

Eran Elinav (Israel)

Host microbiome interactions in health and disease

Richard Flavell (USA)

New guardians of mucosal immunity

Marco Colonna (USA)

Innate immunity in neurodegeneration

David Artis (USA)

Immune regulation at barrier surfaces