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  
**Polly Matzinger, NIAID, National Institutes of Health, USA

The Evolution of the Danger Model in Immunology

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

*Seung-Yong Seong, Seoul National University, South Korea  
**Douglas R. Green, St. Jude Children's Research Hospital, USA

Regulated Necroptosis in Inflammation

Liliana Schaefer, Goethe University, Germany

DNA Derived from the Extracellular Matrix Provide Control of Innate Immunity

Qiankun Wang, Washington University in St. Louis, USA

Short Talk: CARD8 is an Inflammasome Sensor for HIV-1 Protease Activity

DNA and Inflammationosome (7:30am Denver/Mountain Time Start)

*Douglas R. Green, St. Jude Children's Research Hospital, USA  
*Seung-Yong Seong, Seoul National University, South Korea

GPCR19, a Gate Keeper for Inflammasomal Activation by DAMPs

Hao Wu, University of Bonn, Germany

Inflammasome Activation Mechanisms

Alejandro Rodriguez Gama, Stowers Institute for Medical Research, USA

Short Talk: Nucleosome Nucleation Enables Binary Innate Immune Proinflammatory Responses

DNA and TLRs (8:45am Denver/Mountain Time Start)

*Seung-Yong Seong, Seoul National University, South Korea  
**Douglas R. Green, St. Jude Children's Research Hospital, USA

Julie Magarian Blander, Weill Cornell Medicine, Cornell University, USA

Sensing Microbial Viability

Jonathan C. Kagan, Boston Children’s Hospital, USA

Cell Biology of TLRs

Career Roundtable (11am Denver/Mountain Time Start)

TUESDAY, MAY 25
DAMPs and Pandemic (6am Denver/Mountain Time Start)

*Polly Matzinger, NIAID, National Institutes of Health, USA  
Katalin Karikó, BioNTech RNA Pharmaceuticals, Germany

Immune Activation by RNA

Zhijian ”James” Chen, University of Texas Southwestern Medical Center, USA

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

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 (8:05am Denver/Mountain Time Start)

*Polly Matzinger, NIAID, National Institutes of Health, USA  
*Zhijian ”James” Chen, University of Texas Southwestern Medical Center, USA

Betty Diamond, Feinstein Institute for Medical Research, USA

Cytosolic DNA Sensing through cGAS

Regulation of the cGAS-STING Pathway

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

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

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, German Center for Neurodegenerative Diseases, Germany

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

* Session Chair † Invited but not yet accepted  
For the most up-to-date details, visit https://www.keystonesymposia.org.
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 (8am Denver/Mountain Time Start)
*Michael T. Heneka, German Center for Neurodegenerative Diseases, Germany
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
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-Invading Bacteria
Ulrich Theopold, Stockholm University, Sweden
Anti-Fibrotic Activity of an Antimicrobial Peptide in a Drosophila Model
Dana Crawford, Albany Medical College, USA
Short Talk: Oxidized and Native Mitochondrial Polynucleotides as Inflammatory Mediators

Closing Remarks (9:50am Denver/Mountain Time Start)
*Polly Matzinger, NIAID, National Institutes of Health, USA