

# KEYSTONE SYMPOSIA

on Molecular and Cellular Biology

## DAMPs Across the Tree of Life Inducing Innate Immunity (EK38)

May 24-26, 2021 • Virtual at your computer

Scientific Organizers: Seung-Yong Seong, Zhijian Chen, Walter G. Land and Polly Matzinger

Supported by the Directors' Fund

### MONDAY, MAY 24

#### Welcoming Remarks and Keynote Address (6am Denver/Mountain Time Start)

\***Seung-Yong Seong**, Seoul National University, South Korea  
*Session Chair*

**Polly Matzinger**, NIAID, National Institutes of Health, USA  
*The Evolution of the Danger Model in Immunology*

#### DAMPs and Inflammation (6:40am Denver/Mountain Time Start)

\***Seung-Yong Seong**, Seoul National University, South Korea  
*Session Chair*

\***Douglas R. Green**, St. Jude Children's Research Hospital, USA  
*Regulated Necroptosis in Inflammation*

**Qiankun Wang**, Washington University in St. Louis, USA  
*Short Talk: CARD8 is an Inflammasome Sensor for HIV-1 Protease Activity*

**Shiyu Xia**, Harvard Medical School, USA  
*Short Talk: S1, F2: Models of Gasdermin D Pore Formation and Interleukin-1 Release*

#### DAMPs and Inflammasome (7:55am Denver/Mountain Time Start)

\***Douglas R. Green**, St. Jude Children's Research Hospital, USA  
*Session Chair*

**Hao Wu**, Harvard Medical School, Boston Children's Hospital, USA  
*Structural Studies of TLR and Inflammasome Signaling*

**Eicke Latz**, University of Bonn, Germany  
*Inflammasome Activation Mechanisms*

\***Seung-Yong Seong**, Seoul National University, South Korea  
*GPCR19, a Gate Keeper for Inflammasomal Activation by DAMPs*

**Alejandro Rodriguez Gama**, Stowers Institute for Medical Research, USA  
*Short Talk: Signalosome Nucleation Enables Binary Innate Immune Proinflammatory Responses*

#### DAMPs and TLRs (9:25am Denver/Mountain Time Start)

\***Seung-Yong Seong**, Seoul National University, South Korea  
*Session Chair*

\***Douglas R. Green**, St. Jude Children's Research Hospital, USA  
*Session Chair*

**Jonathan C. Kagan**, Boston Children's Hospital, USA  
*Cell Biology of TLRs*

#### Career Roundtable (11am Denver/Mountain Time Start)

**Hao Wu**, Harvard Medical School, Boston Children's Hospital, USA

**Felix Randow**, Medical Research Council, UK

**Andreas Linkermann**, Technical University Dresden, Germany

#### Poster Session (12:30pm Denver/Mountain Time Start)

### TUESDAY, MAY 25

#### DAMPs and Pandemic (6am Denver/Mountain Time Start)

\***Polly Matzinger**, NIAID, National Institutes of Health, USA  
*Session Chair*

**Katalin Karikó**, BioNTech RNA Pharmaceuticals, Germany  
*Immune Activation by RNA*

\***Zhijian James Chen**, University of Texas Southwestern Medical Center, USA

*Session Chair*

**Sara R. Cherry**, University of Pennsylvania, USA  
*STING Activation Blocks SARS-CoV-2 Infection*

**Kate Schroder**, University of Queensland, Australia  
*Microbe Sensing by Inflammasome*

#### RNA Sensing through RIG-I (7:15am Denver/Mountain Time Start)

\***Polly Matzinger**, NIAID, National Institutes of Health, USA  
*Session Chair*

\***Zhijian James Chen**, University of Texas Southwestern Medical Center, USA  
*Session Chair*

**Sun Hur**, Harvard Medical School, USA  
*Molecular Mechanisms of RLRs*

**Jae U. Jung**, Cleveland Clinic Lerner College of Medicine, USA  
*OASL Phase Condensation Promotes Virus-Induced Necroptosis*

**Leonie Unterholzner**, Lancaster University, UK  
*Short Talk: Replication Stress as DAMP for cGAS-Independent STING Activation*

#### DNA Sensing through cGAS and AIM2 (8:30am Denver/Mountain Time Start)

\***Polly Matzinger**, NIAID, National Institutes of Health, USA  
*Session Chair*

**Ulrich Theopold**, Stockholm University, Sweden  
*Anti-Fibrotic Activity of an Antimicrobial Peptide in a Drosophila Model*

\***Zhijian James Chen**, University of Texas Southwestern Medical Center, USA

*Cytosolic DNA Sensing through cGAS*

**Andrea Ablasser**, Ecole Polytechnique Fédérale de Lausanne, Switzerland

*Regulation of the cGAS-STING Pathway*

**Caetano Reis e Sousa**, Francis Crick Institute, UK  
*Cytoskeletal Exposure as a Sign of Cell Damage*

**Laurent Boyer**, Inserm, Université Côte d'Azur, France  
*Short Talk: From NLRP3 Sensing of RhoGTPase-Activating Toxins during Bacteremia to the Analysis of the NLRP3 Inflammasome Signature during COVID-19*

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### Meet the Editors (11:30am Denver/Mountain Time Start)

**Georgina Harris**, Frontiers, Switzerland

**Paula Jauregui Onieva**, PLOS, UK

### WEDNESDAY, MAY 26

#### DAMPs and Human Diseases (6am Denver/Mountain Time Start)

\***Christoph J. Binder**, Medical University of Vienna, Austria

*DAMPs in Atherosclerosis and Ageing - The Role of Oxidation-Specific Epitopes*

\***Michael T. Heneka**, University of Luxembourg, Luxembourg  
*Innate Immune Activation in Alzheimer's Disease*

**Andreas Linkermann**, Technical University Dresden, Germany  
*Targeting Necrosis and Necroinflammation for Transplantation*

**Betty Diamond**, Feinstein Institute for Medical Research, USA  
*HMGB1 and C1q: Two Evolutionarily Conserved Molecules Regulating Innate and Adaptive Immunity*

**Frank Wagener**, Radboud University Medical Center, Netherlands  
*Distal Protective Effects of Danger Signals*

**Andrew Niles**, Promega Corporation, USA  
*Short Talk: Improved DAMP Assays for Accelerating Immuno-Oncology Drug Discovery*

**Emilie Venereau**, San Raffaele Scientific Institute, Italy  
*Short Talk: Rebalancing Expression of HMGB1 Redox Isoforms to Counteract Muscular Dystrophy*

#### DAMPs Across the Tree of Life (8:45am Denver/Mountain Time Start)

\***Michael T. Heneka**, University of Luxembourg, Luxembourg  
*Session Chair*

**Giulia De Lorenzo**, University of Rome, Sapienza, Italy  
*Plant Cell Wall-Derived DAMPs in Immunity, Development and Tissue Repair*

\***Christoph J. Binder**, Medical University of Vienna, Austria  
*Session Chair*

**Dennis H. Kim**, Boston Children's Hospital, USA  
*Neuronal Responses of *C. elegans* to Infection and Damage*

**Felix Randow**, Medical Research Council, UK  
*How Cells Ubiquitylate Cytosol-Invasive Bacteria*

**Dana Crawford**, Albany Medical College, USA  
*Short Talk: Oxidized and Native Mitochondrial Polynucleotides as Inflammatory Mediators*

#### Closing Remarks (10:15am Denver/Mountain Time Start)

\***Polly Matzinger**, NIAID, National Institutes of Health, USA  
*Session Chair*

#### Networking Lounge (10:25am Denver/Mountain Time Start)