

# 11th International Forum on Rheumatoid Arthritis

## *Pathogenesis and Emerging Therapeutic Strategies*

### Agenda

#### Wednesday, September 25<sup>th</sup>

- 18:30 – 20:30**      **Opening Network Reception: Introduction to Meeting Themes & Goals**  
*Michael Holers (Univ. of Colorado, AMP); Lars Klareskog (Karolinska Institutet, RTCure);  
Zhanguo Li (Peking Univ., IFRA); Francis Collins (NIH, AMP), Mikael Dolsten (Pfizer, AMP)*  
*Junior Ballroom, Second Floor*

#### Thursday, September 26<sup>th</sup>

- 07:00 – 08:00**      **Registration and Continental Breakfast**  
*Grand Ballroom, Salons A-D, Ballroom Level*
- 08:00 – 08:15**      **Welcome and Opening Remarks**  
*Michael Holers (Univ. of Colorado, AMP)*
- 08:15 – 09:00**      **Session 1: Unresolved Clinical and Scientific Problems in Rheumatoid Arthritis**
- 08:15 – 08:30**      **Accelerating Medicines Partnership – Goals and Perspectives**  
*Michael Brenner (Brigham and Women's Hospital/Harvard, AMP)*
- 08:30 – 08:45**      **Rheuma Tolerance for Care – Goals and Perspectives**  
*John Isaacs (Newcastle Univ., RTCure)*
- 08:45 – 09:00**      **International Forum on Rheumatoid Arthritis – Goals and Perspectives**  
*Zhanguo Li (Peking Univ., IFRA)*

#### **Theme 1: Origins of Rheumatoid Arthritis**

- 09:00 – 10:20**      **Session 2: Etiology of RA: What can we learn from genetic epidemiology and genomics?**  
*Co-Chairs: Tom Huizinga (Leiden Univ., RTCure), Sean Connolly (BMS, RTCure)*
- 09:00 – 09:15**      **What can we learn about RA etiology from genetics and gene-environment interaction studies?**  
*Jill Norris (Univ. of Colorado, AMP)*
- 09:15 – 09:30**      **What can we learn from genetics and genomics concerning molecular pathways used in different cells types?**  
*Kazuhiko Yamamoto (RIKEN, IFRA)*



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- 09:30 – 09:45**      **Integrating electronic health record data and genetics to improve understanding of rheumatic diseases**  
*Rachel Knevel (Leiden Univ., RTCure)*
- 09:45 – 10:00**      **Beyond genetics: what are the next steps in studying the molecular basis for disease pathogenesis?**  
*Yukinori Okada (Osaka Univ., IFRA)*
- 10:00 – 10:20**      **Session 2: Panel Discussion**  
*Panelists: Jill Norris (Univ. of Colorado, AMP), Kazuhiko Yamamoto (RIKEN, IFRA), Rachel Knevel (Leiden Univ., RTCure), Yukinori Okada (Osaka Univ., IFRA)*
- 10:20 – 10:40**      **Break**
- 10:40 – 12:20**      **Session 3: Natural history of RA: What can we learn from translational immunology and microbial studies regarding triggering of autoimmunity in RA?**  
*Co-Chairs: Rachel Knevel (Leiden Univ., RTCure), Frank Nestle (Sanofi, AMP)*
- 10:40 – 10:55**      **Role of mucosal tissues as triggers of autoimmunity in RA**  
*Kristen Demoruelle (Univ. of Colorado, AMP)*
- 10:55 – 11:10**      **Evolution of immunity from triggering in mucosal tissues to systemic autoimmunity**  
*Anca Catrina (Karolinska Institutet, RTCure)*
- 11:10 – 11:25**      **What are the influences of the microbiome in the triggering and pathogenesis of RA?**  
*Xuan Zhang (Peking Union Medical College Hospital, IFRA)*
- 11:25 – 11:40**      **B cells and epitope spreading in the pre-RA phase of disease**  
*Rene Toes (Leiden Univ., RTCure)*
- 11:40 – 11:55**      **Role of mucosal B cell subsets and microbiome in the early phases of RA**  
*Dagmar Scheel-Toellner (Univ. of Birmingham, RTCure)*
- 11:55 – 12:20**      **Session 3: Panel Discussion**  
*Panelists: Kristen Demoruelle (Univ. of Colorado, AMP), Anca Catrina (Karolinska Institutet, RTCure), Xuan Zhang (Peking Union Medical College Hospital, IFRA), Rene Toes (Leiden Univ., RTCure), Dagmar Scheel-Toellner (Univ. of Birmingham, RTCure)*
- 12:20 – 13:20**      **Lunch**



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#### Theme 2: Mechanisms and Disease Transitions in Rheumatoid Arthritis

- 13:20 – 15:00**      Session 4: Transitions from systemic autoimmunity to effector functions in joints, bone and other tissues: Mechanisms and implications  
*Co-Chairs: Keishi Fujio (Univ. of Tokyo, IFRA), Ayumi Kato (Chugai, IFRA)*
- 13:20 – 13:35**      **Maturation of autoimmunity and joint “priming” before RA onset**  
*George Schett (Univ. of Erlangen-Nuremberg, RTCure)*
- 13:35 – 13:50**      **Effects of adaptive immunity on nerve cells; implications for pain**  
*Lars Klareskog (Karolinska Institutet, RTCure)*
- 13:50 – 14:05**      **Effector B cell subsets and functions in RA target tissue**  
*Jennifer Anolik (Univ. of Rochester, AMP)*
- 14:05 – 14:20**      **Molecular drivers of B cell mediated autoimmunity**  
*Bill Robinson (Stanford Univ., AMP)*
- 14:20 – 14:35**      **Neutrophils and NETs in RA pathogenesis**  
*Mariana Kaplan (NIH/NIAMS, AMP)*
- 14:35 – 15:00**      **Session 4: Panel Discussion**  
*Panelists: George Schett (Univ. of Erlangen-Nuremberg, RTCure), Lars Klareskog (Karolinska Institutet, RTCure), Jennifer Anolik (Univ. of Rochester, AMP), Bill Robinson (Stanford Univ., AMP), Mariana Kaplan (NIH/NIAMS, AMP)*
- 15:00 – 15:20**      **Break**
- 15:20 – 17:00**      Session 5: Interactions between adaptive and innate immunity in RA pathogenesis  
*Co-Chairs: Erwei Sun (Southern Medical University, IFRA), Emanuele deRinaldis (Sanofi, AMP)*
- 15:20 – 15:35**      **Targets of immunity in RA and in individuals at risk for RA; focus on B cells**  
*Uli Scherer (Leiden Univ., RTCure)*
- 15:35 – 15:50**      **Communication pathways between synovial stromal and immune cells**  
*David Fox (Univ. of Michigan, AMP)*
- 15:50 – 16:05**      **T and B cell populations and functions in the synovium**  
*Deepak Rao (Brigham and Women’s Hospital, AMP)*



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- 16:05 – 16:20      **Targets of immunity in individuals at risk for RA; Focus on T cells**  
*Vivi Malmstrom (Karolinska Institutet, RTCure)*
- 16:20 – 16:35      **Interactions between innate and adaptive immunity in early phases of RA**  
*Mariola Kurowska-Stolarska (Univ. of Glasgow, RTCure)*
- 16:35 – 17:00      **Session 5: Panel Discussion**  
*Panelists: Uli Scherer (Leiden Univ., RTCure), David Fox (Univ. of Michigan, AMP), Deepak Rao (Brigham and Woman's Hospital, AMP), Vivi Malmstrom (Karolinska Institutet, RTCure), Mariola Kurowska-Stolarska (Univ. of Glasgow, RTCure)*
- 17:00 – 17:15      **Day 1 Recap**  
*Michael Holers (Univ. of Colorado, AMP)*
- 17:30 – 19:00      **Poster Session & Networking Exchange**  
*Junior Ballroom, Second Floor*

### Friday, September 27<sup>th</sup>

- 07:00 – 08:00      **Continental Breakfast**  
*Grand Ballroom, Salons A-D, Ballroom Level*

#### Theme 3: Tissue is the Issue

- 08:00 – 09:40      **Session 6: Pathophysiologic insights and cell populations discovered in tissue-based studies on single cells (Part 1)**  
*Co-Chairs: Jen Anolik (Univ. of Rochester, AMP), Marty Hodge (Pfizer, AMP)*
- 08:00 – 08:15      **Synovial cell populations investigated by single cell technologies**  
*Soumya Raychaudhuri (Brigham and Woman's Hospital, AMP)*
- 08:15 – 08:30      **From synovial tissue to synovial fibroblasts**  
*Andrew Filer (Univ. of Birmingham, RTCure)*
- 08:30 – 08:45      **Targets of immunity in individuals at risk for RA; Focus on T cells**  
*Eddie James (Benaroya Research Institute, AMP)*
- 08:45 – 09:00      **Synovial fibroblast eQTL and differential expressed genes**  
*Keishi Fujio (Univ. of Tokyo, IFRA)*



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- 09:00 – 09:15**      **Innate immune cells in the synovium**  
*Laura Donlin (Hospital for Special Surgery, AMP)*
- 09:15 – 09:40**      **Session 6: Panel Discussion**  
*Panelists: Soumya Raychaudhuri (Brigham and Woman’s Hospital, AMP), Andrew Filer (University of Birmingham, RTCure), Eddie James (Benaroya Research Institute, AMP), Keishi Fujio (Univ. of Tokyo, IFRA), Laura Donlin (Hospital for Special Surgery, AMP)*
- 09:40 – 11:40**      **Session 7: Pathophysiologic insights and cell populations discovered in tissue-based studies on single cells (Part 2)**  
*Co-Chairs: Kazuhiko Yamamoto (RIKEN, IFRA), Sheng Gao (BMS, RTCure)*
- 09:40 – 09:55**      **Redefining stromal cell pathology in RA using single cell technologies**  
*Michael Brenner (Brigham and Woman’s Hospital/Harvard, AMP)*
- 09:55 – 10:10**      **Functions of synovial fibroblasts**  
*Chris Buckley (Univ. of Birmingham, RTCure)*
- 10:10 – 10:30**      **Break**
- 10:30 – 10:45**      **Effects of antibodies on phenotypes of synovial fibroblasts**  
*Meng Sun (Karolinska Institutet, RTCure)*
- 10:45 – 11:00**      **Synovial pathotypes and disease outcomes**  
*Cos Pitzalis (Queen Mary Univ. of London, AMP)*
- 11:00 – 11:15**      **Regulatory T cells and gingiva-derived mesenchymal stem cells in RA**  
*Song Guo Zheng (Ohio State Univ., IFRA)*
- 11:15 – 11:40**      **Session 7: Panel Discussion**  
*Panelists: Michael Brenner (Brigham and Woman’s Hospital/Harvard, AMP), Chris Buckley (Univ. of Birmingham, RTCure), Meng Sun (Karolinska Institutet, RTCure), Cos Pitzalis (Queen Mary Univ. of London, AMP), Song Guo Zheng (Ohio State Univ., IFRA)*
- 11:40 – 12:20**      **Session 8: Role of immunity and microenvironments in shaping phenotypes of new cell populations discovered in tissue-based studies**  
*Co-Chairs: Michael Brenner (Brigham and Woman’s Hospital/Harvard, AMP)*
- 11:40 – 11:55**      **Role of stromal cells in shaping niches for B and T cell activation and survival**  
*Hyun-Dong Chang (Deutsches Rheuma-Forschungszentrum, RTCure)*



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**11:55 – 12:10**                    **Signaling pathways in immune and stromal cells**

*John O'Shea (NIH/NIAMS, AMP)*

**12:10 – 12:20**                    **Session 8: Panel Discussion**

*Panelists: Hyun-Dong Chang (Deutsches Rheuma-Forschungszentrum, RTCure), John O'Shea (NIH/NIAMS, AMP)*

**12:20 – 13:20**                    **Lunch**

#### **Theme 4: Focus on Patients: Prevention, Interception, and Novel Targets**

**13:20 – 15:00**                    **Session 9: Patient perspectives and experiences in RA: Insights and methods of study**

*Co-Chairs: Vivian Bykerk (Hospital for Special Surgery, AMP), Ruth Williams (PARE, RTCure)*

**13:20 – 13:35**                    **A patient perspective on prevention of RA**

*Ruth Williams (PARE, RTCure)*

**13:35 – 13:50**                    **Ethics and patient perspectives on prevention of RA**

*Karim Raza (Univ. of Birmingham, RTCure)*

**13:50 – 14:05**                    **PROMIS features and synovial phenotypes**

*Vivian Bykerk (Hospital for Special Surgery, AMP)*

**14:05 – 14:20**                    **Experimental medicine approaches to prevention and interception studies**

*John Isaacs (Newcastle Univ., RTCure)*

**14:20 – 14:35**                    **Regulatory and practical issues relevant to new pathways of treatment and prevention**

*Josef Smolen (Univ. of Vienna, Austria, RTCure)*

**14:35 – 15:00**                    **Session 9: Panel Discussion**

*Panelists: Ruth Williams (PARE - RTCure), Karim Raza (Univ. of Birmingham, RTCure), Vivian Bykerk (Hospital for Special Surgery, AMP), John Isaacs (Newcastle Univ., RTCure), Josef Smolen (Univ. of Vienna, Austria, RTCure)*

**15:00 – 15:20**                    **Break**



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## *Pathogenesis and Emerging Strategies*

### Agenda

- 15:20 – 17:15**      Session 10: Prevention of and novel therapeutic strategies for RA: Scientific and practical issues, approaches, and updates of ongoing studies  
*Co-Chairs: Zhanguo Li (Peking Univ. IFRA), Aaron Winkler (Pfizer, RTCure)*
- 15:20 – 15:35**      **How can one predict the development of RA using Clinical Suspect Arthralgia (CSA)?**  
*Tom Huizinga (Leiden Univ., RTCure)*
- 15:35 – 15:50**      **Different trials to prevent RA; experiences to date**  
*Andy Cope (King's College, RTCure)*
- 15:50 – 16:05**      **Early immune interception and tolerance induction in RA - ongoing projects**  
*George Schett (University of Erlangen-Nuremberg, RTCure)*
- 16:05 – 16:20**      **Antigen-specific tolerizing immunotherapy in RA: critical components for trials**  
*Hendrik Nel (Univ. of Queensland, RTCure)*
- 16:20 – 16:35**      **Identification of novel targets in preclinical RA**  
*Michael Holers (Univ. of Colorado, AMP)*
- 16:35 – 16:50**      **Efficacy and safety of low-dose interleukin-2 in combination with methotrexate in patients with active RA: clinical results from the randomized, double-blind, placebo-controlled trial**  
*Jing He (Peking Univ., IFRA)*
- 16:50 – 17:15**      **Session 10: Panel Discussion**  
*Panelists: Tom Huizinga (Leiden Univ., RTCure), Andy Cope (King's College, RTCure), George Schett (University of Erlangen-Nuremberg, RTCure), Hendrik Nel (Univ. of Queensland, RTCure), Michael Holers (Univ. of Colorado, AMP), Jing He (Peking Univ., IFRA)*

### Theme 5: Lessons Learned – What's Next to Advance RA Research and Clinical Care?

- 17:15 – 18:30**      Session 11: Going forward: Advancing international research cooperation in RA – Panel and audience participation  
*Co-Chairs: Susana Serrate-Sztejn (NIH/NIAMS, AMP), Lars Klareskog (Karolinska Institutet, RTCure)*
- Panelists: Michael Holers (Univ. of Colorado, AMP); Zhanguo Li (Peking Univ., IFRA); Tom Huizinga (Leiden Univ., RTCure); Jennifer Anolik (Univ. of Rochester), Marty Hodge (Pfizer, AMP), Frank Nestle (Sanofi, AMP), Robert Benschop (Eli Lilly), Stephen Rapecki (UCB), Souhei Ohyama (Chugai)*



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- *What themes have emerged from this meeting that would benefit from international cooperative working groups?*
- *What are the challenges for qualifying trial designs and predictive biomarkers in RA prevention?*
- *What are industry perspectives on topics and areas of research identified during this meeting?*

18:30

Meeting Adjourns

