Inflammation and its resolution are critical to effective host defense and tissue homeostasis. There is a steady increase in the recognition that the effective resolution of inflammation is dynamically regulated through cellular responses to endogenously generated mediators. Ineffective resolution of inflammatory responses likely contributes to the pathogenesis of numerous prevalent conditions including atherosclerosis, arthritis and diabetes. Unresolved chronic inflammation may lead to fibrosis and eventual organ failure. Whereas anti-inflammatory therapeutic approaches are conventional, a growing consensus based on experimental data suggests that an alternative approach may be to mimic agonism of resolution. The aim of this meeting is to enhance our understanding of the molecular mechanisms which underpin the effective resolution of inflammation and how these may fail in aging and disease. Specifically, it seeks to: 1) Encourage dialog between those working in areas where the potential of mimicry of resolution of inflammation might play an under-appreciated role; 2) Consolidate data from diverse mediators that promote resolution; and 3) Contribute to the education and training of graduate students, fellows and faculty. These discussions will provide a multi-disciplinary community with insight into physiologic processes underpinning resolution, and potential mimicry of such processes for therapeutic gain in pathological conditions.

Session Topics:
- Fundamentals of Inflammation Biology – Cells, Mediators and Mechanisms in the Resolution of Inflammation I & II
- Workshop 1: Resolvomics: Potential and Pitfalls
- Diseases of Dysregulated Resolution and Repair
- Workshop 2: Experimental Models of Resolution
- Diabesity and the Resolution of Inflammation
- Regulation of Defense, Resolution and Repair
- Infection
- Resolution and Repair or Fibrosis?
- Workshop 3: Nano Technologies and Targeting Receptors to Resolve Inflammation
- Therapeutic Innovation in Resolution

Scholarship Application & Discounted Abstract Deadline: November 29, 2017
Abstract Deadline: December 21, 2017
Discounted Registration Deadline: January 18, 2018

Note: Scholarships are for graduate students and postdoctoral fellows and are awarded based on the abstract submitted. Submitting an abstract is an excellent opportunity to gain exposure for your work. Abstracts submitted by the abstract deadline will also be considered for short talks on the program. Travel Awards are for researchers in Asia.

Meeting Hashtag: #KSinflam
www.keystonesymposia.org/18C6
The Resolution of Inflammation in Health and Disease (C6)
March 24-28, 2018 • Royal Dublin Society • Dublin 4, Ireland
Scientific Organizers: Catherine Godson, Ira Tabas and Mauro Perretti
Organized in Collaboration with Science Foundation Ireland
Sponsored by Gilead Sciences, Inc.
This activity was supported by an educational grant from Celgene Corporation.

SATURDAY, MARCH 24
Arrival and Registration

SUNDAY, MARCH 25
Welcome and Keynote Address
*Catherine Godson, University College Dublin, Ireland
*Alberto Mantovani, Humanitas University, Italy
Charles N. Serhan, Brigham and Women’s Hospital, USA
Pro-Resolving Lipid Mediators & Mechanisms in the Resolution of Inflammation

Fundamentals of Inflammation Biology – Cells, Mediators and Mechanisms in the Resolution of Inflammation I
*Catherine Godson, University College Dublin, Ireland
*Alberto Mantovani, Humanitas University, Italy
Derek W. Gilroy, University College London, UK
Susceptibility to Infection or Autoimmunity – It All Depends on How Inflammation Resolves
Ioannis Kourtznelis, University of Dresden, Germany
Short Talk: The Endogenous Homeostatic Factor Del-1 Contributes to Resolution of Inflammation
Daniele Piomelli, University of California, Irvine, USA
NAAA-Regulated Lipid Amide Signaling as a Point of Control in Inflammation
Charles A. Parkos, University of Michigan, USA
Short Talk: Epithelial Expression of CD47 Plays a Crucial Role in Intestinal Mucosal Wound Healing
Sarah R. Walmsley, University of Edinburgh, Queen’s Medical Research Institute, UK
Differential Regulation of Leukocyte Function by the HIF/Hydroxylase Pathway

Poster Session 1
Workshop 1: Resolvomics: Potential and Pitfalls
*Derek W. Gilroy, University College London, UK
*Bruce D. Levy, Brigham and Women’s Hospital, USA
Amiram Ariel, University of Haifa, Israel
IfNbeta is a Novel Effector Cytokine in Resolving Inflammation
Fiona C. Mcgillicuddy, Conway Institute, University College Dublin, Ireland
Metabolic High Density Lipoprotein Particles in Human Obesity – A Novel Tool for the Measurement of Metabolic Inflammation?
Koen Schepers, Leiden University Medical Center, Netherlands
Mapping the Essential Roles of Amino Acid and Lipid Metabolism in Mesenchymal Stromal Cell-Mediated Immunomodulation
Daniel Irimia, Massachusetts General Hospital, USA
How to Cool a Chain-Reaction: LXA4 Controls Neutrophil Swarming
Astrid S. Kahnt, Goethe University, Germany
SPM Biosynthesis in Human Leukocytes – Who’s Involved?

Fundamentals of Inflammation Biology – Cells, Mediators and Mechanisms in the Resolution of Inflammation II
*Mauro Perretti, Queen Mary University of London, UK
*Lina Hsiu Kim Lim, National University of Singapore, Singapore
Alberto Mantovani, Humanitas University, Italy
Macrophage Plasticity and Tuning of In innate Immunity and Inflammation
Marc Peters-Golden, University of Michigan, USA
Vesicular SOCS as a Vector of Macrophage to Epithelial Cell Crosstalk at the Respiratory Surface
Douglas Brubaker, Massachusetts Institute of Technology, USA
Short Talk: Systems Biology Approaches To Precision Medicine in Inflammatory Bowel Disease
Carla V. Rothlin, Yale University, USA
TAM Receptor Signaling in Resolution of Inflammation

MONDAY, MARCH 26
Keynote Address
*Ira Tabas, Columbia University, USA
*Sarah R. Walmsley, University of Edinburgh, Queen’s Medical Research Institute, UK
Christopher K. Glass, University of California, San Diego, USA
Nature and Nurture of Tissue-Resident Macrophages

Diseases of Dysregulated Resolution and Repair
*Ira Tabas, Columbia University, USA
*Sarah R. Walmsley, University of Edinburgh, Queen’s Medical Research Institute, UK
Lina Hsiu Kim Lim, National University of Singapore, Singapore
Annexins in Breast Cancer: Regulation of Inflammation and Metastasis
Joan Claria, University of Barcelona, Spain
Short Talk: Specialized Pro-Resolving Mediators (SPM) and Resolution of Inflammation in Obese Adipose Tissue and Liver
Bruce Cronstein, New York University, USA
What Goes Around Comes Around. Adenosine, A Retaliatory Metabolite, Dampens Inflammation and Promotes Wound Healing
Edward A. Fisher, New York University School of Medicine, USA
Short Talk: Inflammatory Monocytes Drive the Resolution of Atherosclerosis in a Plaque Regression Mouse Model by Becoming M2 Macrophages with Distinct Molecular Features
Gabrielle Fredman, Albany Medical Center, USA
Dysregulation of Resolution Pathways in Chronic Inflammatory Disease

Workshop 2: Experimental Models of Resolution
*Matthew Spite, Harvard Medical School and Brigham and Women’s Hospital, USA
*Gabrielle Fredman, Albany Medical Center, USA
Audrey Bernut, University of Sheffield, UK
**Balancing the Immune Response in Cystic Fibrosis: Using Zebrafish Models of Inflammation to Uncover New Therapeutic Approaches**

Steven Bozinovski, RMIT University, Australia
**Aspirin-Triggered Resolvin D1 Reduces Pneumococcal Lung Burden in a Viral and Bacterial Co-Infection Model**

Annie Curtis, Royal College of Surgeons-Ireland, Ireland
**Loss of the Molecular Clock in Myeloid Excess Exacerbates T Cell-Mediated CNS Autoimmune Disease**

Stephanie A. Legere, Dalhousie University, Canada
**Regulate Efferocytosis and Macrophage Reprogramming**

Viktoria Lyngstadaas, Harvard Medical School, USA
**The Pro-Resolving Mediator Annexin A1 Regulates MUC5AC Secretion in Cultured Goblet Cells, Suggesting a New Use in Inflammatory Conjunctival Diseases**

Lalita Ramakrishnan, University College Dublin, Ireland
**Lipoxins: Resolving Inflammation, Suppressing Diabetic Complications**

Diabetes and the Resolution of Inflammation

*Joan Clara*, University of Barcelona, Spain
**A Potential Role for Human Mast Cells in the Resolution of Cardiac Inflammation**

**Eoin P. Brennan**, Conway Institute, Ireland

Gökhan S. Hotamisligil, Harvard School of Public Health, USA
**Tissue Hypoxia in Metflammation and Type 2 Diabetes**

**Yun Sok Lee**, University of California, San Diego, USA
**The Pro-Resolving Mediator Annexin A1 Regulates MUC5AC Secretion in Cultured Goblet Cells, Suggesting a New Use in Inflammatory Conjunctival Diseases**

Brian Sansbury, Harvard Medical School, USA
**Short Talk: Resolvins D1 Promotes Revascularization during Limb Ischemia via its Receptor, ALX/FPR2**

Catherine Godson, University College Dublin, Ireland
**Catherine Godson**

**Posters Session 2**

**TUESDAY, MARCH 27**

Keynote Address

*Edward A. Fisher*, New York University School of Medicine, USA
**Edward A. Fisher**, New York University School of Medicine, USA
**Host Genotype Dictates Inflammation, Resolution and Repair**

Regulation of Defense, Resolution and Repair

*Edward A. Fisher*, New York University School of Medicine, USA
**Edward A. Fisher**, New York University School of Medicine, USA
**Host Genotype Dictates Inflammation, Resolution and Repair**

Ira Tabas, Columbia University, USA
**The Interplay Between Efferocytosis and Inflammation Resolution**

Michelle Amanéa Sugimoto, Universidade Federal de Minas Gerais, Brazil and Queen Mary University of London, UK
**Short Talk: Plasminogen and the Plasminogen Receptor, P1g-RKT, Regulate Efferocytosis and Macrophage Reprogramming**

Muredach P. Reilly, Columbia University, USA
**Genomic Discoveries in Metainflammation**

Matt DeBerge, Northwestern University, USA
**Short Talk: Divergence of TAM Receptor Tyrosine Kinase Control of Inflammation Resolution and Repair after Heart Attack**

Maksim Plikus, University of California, Irvine, USA
**Reactivating Embryonic-Like Regeneration Programs in Adult Skin Wounds**

Workshop 3: Nano Technologies and Targeting Receptors to Resolve Inflammation

*Nan Chiang*, Harvard Medical School, USA
**Nan Chiang**, Harvard Medical School, USA
**Short Talk: The Mito-DAMP Cardiolipin Suppresses Resolution of Inflammation**

Louise M. Topping, Queen Mary University of London, UK
**Louise M. Topping**, Queen Mary University of London, UK
**Targeting Neutrophil Microparticles to Damaged Cartilage Using Antibodies to Post-Translationally Modified Collagen II**

Eva Koziolova, Institute of Macromolecular Chemistry, Czech Republic
**Eva Koziolova**, Institute of Macromolecular Chemistry, Czech Republic
**Polymer-Based Drug Delivery Systems for Targeted Therapy of Inflammatory Diseases – Their in vivo Biodistribution in Mice with Acute Arthritis**

Simon Rauber, Friedrich-Alexander University Erlangen-Nuremberg, Germany
**Simon Rauber**, Friedrich-Alexander University Erlangen-Nuremberg, Germany
**IL-9-Producing Type 2 Innate Lymphoid Cells – Key Players that Orchestrate Resolution of Chronic Inflammation in Arthritis**

Miguel Quiros, University of Michigan, USA
**Miguel Quiros**, University of Michigan, USA
**Specialized Pro-Resolving Lipid Mediator Resolvin E1 Promotes Intestinal Mucosal Wound Repair**

Takehiko Yokomizo, Juntendo University School of Medicine, Japan
**Takehiko Yokomizo**, Juntendo University School of Medicine, Japan
**12-Hydroxyheptadecatrienoic Acid Accelerates Epithelial Wound Healing through Leukotriene B4 Receptor 2, BLT2**

**Infection**

*Nathalie Vergnolle*, INSERM UMR-1220, France
**Nathalie Vergnolle**, INSERM UMR-1220, France
**Antibodies to Post-Translationally Modified Collagen II and Dengue**

Charles N. Serhan, Brigham and Women's Hospital, USA
**Charles N. Serhan**, Brigham and Women's Hospital, USA
**IL-9-Producing Type 2 Innate Lymphoid Cells – Key Players that Orchestrate Resolution of Chronic Inflammation in Arthritis**

Asma Nusrat, University of Michigan, USA
**Asma Nusrat**, University of Michigan, USA
**Intestinal Mucosal Barrier Repair Is Orchestrated by Pro-Resolving Mediators Released by Epithelial and Immune Cells at Sites of Injury**

Aoihe Keogh, Royal College of Surgeons in Ireland, Ireland
**Aoihe Keogh**, Royal College of Surgeons in Ireland, Ireland
**Short Talk: MSC-Monocyte Interactions in Sepsis**

Mauro Martins Teixeira, Universidade Federal de Minas Gerais, Brazil
**Mauro Martins Teixeira**, Universidade Federal de Minas Gerais, Brazil
**The Impact of Resolution Pathways in Acute Infections – Annexin-a1 and Dengue**

Prabir Ray, University of Pittsburgh, USA
**Prabir Ray**, University of Pittsburgh, USA
**Short Talk: The Mito-DAMP Cardiolipin Suppresses Resolution of Bacterial Pneumonia**

**Poster Session 3**

**WEDNESDAY, MARCH 28**

Resolution and Repair or Fibrosis?

*Lalita Ramakrishnan*, University of Cambridge, UK
**Lalita Ramakrishnan**, University of Cambridge, UK
**IL-9-Producing Type 2 Innate Lymphoid Cells – Key Players that Orchestrate Resolution of Chronic Inflammation in Arthritis**

*Lucy V. Norling*, Queen Mary University of London, UK
**Lucy V. Norling**, Queen Mary University of London, UK
**Polymer-Based Drug Delivery Systems for Targeted Therapy of Inflammatory Diseases – Their in vivo Biodistribution in Mice with Acute Arthritis**

This activity was supported by an educational grant from Celgene Corporation.

For the most up-to-date details, visit www.keystonesymposia.org/18C6.
Nathalie Vergnolle, INSERM UMR-1220, France
Proteolytic Balance in Mucosal Inflammation and Repair

Robert F. Schwabe, Columbia University, USA
Liver Cancer: A Wound That Does Not Heal

Takayoshi Suganami, Nagoya University, Japan
Short Talk: CD11c+ Resident Macrophages Drive Hepatocyte Death-Triggered Liver Fibrosis in Nonalcoholic Steatohepatitis

Jörg H.W. Distler, University of Erlangen-Nuremberg, Germany
Targeting Persistent Fibroblast Activation in Fibrotic Diseases

Preethi Vijayaraj, University of California, Los Angeles, USA
Short Talk: Modeling Progressive Fibrosis with Pluripotent Stem Cells Identifies an Anti-Fibrotic Small Molecule

Jesmond Dalli, Queen Mary University of London, UK
Immuoresolvents Promote Tissue Repair and Regeneration

Therapeutic Innovation in Resolution
*Daniele Piomelli, University of California, Irvine, USA
*Bruce Cronstein, New York University, USA

Arthur Christopoulos, Monash University, Australia
Harnessing GPCR Allostery and Bias for Novel Drug Targeting

Mauro Perretti, Queen Mary University of London, UK
From Resolution of Inflammation to Resolution Pharmacology: Therapeutic Innovation in Inflammation

Monica de Gaetano, University College Dublin, Ireland
Short Talk: Investigation of the Bioactions of Novel Synthetic Lipoxin Mimetics

Makoto Arita, Keio University, Japan
Genetics and Lipidomics of Omega-3 Polyunsaturated Fatty Acid Biology

Meeting Wrap-Up: Outcomes and Future Directions (Organizers)

THURSDAY, MARCH 29

Departure