

Signals

THE INTERNATIONAL CYTOKINE AND INTERFERON SOCIETY NEWSLETTER

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Dear colleagues,

2014 is an exciting year for the International Cytokine and Interferon Society (ICIS). Most importantly perhaps, the merger of ISICR and the ICS has been accomplished and this year we go forward together enthusiastically and reenergized as the new society. We should pause for a moment to express our gratitude for the tremendous amount of work that was accomplished by so many to make this happen. The two presidents of the prior societies, Chuck Samuel and Luke O'Neil, deserve all of our gratitude for shepherding this process. And the tireless activities of so many members of so many committees were what it took to make this happen despite the inevitable hurdles that needed to be overcome. To all, we send our thanks.

The combination of these two societies makes such great sense. The recognition of the similarity in interest, approaches, goals of the membership of these two organizations has led to the inescapable conclusion that we all have so much science in common with each other and so much to gain by being together under this new umbrella. There can hardly be a more exciting time for researchers in the area of cytokines and interferons. The recognition that these families of molecules impact not only host defense and immunity but also the underlying pathology of so many ailments that plague our fellow humans makes even more pressing the study of these biological systems and the consequences that they have on life processes. It is hardly surprising therefore that the recent meetings of our community has been of unprecedented success with some of the most exciting talks which I have heard in many a year being presented for example at the recent meeting in San Francisco in 2013. We shall discuss this in more detail below. As we go forward,

we remain excited about our community and the conferences at which we congregate, exchange ideas and learn new things from one another. By combining our two parent organizations we provide a large network of colleagues and scientific investigators with whom we have access. By uniting our efforts, we provide a strong voice to the scientific community that is supported by the output of the several standing committees that play such an important role in the study of the field of the biology of cytokines. One thinks of the committees on nomenclature in our field, on standards, and of course the all-important conferences and satellite meetings that play such an important role in our annual activities. We are grateful to our so many members of these committees for their tireless efforts and willingness to serve going forward to enhance the society and its mission in cytokine biology.

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Future Meetings

2014 Meetings

Interleukin-6: Biology-Pathophysiology-Therapy
May 14-17, 2014
Kiel, Germany

Cytokines2014
Oct. 26-29, 2014
Melbourne, Australia

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A major activity of the ICIS is to host the annual conference, and the future of our newly-merged society will be dictated in large part by the success of our meetings. In that regard, the 2013 Inaugural Meeting of the ICIS in San Francisco was by any measure a resounding success (organized by Warren Leonard, Sarah Gaffen, Karen Mossman and Robert Schreiber). Fundraising was enormously successful, with support from numerous companies and an unusually large R13 grant from the NIH. Attendance at the meeting was outstanding, with over 600 delegates, far more than in several previous years. A fantastic line-up of speakers discussed a diverse span of cytokine-related topics, from highly basic research to promising translational therapies. The meeting opened with a stellar talk from our keynote speaker, Dr. Chris Garcia, from Stanford University. Unfortunately, the US government shutdown marred the proceedings, requiring immediate recall of all NIH and other federal employees by October 1st (who constituted approximately 15% of attendees). However, through the generosity of colleagues, the organizers were able to rearrange the program so that all scheduled NIH speakers were able to give their talks, though sadly they could not attend the last few days or the celebration banquet.

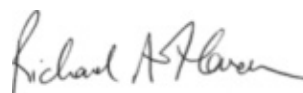
An innovation for the Inaugural meeting was a Special “Legacy” Session, originally suggested by co-Presidents Luke O’Neill and Chuck Samuels, highlighting the discovery and history, as well as ongoing cutting-edge research, in the earliest major cytokine families (IL-2, TNF and Type I IFN) and the first cytokine-specific signaling pathway (JAK-STAT). Featured speakers were Drs. Warren Leonard, David Wallach, Tadatsugu Taniguchi and George Stark, respectively. These speakers were chosen not only for their seminal discoveries that established the foundation of their respective fields, but also because they remain actively engaged in research and continue to move those fields forward.

In addition to top-notch science, the 2013 ICIS meeting also included some innovations focused on development for junior scientists. The first workshop was a lunchtime panel discussion on Career Development. The organizing committee assembled a team of panelists to provide insight and advice on the many career options available to trainees within the global cytokine field, with representation from industry, academia, the NIH and alternate careers (e.g., journal editors and program officers). Panel members included Drs. Vishva Dixit (VP for Research, Genentech), Howard Young (NCI), Olive Leavy (Editor, Nature Reviews Immunology), Mandy McGeachy (Assistant Professor at University of Pittsburgh who transitioned from DNAX/Merck to academia), and Fang Shen (Senior Scientist at Janssen Corporation). The interest was overwhelming; even though only 50 box lunches were available, over 90 trainees stayed for the entire the session. Secondly, to stress the importance of networking in science, we hosted a special “Meet &

Greet” reception for students, postdocs and new (1st year) faculty members. Often, trainees feel isolated at large international meetings and fail to establish new and productive connections with their peers and leaders in the field. This session, generously supported by eBioscience, offered an informal social venue for trainees and new faculty to network in a comfortable setting with their peers over wine and cheese. Attendance was outstanding, and the noise level only diminished when the hotel staff kicked us out of the room. The organizers would like to thank colleagues who participated in this important networking event.

The precedents that are set in these first few years of ICIS will be very important in establishing our relevance to the cytokine field. There are many options for scientists to attend conferences relevant to cytokines. Going forward, it is imperative to keep the ICIS vibrant and relevant, or attendees will simply “vote with their feet” and attendance will decline. First, it is critical that the annual conference avoid the trap of inviting the same major speakers from year to year. Many organizations, including AAI and ASV, have established policies that a major symposium speaker cannot speak two years in a row. We feel that it would behoove the ICIS to consider a similar policy. There are certainly enough outstanding scientists in our community that this can be accomplished without detriment to our meeting. Second, it is vital that we bring younger scientists into the leadership of the ICIS. We need to identify up-and-coming scientists in the field and provide opportunities for participation in the Society. This could take the form of targeting such individuals to co-chair major sessions, adding a Council seat specifically designated for a junior faculty member (assistant/early associate professor or equivalent), or serving on the various committees within the ICIS. The inaugural meeting of the ICIS highlighted the vibrancy within the cytokine field, and we are thrilled to be associated with this society and furthering the excellence within the field.

This year, we look forward to a tremendous opportunity to welcoming new members of the ICIS both young and old from all over the globe. As mentioned above, cytokine biology impacts so many fields of biology and medicine that it is a natural home to unite this large community. The exciting growth of the biological sciences in Asia makes ICIS a natural home for our many scientific colleagues from that great continent and we welcome them to join us as members in this exciting new venture.



Richard Flavell
(with input from Sarah Gaffen and Karen Mossman)

2013 MILSTEIN YOUNG INVESTIGATORS



DAVID LANGLAIS PH.D.
McGill University

Dr. Langlais completed his Ph. D. with honours in Molecular Biology in 2011 under the supervision of Dr. Jacques Drouin at Université de Montréal, Montréal, Canada and is currently pursuing postdoctoral research in Dr. Philippe Gros' laboratory at McGill University. He is now studying the role of the transcription factors IRF8 and IRF1 in the interferon gamma (IFN γ) response to infection. Dr. Langlais and colleagues have demonstrated that IRF8 is critical to mount an appropriate inflammatory response, as the mice are susceptible to *M. tuberculosis* infections but are resistant to neuroinflammation induced by the cerebral malaria model, *P. berghei* ANKA. Dr. Langlais is now exploring the relative role of IRF8 and its binding partner proteins (IRF1 and PU1) in the macrophage transcriptional response to IFN γ . He is also evaluating the role of these transcriptional networks in human tuberculosis and malaria infections, still two of the most deadly diseases world-wide. This work may pave the way toward the identification of novel therapeutic targets against these infections.



HILARIO J. RAMOS PH.D.
Gilead Sciences

Dr. Ramos received his Ph.D. in Immunology from UT Southwestern Medical Center in 2009 under the mentorship of Dr. J. David Farrar. More recently, Dr. Ramos's work has focused on identifying the mechanism by which interleukin-1 β (IL-1 β) and type I interferon cross-talk to promote protective immunity against viral infection. These studies have identified distinct IL-1 β driven gene signatures that maintain classical interferon-stimulated gene responses to allow for optimal viral control. This work has established a new way of thinking about inflammatory and type I IFN signaling integration that may promote new avenues for the development of therapeutics against disease states in which IL-1 β and type IFN responses are prevalent. Dr. Ramos is currently a member of the Gilead Sciences Discovery Virology group where he continues his work on cytokine driven viral/host interactions and the development of curative therapeutic interventions against inflammatory and viral diseases in humans.



JOHN SCHOGGINS PH.D.
University of Texas Southwestern
Medical Center

Dr. Schoggins received his Ph.D. in 2007 from the Weill Cornell Graduate School of Biomedical Sciences and recently joined the faculty in the Department of Microbiology at UT Southwestern Medical Center. His current efforts are aimed at understanding the mechanisms of action of individual interferon stimulated genes that are otherwise uncharacterized. He is also interested in response of these genes against non-viral pathogens, such as bacteria and fungi, as well as species specific aspects of antiviral immunity. This ongoing work will further solidify our understanding of how the highly pleiotropic interferon system helps orchestrate innate defenses. Taking advantage of these naturally occurring virus inhibitors may be an effective strategy for future development of novel drugs to treat human viral diseases.

2013 ICIS DISTINGUISHED SERVICE AWARD



PHILIP MILSTEIN

Philip Milstein served as president and co-chairman of the Board of Trustees of Emigrant Savings Bank from 1987 to 2003. In 2003, together with his sister and niece, he founded Ogden CAP Properties, LLC, which owns and manages residential apartment buildings, commercial office and retail space, and The Jefferson Hotel in Washington, DC.

He is a Columbia University Trustee and serves on the Board of Directors of the 92nd Street Y (having previously served as president and chair of the board); the Board and Executive Committee of the Lincoln Center for the Performing Arts; and the Board of Overseers for New York University's Stern Graduate School of Business.

The Milstein family—Philip, his wife Cheryl, his mother Vivian, his late father Seymour, and his sister Connie—are well-known philanthropists in the United States and abroad. For more than 50 years they have provided essential support for institutions and organizations at a time when funds from government agencies have been drying up.

Among the research- and healthcare-focused institutions that the Milstein family has championed are the NewYork-Presbyterian Hospital/Columbia University Medical Center; Columbia University and the University's College of Physicians and Surgeons; Bronx Lebanon Hospital Center; the Jewish Board of Family and Children's Services; and CURE (Citizens United for Research in Epilepsy).

For 25 years, the Milstein Awards have represented the pinnacle of scientific achievement in interferon and cytokine research and are conferred each year by the International Cytokine and Interferon Society (ICIS) at a special event during its annual meeting.

The preeminent Seymour & Vivian Milstein Award for Excellence in Interferon and Cytokine Research, commonly known as The Milstein Award, recognizes individuals who have made exceptional contributions to interferon and cytokine research, either in a basic or applied field. Many of these achievements have led to the advancement of human health. The Milstein family also supports The Milstein Young Investigator Awards to recognize the work of individuals who have made an impact on interferon and cytokine research early in their careers, and The Milstein Travel Awards to give those who may not otherwise be able to attend the Annual Meeting of the ISICR an opportunity to share the most current interferon and cytokine knowledge with peers around from the world.

**2013 ICIS
ED LEONARD PRIZE
FOR CHEMOTAXIS/
CHEMOKINE
RESEARCH**



ACHARYYA SWARNALI

**Dept of Cancer Biology and Genetics
Memorial Sloan Kettering Cancer Center
New York, NY**

Dr. Acharyya did her doctoral work with Dr. Denis Guttridge in Biomedical Science at the Ohio State University. Her work was focused on dissecting inflammatory signaling networks in muscle wasting or cachexia, a debilitating state associated with chronic illnesses including cancer. This type of whole body wasting is significantly linked with poor prognosis, therapy response and shorter survival. Dr. Acharyya provided new insights into the causal role of the NF- κ B signaling pathway in muscle wasting and identified an unexpected molecular link between cachexia and muscular dystrophy.

Interested in inflammation and cancer progression, Dr. Acharyya next joined the laboratory of Dr. Joan Massague in 2007 at the Memorial Sloan Kettering Cancer Center in New York. She has been studying the process of metastasis, which involves dissemination of cancer cells from the primary site to distant organs, a process that claims over 90% of cancer related deaths. Dr. Acharyya has been dissecting cell-intrinsic changes within cancer cells as well as the cell-extrinsic support provided by the tumor microenvironment. In her postdoctoral work, Dr. Acharyya unraveled a CXCL1/2 paracrine chemokine

signaling network that operates between cancer cells, endothelial cells and immune cells that promotes therapy resistance and metastasis. She also demonstrated that specific inhibition of this loop by small molecule inhibitors in combination with chemotherapy significantly reduces metastatic spread in breast cancer models. Dr. Acharyya's work has far-reaching implications in understanding how tumor microenvironment interactions mediate therapy resistance in metastasis.

2013 ICIS

YOUNG INVESTIGATOR
AWARD FOR
CYTOKINE RESEARCH



MANDY J MCGEACHY

**Dept of Medicine
University of Pittsburgh
Pittsburgh, PA**

Mandy McGeachy is Assistant Professor of Medicine in the Division of Rheumatology at the University of Pittsburgh. Her lab focuses on autoimmune diseases, and particularly how IL-23 drives Th17 cells to become highly pathogenic mediators of inflammation. Dr McGeachy received her PhD from the University of Edinburgh, Scotland, where she studied regulatory T cells in the resolution of autoimmune CNS inflammation under supervision of Dr Steve Anderton. She then moved to sunny Palo Alto, California, for a postdoc in the lab of Dr Daniel Cua at Schering-Plough Biopharma, formerly DNAX Research, Inc.: where IL-23 and the Th17 subset were initially discovered.

There she worked on the role of various cytokines including IL-23 in directing Th17 development and pathogenic functions, rising to the position of Senior Scientist at Schering-Plough, which became Merck. After a fruitful and interesting 6 years in industry, she decided her true passion was in academic research and took up a faculty position at the University of

Pittsburgh in 2012. Her lab is now pursuing the downstream mediators of IL-23 signaling that confer pathogenic properties on Th17 cells in mouse models of autoimmunity, and leveraging the opportunities to collaborate with clinical scientists at the University of Pittsburgh to study Th17 cells in human diseases such as rheumatoid arthritis.

2013 ICIS POSTDOCTORAL INVESTIGATOR AWARD



CO-1ST ELIA D TAIT WOJNO

**Dept of Microbiology • University of Pennsylvania
Philadelphia, PA**

Elia is a native of the Catskill Mountains in Upstate New York. She received her BA, with a major in Biology, at Drew University in 2005. She performed her graduate work at the University of Pennsylvania in the laboratory of Dr. Christopher Hunter, investigating the role of the cytokine IL-27 on immune regulation and immunity to the protozoan parasite *Toxoplasma gondii*. She received her PhD in 2010 and then joined the laboratory of Dr. David Artis at the University of Pennsylvania as a postdoctoral fellow. Elia is currently an NRSA Postdoctoral Fellow in the Artis laboratory and studies how cytokines and innate immune cells orchestrate type 2 cytokine-mediated immunity and allergic inflammation.



CO-1ST AMIYA K PATRA

**Institute for Pathology • University of Wuerzburg
Wuerzburg, Bavaria, Germany**

Dr. Patra was educated in India and later moved to Germany where he obtained his Ph.D. in Immunology in 2005 from the University of Wuerzburg. His primary interest lies in elucidating the cellular and molecular mechanisms involved in the hematopoietic cell development in general and lymphocyte development in particular. Dr. Patra's current research in the Serfling Laboratory, University of Wuerzburg, is on deciphering the signaling pathways that play critical role in the early thymocyte development. Since long, it is known that the cytokine IL-7 plays a critical role in the development and differentiation of T cells in the thymus. Recently, Dr. Patra's work has unraveled a novel aspect of IL-7 signaling, which shows that in addition to STAT5, the transcription factor NFATc1 is also activated by IL-7-Jak3 signaling. Interestingly, the activation of NFATc1 by IL-7-Jak3 does not follow the conventional Ca²⁺-calcineurin mediated pathway rather NFATc1 is activated in the preTCR-negative thymocytes via tyrosine phosphorylation. This might be a common mechanism to activate NFATc1 in the cytokine-dependent phases of immune cell development as well as in non-immune cells, which respond to various cytokines and growth factors. This work has recently been published in the *Journal Nature Immunology* 2013: 14(2): 127-135. Currently, Dr. Patra is extending his work to understand the molecular mechanism of Nfatc1 expression in thymocytes and in T cells, and how the IL-7-mediated NFAT activation could be utilized to modulate clinical situations like T-cell lymphopenia and leukemia (TALL) development.

2013 ICIS POSTDOCTORAL INVESTIGATOR AWARD



2ND GARETH W JONES

Institute of Infection and Immunity • Cardiff University • Cardiff, Wales, UK

Dr. Jones' research interests lie in understanding cytokine control of immune-mediated pathology in inflammatory conditions such as rheumatoid arthritis (RA). He is also interested in understanding how cytokines govern effector T-cell responses to drive pathology associated with recurrent peritoneal infection, a common complication in end-stage renal failure patients undergoing peritoneal dialysis.

Dr. Jones obtained his PhD in Biochemistry (*Cardiff University, UK*) where he discovered and cloned novel bacterial-produced toxins active against mosquitos, for potential use in the biological control of mosquito-borne diseases. To satisfy his desire of linking research more directly with human disease, in 2006 he joined the laboratory of Prof. Simon Jones at the School of Medicine, *Cardiff University (Wales, UK)*. Here he made discoveries relating to how inflammatory cytokines central to arthritis progression differentially regulate naïve and effector T-helper cell populations. These include identifying a novel role for IL-6

trans-signaling in supporting TH-17 cell responses, and characterizing the cytokine TL1A (TNFSF15) as an inhibitor of TH-17 cell differentiation.

In 2010 Dr. Jones secured an *Arthritis Research UK Travelling Fellowship* to join the laboratory of Professor Brendan Jenkins at the *Monash Institute of Medical Research (MIMR; Melbourne, Australia)*. Here he investigated how STAT1 and STAT3 signaling through the gp130 cytokine receptor controls effector TH-17 cell responses and how this relates to pathology in experimental inflammatory arthritis and a gp130/STAT3-driven model of gastric tumorigenesis. During his time at *MIMR*, Dr. Jones also initiated his research into how IL-27 regulates disease progression in early RA, which remains the focus of his current research having recently been awarded an *Arthritis Research UK Career Development Fellowship* back at the School of Medicine, *Cardiff University*.

2013 ICIS POSTDOCTORAL INVESTIGATOR AWARD



3RD DIRK BAUMJOHANN

Dept of Microbiology and Immunology • University of California, San Francisco • San Francisco, CA

Dirk Baumjohann received his Ph.D. in cell biology and immunology from the University of Bern, Switzerland, for work performed in the lab of Federica Sallusto at the Institute for Research in Biomedicine in Bellinzona, Switzerland, on the role of T cell-B cell interactions for humoral immune responses. He then joined the lab of K. Mark Ansel at the University of California, San Francisco, USA, to investigate how microRNAs and transcription factors regulate T helper cell differentiation. In particular, he is interested in the molecular requirements for the generation and function of T follicular helper (Tfh) cells. He established the kinetics of Bcl6 expression during T follicular helper cell differentiation and, more recently, he showed that microRNAs are essential for the generation of Tfh cells in vivo. Furthermore, he demonstrated that the miR-17~92 cluster promotes Tfh cell differentiation while at the same time repressing subset-inappropriate gene expression in these cells.

2013 ICIS OUTSTANDING SCHOLAR AWARD



1ST JAROD A ZEPP

**Dept of Immunology • Cleveland Clinic Foundation
Cleveland, OH**

Jarod is a graduate student in the Molecular Medicine PhD program at Case Western Reserve University in Cleveland, Ohio. Prior to enrolling in his PhD program, Jarod graduated with a Bachelors of Science in Biology from the University of Colorado Denver. He then worked as a research technician at the University of Colorado Health Sciences Center. In 2010 he began his thesis research with Dr. Xiaoxia Li at the Lerner Research Institute at the Cleveland Clinic. In Dr. Li's lab, Jarod is exploring the function of IL-17-induced signaling pathways in mediating disease pathogenesis. Presently, Jarod is working on the mechanism by which IL-17 promotes colon cancer. In his spare time, Jarod enjoys cooking, playing guitar and playing tennis.



2ND STEPHAN WILMES

**Dept of Biology/Chemistry • University of Osnabrueck
Osnabrueck, Lower Saxony, Germany**

Stephan Wilmes studied biology at the University of Osnabrück, Germany, where he earned his B.Sc. and M.Sc degrees in cell biology. For his PhD he joined the biophysics lab of Prof. Dr. Jacob Piehler. There he started working on the Type I IFN system where he focused on the dynamics of receptor assembly in the plasma membrane of living cells. His scientific scope lies on the detection of protein-protein interactions by developing and applying site-specific fluorescence labeling and single molecule co-localization/tracking assays.

2013 ICIS OUTSTANDING SCHOLAR AWARD



3RD HEATHER B COHEN

Dept of Cell Biology and Molecular Genetics • University of Maryland • College Park, MD

Heather Cohen is currently a 5th year PhD candidate in the department of Cell Biology and Molecular Genetics at the University of Maryland, College Park in the laboratory of Dr. David Mosser. Her graduate studies investigate the development of regulatory macrophages and the underlying mechanisms governing the plasticity of macrophage activation throughout the course of inflammation. Her research reveals that toll-like receptor (TLR)-stimulated macrophages employ a novel auto-regulatory mechanism involving the intrinsic release of ATP and its conversion to adenosine via CD39. Results from her research have elucidated a mechanism supporting an inherent ability for inflammatory macrophages to transition to a regulatory activation status and thus self-limit inflammatory responses. In the near future, she plans to pursue a postdoctoral research position to investigate innate immunoregulatory mechanisms that impact the progression of inflammatory-related diseases such as cancer, diabetes and sepsis. In addition to her research studies, she is particularly interested in fostering interdisciplinary collaboration between research scientists and improving science communication between scientists and the public.

2013
SIDNEY & JOAN PESTKA
Post-Graduate
Award in Interferon
Research

Sponsored by PBL
Interferon Source



YANA WANG

**Department of Medicine
University of Minnesota
Minneapolis, MN**

Dr. Yana Wang obtained the Ph.D. from the Institute of Biochemistry and Cell Biology, Chinese Academy of Sciences in Shanghai, China. Her graduate work focused on the regulation of Toll-like receptor (TLR) signaling by β -arrestins, which led to her strong research interest in elucidating the molecular mechanisms underlying regulation of immune responses.

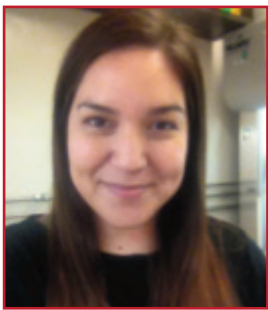
She performed post-doctoral research in Dr. Genhong Cheng's laboratory at the University of California, Los Angeles, on the regulation of noncanonical NF- κ B activation by TNF receptor family members. She also investigated structure and function of STING, a critical mediator of immune responses against DNA pathogens. Recently she joined Dr. Erik Peterson's group at the University of Minnesota to take on a functional genomics project examining the role of an autoimmunity-associated gene in host-pathogen interactions. Her recent work demonstrated

that the human disease "risk" gene *PTPN22* functions as a positive regulator of TLR signaling and TLR-induced type 1 interferon-dependent immunity, including host antiviral response and suppression of inflammation in arthritis and colitis.

Dr. Wang's postdoctoral studies have been published in *Immunity* and *Nature Immunology*. In 2013, she was awarded a K99 career development grant from the National Institutes of Health.

2013
SIDNEY & JOAN PESTKA
Graduate Award in
Interferon Research

Sponsored by
PBL Interferon Source




ANGEL MORROW

Cytokine Biology Section
NIAID, NIH
Bethesda, MD

Angel Morrow is a PhD student in the Georgetown University Graduate Partnership Program at NIH. Her interest in cytokine biology began with her postbaccalaureate fellowship in Kathryn Zoon's lab at NIAID, where she remained to continue her research for her doctoral thesis.

Her initial work examined components of the Jak/STAT signaling pathway activated by IFN- γ treatment. She identified a novel transcription factor composed of phosphorylated STAT1, unphosphorylated STAT2, and IRF9

that plays a role in eliciting an antiviral response. Her current project is focused on how ribavirin affects STAT signaling and induction of antiviral ISGs. Angel is currently writing her dissertation and plans to defend in Spring 2014.



2013 CHRISTINA
FLEISCHMANN AWARD
to Young Women
Investigators



MICHAELA GACK

**Dept of Microbiology and Immunobiology
Harvard Medical School
Boston, MA**

Dr. Gack's research is focused on understanding the regulatory mechanisms that govern the detection of RNA viruses through the cytosolic receptors RIG-I and MDA5 and the subsequent induction of signaling cascades leading to type-I interferon (IFN) gene expression.

Another area of her research focuses on the detailed mechanisms by which viral proteins antagonize the RIG-I/MDA5-mediated innate immune response. Dr. Gack received her Ph.D. in Molecular Virology in 2008 from the collaborative graduate training program between the Friedrich-Alexander University Erlangen-Nuremberg, Germany, and Harvard Medical School (HMS). During her Ph.D. studies, conducted in the laboratory of Dr. Jae Jung at HMS, she discovered that the innate immune sensor RIG-I undergoes Lys63-linked ubiquitination, which is essential for RIG-I to induce type-I IFN induction. She also discovered the enzyme responsible for RIG-I ubiquitination, TRIM25, and demonstrated that the interconnection between the cytosolic viral RNA receptor RIG-I and a member of the TRIM protein family creates a potent antiviral defense mechanism. Her postdoctoral studies, conducted at the University of Southern California, revealed that the NS1 protein of influenza A virus interacts with and inhibits the enzymatic activity of TRIM25, resulting in the abolished RIG-I ubiquitination and host antiviral IFN response. These findings unveiled a novel immune evasion mechanism of influenza A virus and also

emphasized the vital role of TRIM25 in modulating viral infections.

Since February 2011, she has been an Assistant Professor in the Department of Microbiology and Immunobiology at Harvard Medical School, where she continues to investigate the IFN-mediated innate immune responses and viral immune escape mechanisms. Her most recent study demonstrated that dephosphorylation of RIG-I and MDA5 by the phosphatase PP1 is essential for innate immune signaling and IFN induction upon infection with influenza virus, dengue virus, and paramyxoviruses.

For her academic achievements in the fields of innate immunity and virology, Dr. Gack received several awards including the GE & *Science* Prize for Young Life Scientists, the Robert Koch Postdoctoral Prize, and the *2013 Ann Palmenberg Junior Investigator Award* from the American Society for Virology. Furthermore, since 2012 Dr. Gack has been an Associate Editor for the journal *PLoSPathogens*.

2013
THE JOURNAL OF
BIOLOGICAL CHEMISTRY/
HERBERT TABOR
Young Investigator
Award



LUDMILA PROKUNINA-OLSSON

Investigator
Laboratory of Translational Genomics
Division of Cancer Epidemiology and Genetics
National Cancer Institute

Dr. Ludmila Prokunina-Olsson received her Ph.D. in Human Molecular Genetics from Uppsala University, Sweden in 2004. During her graduate research under the mentorship of Dr. Marta Alarcon-Riquelme she explored genetic susceptibility to autoimmunity, and, specifically, to Systemic Lupus Erythematosus (SLE) and Rheumatoid Arthritis (RA).

Her work published in Nature Genetics in 2002 was the first report to connect genetic variants within the PD-1 (PDCD1) gene with susceptibility to autoimmunity. In 2005 she joined the laboratory of Dr. Francis Collins in the Genome Technology Branch, National Human Genome Research Institute, National Institutes of Health, Bethesda, USA. Her postdoctoral work was on identification of molecular phenotypes of genetic susceptibility to type 2 diabetes, based on the results of genome-wide association studies (GWAS). In 2008 she joined the newly created Laboratory of Translational Genomics at the National Cancer Institute, NIH as a research fellow and in 2010, as a Tenure-Track Investigator.

Dr. Prokunina-Olsson's interest is to explore molecular mechanisms behind the genetic associations for human diseases. Specifically, she is interested in the role of genetic variants in the interaction between infections, immunity and cancer. In her work she utilizes the broad range of molecular and genomics tools. This approach helped her to identify a novel human interferon, designated as interferon- $\lambda 4$ (IFNL4) (Prokunina-Olsson et al, Nature Genetics, 2013). She continues to explore the role of this protein in hepatitis C virus (HCV) infection, as well as several other conditions. She also studies the susceptibility to infection/cancer provided by the genetic variant that creates IFNL4. Dr. Prokunina-Olsson received several awards including the NCI Director Innovation Award, Nature Medicine and Roche Immunology Symposium-2013 Award, and was named a 2012 Young Investigator by the Genome Technology Magazine.

WELCOME

NEW ICIS MEMBERS

We welcome these new members to the society and look forward to their participation in the society and the annual meeting.

Stephen Apfelroth

Jacobi Einstein Medical Center
USA

Doganci Aysefa

Pediatric Immunology
Gabon

Hooman Bakhshi

Medstar Union Memorial
Hospital
USA

Nollaig Bourke

Monash Inst of Medical Rsch
Australia

Liang Chu

Inst of Biochemistry
China

Stephanie Dabo

Institut Pasteur
France

Claudia Duerr

McGill University
Canada

Jorg Fritz

McGill University
Canada

Michael Griffin

Univ of Melbourne-Bio21 Inst
Australia

Michael Harper

Univ of Colorado School of
Medicine
USA

Ann Harvey

Cardiff Univ School of Med
United Kingdom

Lothar Henninghausen

NIH
USA

Harumichi Ishigame

Yale Univ School of Med
USA

Sohyun Sophia Jeon

Univ of Pittsburgh
USA

Motohiko Kadoki

Research Inst of Biomed Sci
Japan

Younghee Lee

Ut MD Anderson Cancer
Center
USA

Mariko Matsui

Inst Pasteur de Nouvelle-
Caledonie
New Caledonia

Peter Murray

St Jude Childrens Res Hosp
USA

Aya Nambu

Inst of Medical Sci
Japan

David Olganier

Vaccine & Gene Therapy Inst-
Florida
USA

Ryota Ouda

Kyoto Univ
Japan

Snehalata Pawar

Univ of Arkansas for Medical
Scis
USA

Rajendra Prasad

State Univ of NY - Buffalo
USA

Vladimir Rafalskiy

Smolensk State Medical
Academy
Russia

Akhil Rajput

Sandford Burnham Medical
USA

Christopher Rice

Inst of Infection and Immunity
United Kingdom

Juan Sanchez-Arcila

Fundacao Instituto Oswaldo
Cruz
Brazil

Sana Siddique

Mount Auburn Hospital
USA

Lawrence Silverberg

Philadelphia College of
Medicine
USA

Soren Ulrik Sonder

Johns Hopkins Univ Sch of
Med
USA

Jamie Sturgill

Virginia Commonwealth Univ
USA

Lei Sun

Ctr for the Genetics of Host
Defense
USA

Chenhui Wang

Cleveland Clinic Fndn
USA

Stephan Wilmes

Univ of Osnabrueck
Germany

Luna Zaritsky

NIH/NIAID
USA

Rainer Zawatzky

DKFZ
Germany

Kangjian Zhang

Inst of Biochemistry
China



MICHAEL GALE, JR. was elected to the **American Academy of Microbiology**

The Academy is the honorific leadership group within the American Society for Microbiology (ASM), the world's oldest and largest life science organization. The mission of the Academy is to recognize scientists for outstanding contributions to microbiology and provide microbiological expertise in the service of science and the public.



BOB FRIEDMAN has received the **Solomon A. Berson Medical Alumni Achievement Award in Basic Science** from his medical school, **New York University College of Medicine.**

Dr. Berson was the developer of radioimmunoassay technology. Previous winners of this award have included Jonas Salk and Albert Sabin.



FIAMMA SALERNO (Sanquin Institute, The Netherlands) received a **Biologend Best Presentation Award** at the **World Immune Regulation Meeting** in Davos, Switzerland for her talk on **“Memory T cells require post-transcriptional regulation to preclude aberrant cytokine production”.**

2014 ICIS Awards

ICIS AWARDS LIST:

1. Seymour and Vivian Milstein Award for Excellence in Interferon and Cytokine Research
2. Honorary Life Membership
3. ICIS Distinguished Service Award
4. The Milstein Young Investigator Award
5. Christina Fleischmann Award to Young Women Investigators
6. Sidney & Joan Pestka Graduate and Post-Graduate Award in Interferon and Cytokine Research Sponsored by PBL Interferon Source
7. Journal of Biological Chemistry/Herbert Tabor Young Investigator Award
8. The Milstein Travel Awards

2014 ICIS AWARDS DESCRIPTIONS:

The Seymour and Vivian Milstein Award for Excellence in Interferon and Cytokine Research

The Seymour and Vivian Milstein Award for Excellence in Interferon and Cytokine Research, represents the pinnacle of scientific achievement in interferon and cytokine research. This Award is bestowed upon a leading biomedical research scientist who has made outstanding contributions to interferon and cytokine research, either in a basic or applied field. Many laureates have made seminal advancements that have enabled the successful treatment of disease or have the potential to lead to significant health benefits. The winner(s) will be an invited speaker(s) at the annual meeting.

Nominations should be communicated to the Awards Committee of the ICIS through the ICIS website (www.isicr.org). Deadline for nomination: **May 15**

Honorary Life Membership

Nominations are solicited for Honorary Life Memberships in the ICIS. Each year an individual will be awarded Life Membership as a tribute to his/her contributions to the field.

Nominees should be individuals who have made substantive contributions to the cytokine/chemokine/interferon field over much of their careers, either in basic, clinical or applied research. Honorary members are esteemed members of the Society and provide us with an historical perspective and valued research tradition. Honorary Life Members are accorded all rights and privileges of active members, are exempted from Society dues and annual meeting registration fees, and are listed in the dedicated Honorary Life Members section of the Society web site. The winner(s) is elected by vote of the ICIS Council and will be an invited speaker(s) at the next ICIS meeting.

Nominations should be communicated to the Awards Committee of the ICIS through the ICIS website (www.isicr.org). Deadline for nomination: **May 15**

ICIS Distinguished Service Award

The ICIS will on occasion bestow this honor on an ICIS member who has made an extraordinary contribution to the Society. The individual will have devoted significant time and energy over a period of years to elevating the goals of the Society in furthering research on interferon, cytokines and chemokines.

Nominations should be communicated to the Awards Committee of the ICIS through the ICIS website (www.isicr.org). Deadline for nomination: **May 15**

The Milstein Young Investigator Award

ICIS members who attend the 2014 ICIS meeting in Melbourne and who have received a Ph.D or M.D. within the previous 10 years are eligible. Every year up to five awards are granted to individuals who have made notable contributions to either basic or clinical research. This award is provided by a generous gift of the Milstein Family. ICIS members may either apply themselves or nominate other eligible members for Milstein Young Investigator Awards. A CV and letter of recommendation (including confirmation of eligibility) should accompany the application.

Deadline to submit your 2014 application is (TBD based on abstract submission date).

2014 ICIS Awards continued

The Christina Fleischmann Award to Young Women Investigators

The rules for this ICIS award are the same as for the Milstein Young Investigator Award (see above) except for gender and the candidate must have received a Ph.D or M.D. degree within the previous 10 years. This award is made possible through the generosity of the Fleischmann Foundation and is dedicated to the memory of ISICR member and outstanding interferon research scientist Christina Fleischmann. This award is open to young women investigators working in cytokine, chemokine and interferon biology.

Deadline to submit your 2014 application is (TBD based on abstract submission date).

The Sidney & Joan Pestka Graduate and Post-Graduate Awards for Excellence in Interferon and Cytokine Research Sponsored by PBL InterferonSource

The Sidney & Joan Pestka Graduate and Post-Graduate Awards are targeted to graduate students and post-doctoral fellows who have begun to make an impact in interferon and cytokine research. The Awards are designed to fill the gap among the awards currently offered by the ICIS to more senior investigators—the Milstein Young Investigator Award, the Christina Fleischmann Award, Honorary Membership, and The Seymour & Vivian Milstein Award. Candidates must be actively working in interferon/cytokine research. The award includes a \$3500 cash award, \$1500 travel grant, a \$2500 PBL Assay Science product credit for each awardee, and a complimentary one-year ICIS membership. This is an annual award and a recipient may receive an award only once. However, an individual who receives the Graduate Award remains eligible for the Post-Graduate Award. In years where a suitable candidate is not identified, an award will not be bestowed. Applicants should submit a CV, a letter of support

from their mentor, including confirmation of trainee status, and a statement of research and accomplishments. No proprietary or confidential information can be included in the application.

Deadline to submit your 2014 application is (TBD based on abstract submission date).

The Milstein Travel Awards

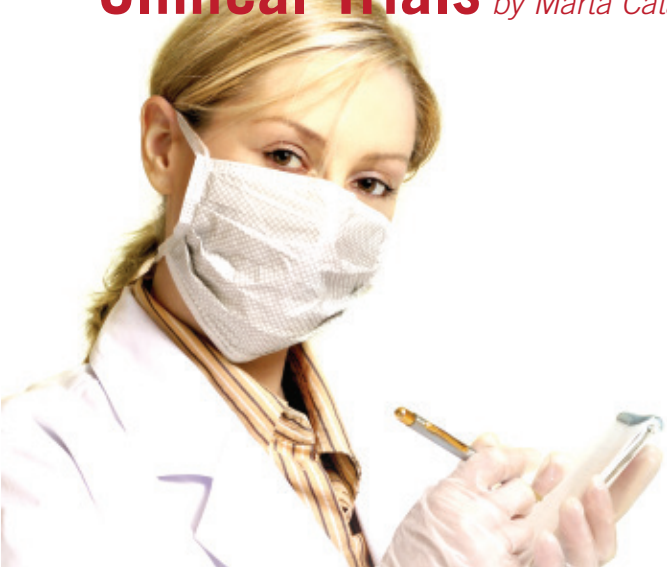
ICIS members who attend the annual meeting are eligible for Travel Awards. They are provided through a grant from the Milstein Family based on the scientific merit of the abstract and financial necessity. This award does not exempt payment of the conference registration fee. There are no age restrictions to this award. However, if both senior and junior members from the same laboratory apply for an award, preference is given to the junior member. This award is dependent on availability of funds.

Deadline to submit your 2014 application is (TBD based on abstract submission date).

The Journal of Biological Chemistry/Herbert Tabor Young Investigator Award

The Journal of Biological Chemistry/Herbert Tabor Young Investigator Award will be presented at the ICIS meeting in Melbourne. The award, that includes a crystal award and cash prize, honors Herb Tabor, who served for 40 years as the distinguished Editor in Chief of The JBC, and recognizes a young investigator who exemplifies Herb Tabor's values of creativity and scientific excellence. The award will be made to a Melbourne meeting participant based on the excellence of their abstract and other application materials. Postdoctoral researchers and junior faculty members who have not yet received tenure are eligible. A CV and letter of recommendation should accompany the application.

Deadline to submit your 2014 application is (TBD based on abstract submission date).



Inflammation in Chronic Kidney Disease and Cardiovascular Disease - The Role of Genetics and Interleukin-1 Receptor Antagonist (IL-1ra)

Principal Investigator: Adriana M Hung, MD MPH. VA Medical Center. Nashville, Tennessee, United States

Contact: Cindy A Booker cindy.a.booker@vanderbilt.edu

ClinicalTrials.gov Identifier: NCT00897715

AIDS 347: IL-6 Blockade in Treated HIV Infection

Principal Investigator: Benigno Rodriguez, MD. Case Western Reserve University

Contact: Benigno Rodriguez, MD. Phone: 216-844-2057

rodriguez.benigno@clevelandactu.org

ClinicalTrials.gov Identifier: NCT02049437

Effect of Monoclonal Anti-IL6 Antibody (Tocilizumab) on the Cardiovascular Risk in Patients With Rheumatoid Arthritis (TOCRIVAR)

Principal Investigator: Federico Díaz González, MD, PhD. Hospital Universitario de Canarias. Spain

Contact: Federico Díaz, MD, PhD

federico.diaz.gonzalez@gmail.com

ClinicalTrials.gov Identifier: NCT01752335

Combination Therapy of F81L10 and Methotrexate in Rheumatoid Arthritis Patients

Principal Investigator: Michele Maio, MD Azienda Ospedaliera Universitaria Senese

Contact: Leonardo Giovannoni, MD (0039) 0577 588539

ClinicalTrials.gov Identifier: NCT02076659

Haploidentical Donor Natural Killer Cell Infusion With IL-15 in Acute Myelogenous Leukemia (AML)

Principal Investigator: Jeffrey S Miller, MD, Masonic Cancer Center, University of Minnesota

Contact: Timothy Krepski 612-273-2800

tkrepsk1@fairview.org

ClinicalTrials.gov Identifier: NCT01385423

Recombinant Human IL-18 and Ofatumumab After PBSCT for Lymphoma

Principal Investigator: Michael Robertson, MD Indiana University Melvin and Bren Simon Cancer Center

Contact: Michael Robertson, MD 317-948-6942

mjrobert@iupui.edu

ClinicalTrials.gov Identifier: NCT01768338

Safety Study of IL-21/Anti-PD-1 Combination in the Treatment of Solid Tumors

Principal Investigator: Bristol-Myers Squibb

Contact: Charles Drake, Site 0004, Johns Hopkins Sidney Kimmel Comprehensive Cancer Center

ClinicalTrials.gov Identifier: NCT01629758

Pharmacogenomics Study on IL28B Genetic Variants in Italian Patients With HCV Infection naïve to Treatment.

Principal Investigator: Alessandra Mangia, MD. IRCCS "Casa Sollievo della Sofferenza". San Giovanni Rotondo, Foggia, Italy

Contact: Leonardo Mottola

ClinicalTrials.gov Identifier: NCT01437969

Safety Study of Pegylated Interferon Lambda Plus Single or 2 Direct Antiviral Agents With Ribavirin (D-LITE)

Principal Investigator: Bristol-Myers Squibb

Contact: Eric Lawtitz, Site 023. Alamo Medical Research. San Antonio, Texas, United States

Phone: 210-253-3426

ClinicalTrials.gov Identifier: NCT01795911

Interferon Alpha 2b Intensification in HIV-Positive Individuals on Antiretroviral Therapy

Principal Investigator: Frank Maldarelli, M.D, National Cancer Institute (NCI)

Contact: Frank Maldarelli, M.D fmali@mail.nih.gov

ClinicalTrials.gov Identifier: NCT01295515

Pilot Peg-Interferon-a2b in Decreasing Viral DNA in HIV

Principal Investigator: Luis J Montaner, DPhil. University of Pennsylvania

Contact: Luis J Montaner, DPhil montaner@wistar.org

ClinicalTrials.gov Identifier: NCT01935089

Recombinant Interferon Gamma in Treating Patients With Soft Tissue Sarcoma

Principal Investigator: Seth Pollack, Fred Hutchinson Cancer Research Center/University of Washington Cancer Consortium

Contact: Seth Pollack 206-667-6629

ClinicalTrials.gov Identifier: NCT01957709



ComiR

<http://www.benoslab.pitt.edu/comir/>

ComiR (Combinatorial miRNA targeting) predicts whether a given mRNA is targeted by a set of miRNAs. ComiR uses miRNA expression to improve and combine multiple miRNA targets for each of the four prediction algorithms: miRanda, PITA, TargetScan and mirSVR. The composite scores of the four algorithms are then combined using a support vector machine trained on *Drosophila* Ago1 IP data.

Supported species: *H. sapiens*, *M. musculus*, *D. melanogaster*, *C. elegans*.

If you find ComiR useful please cite:

- C. Coronello, R. Hartmaier, A. Arora, L. Huleihel, K.V. Pandit, A.S Bais, M. Butterworth, N. Kaminski, G.D. Stormo, S. Oesterreich, P.V. Benos (2012), **Novel modeling of combinatorial miRNA targeting identifies SNP with potential role in bone density**, *PLoS Comput Bio* 8(12): e1002830. doi:10.1371/journal.pcbi.1002830
- C. Coronello, P.V. Benos (2013), **ComiR: Combinatorial microRNA target prediction tool**, *Nucl Acids Res* 41 (Web Server issue): W159-64

FIDEA: Functional Interpretation of Differential Expression Analysis

<http://circe.med.uniroma1.it/fidea/about.php>

FIDEA is a publicly available tool aimed at allowing experimentalists to "play with" their data in an easy and at the same time exhaustive fashion within a single tool.

It can: Calculate overrepresentation statistics using KEGG, Interpro, Gene Ontology Molecular Function, Gene Ontology Biological Process, Gene Ontology Cellular Component and GoSlim classifications; Analyze down-regulated and up-regulated DE genes separately or together as a single set; Provide interactive graphs and tables that can be modified on the fly according to user defined parameters; the user can set a fold change filter and interactively see the effects on the gene set under examination; Output publication-ready plot of the graph; Compare the results of several experiments in any combination.

For any information or request, please contact:

fidea.biocomputing@gmail.com

GeneMANIA: Helping you predict the function of your favourite genes and gene sets.

<http://pages.genemania.org/>

GeneMANIA finds other genes that are related to a set of input genes, using a very large set of functional association data. Association data include protein and genetic interactions, pathways, co-expression, co-localization and protein domain similarity. You can use GeneMANIA to find new members of a pathway or complex, find additional genes you may have missed in your screen or find new genes with a specific function, such as protein kinases. Your question is defined by the set of genes you input.

If members of your gene list make up a protein complex, GeneMANIA will return more potential members of the protein complex. If you enter a gene list, GeneMANIA will return connections between your genes, within the selected datasets. GeneMANIA is also accessible via a Cytoscape plugin, designed for power users.

GeneMANIA is actively developed at the University of Toronto, in the Donnelly Centre for Cellular and Biomolecular Research, in the labs of Gary Bader and Quaid Morris. GeneMANIA development was originally funded by Genome Canada, through the Ontario Genomics Institute (2007-OGI-TD-05) and is now funded by the Ontario Ministry of Research and Innovation.

Graphite Web

<http://graphiteweb.bio.unipd.it/>

Graphite web is a public web server for the analysis and visualization of biological pathways using high-throughput gene expression data. It supports five different gene set analysis, three species and two databases of pathways. Graphite web has a powerful pathway visualization that makes results interpretation easily accessible to the user.

The grouping of genes into functionally related entities, such as biological pathways, is of great help for interpreting the results obtained from gene expression experiments, moving the attention from the study of individual genes to that of groups of genes. The aim of this type of analyses is to identify groups of genes with coordinated expression changes differentiating biological conditions.

Graphite web supports competitive and independent, topological and non-topological gene set methods to unravel the complexity of cellular regulatory mechanisms.

GWAS3D

<http://jjwanglab.org/gwas3d>

Welcome to the gateway of GWAS3D. Interpreting noncoding phenotypically associated variants is an indispensable step to understand molecular mechanism of complex traits,

GWAS3D systematically compute the probability of genetics variants affecting regulatory pathways and underlying disease/trait associations by integrating chromatin state, functional genomics, sequence motif, and conservation information when given GWAS data or variant list. GWAS3D also provided comprehensive annotations and visualizations to help users interpreting the results.

Main Functions

- Identify the most probable functional variants which affect transcriptional regulation;
- Prioritize the leading variants when given a full list of GWAS result;
- Evaluate the deleteriousness of genetic variants affecting the gene regulation when given a list of variants;
- Annotate genetic variant from regulatory perspective.

Please cite the work from:

GWAS3D: detecting human regulatory variants by integrative analysis of genome-wide associations, chromosome interactions and histone modifications *Nucl Acids Res.* doi:10.1093/nar/gkt456.

INMEX-a web-based tool for integrative meta-analysis of expression data

<http://www.inmex.ca/INMEX/>

The widespread applications of various "omics" technologies in biomedical research together with the emergence of public data repositories have resulted in a plethora of datasets generated for any given physiological state or disease condition. Properly integrating these datasets with similar basic hypotheses can help improve statistical power, reduce study bias, and improve overall biological understanding. INMEX is designed to assist researchers in conducting two common types of such analyses - meta-analysis of multiple gene expression datasets (**meta-analysis**) or joint analysis of a gene expression dataset and a metabolomic dataset (**integrative analysis**), that have been collected under the same or comparable biological conditions.

- Built-in support for common gene IDs and 45 popular microarray platforms;
- Built-in support for common metabolite names and IDs from major compound databases;
- Intuitive interface for processing and annotating individual datasets;
- Support for well-established meta-analysis methods based on p values, effect sizes, rank products, vote counts, or direct merging;
- Detailed result tables with summary statistics and gene-wise expression visualization;

- Heatmap clustering and visualizing the expression profiles for selected gene list;
- Gene ontology (GO) analysis;
- KEGG pathway analysis and visualization.

Please Cite: Xia, J., Fjell, C.D., Mayer, M.L., Pena, O.M., Wishart, D.S. and Hancock, R.E. (2013) **INMEX -- a web-based tool for integrative meta-analysis of expression data.** *Nucl Acids Res*, 41, W63-70. (PDF)

Interaction Browser

<http://sysbio.soe.ucsc.edu/nets>

The Interaction Browser (IB) is a web application developed in Josh Stuart's Bioinformatics lab at UCSC. It is used to visualize and combine interaction data from a large number of datasets. The IB organizes the individual datasets into networks that can be switched on/off in the visualization of a biological network. The networks include datasets representing various types of data such as expression and protein interaction.

Pathways

<http://pathiways.babelomics.org/>

PATHiWAYS is a web tool for the interpretation of the consequences of the combined changes in expression levels of genes in the context of signaling pathways. Specifically, this tool allows the user to identify the stimulus-response subpathways that are significantly activated or deactivated in the typical case/control experiment. PATHiWAYS identifies all the stimulus-response subpathways of KEGG signaling pathways, calculates the probability of activation of each one, based on the individual gene expression values and identifies those with a significant differential activity between the two conditions compared.

The aim of PATHiPRED web tool is to provide subpathway-level information useful to distinguish between two classes or a continuous variable. PATHiPRED uses the probability of activation of stimulus-response subpathways obtained with PATHiWAYS methodology to compute a predictor that discriminates between two conditions or a continuous variable. PATHiPRED performs a correlation-based feature selection followed by a SVM modelling with cross-validation. PATHiPRED results include the subpathways that best differentiate between two classes or a continuous variable, the confusion matrix of the prediction, statistical parameters that assess the goodness of the model, raw PATHiWAYS probabilities and pathways graphs with the selected subpathways highlighted.

Response Net

<http://netbio.bgu.ac.il/respnet>

ResponseNet is an integrative network-optimization approach that was developed to highlight major signaling and regulatory molecular interaction paths that connect disease-related mutations and genes. The ResponseNet web-server provides a user-friendly interface to ResponseNet. Specifically, users can upload weighted lists of proteins and genes and obtain a sparse, weighted, molecular interaction subnetwork connecting them, that is biased toward regulatory and signaling pathways. ResponseNet2.0 enhances the functionality of the ResponseNet web-server in two important ways. First, it supports analysis of human data by offering a human interactome composed of proteins, genes and micro-RNAs. Second, it offers a new informative view of the output, including a randomization analysis, to help users assess the biological relevance of the output subnetwork. *Nucl Acids Res*, 41 (W1):W198-W203; 10.1093/nar/gkt532 JUL 2013

TMA navigator

<http://www.tmanavigator.org/>

TMA Navigator is a collection of tools for analysing tissue microarray (TMA) directly from your web browser. It is a free web-based service open to all users, and there is no login requirement. The latter part of the TMA Navigator name derives from the themes of Networks, Analysis and Visualisation.

Key Features

- Flexible Data Upload
- Batch Correction
- Visualisation & Modelling
- Marker Networks
- Survival Analysis

Using TMA Navigator involves three main steps:

- Upload data
- Run analyses
- Access results

Lubbock, A. L. R., Katz, E., Harrison, D. J. & Overton, I. M. **TMA Navigator: network inference, patient stratification and survival analysis with tissue microarray data** *Nucl Acids Res.* (2013). DOI: 10.1093/nar/gkt529 PMID: 23761446

Vienna-PTM

<http://vienna-ptm.univie.ac.at/>

Welcome to Vienna-PTM, a resource for exploring protein post-translational modifications (PTMs) using molecular dynamics (MD) simulations! Here, you can modify a protein PDB file of your choice with one or more supported PTMs and obtain force field parameters (GROMOS 45A3 and 54A7) and input files needed to perform MD simulations of the modified proteins using the GROMACS package. Currently, we support a total of 256 different enzymatic and non-enzymatic modifications.

Details about Vienna-PTM and the associated parameters can be found in:

1. Margreitter C*, Petrov D* & Zagrovic B (2013) "Vienna-PTM webserver: a toolkit for MD simulations of protein post-translational modifications" *Nucl Acids Res*, 41, W422-426.
2. Petrov D*, Margreitter C*, Grandits M, Oostenbrink C & Zagrovic B (2013) "Development and verification of force-field parameters for molecular dynamics simulations of protein post-translational modifications" *PLOS Comp Biol*, 9(7), e1003154.

visANT: Integrative Visual Analysis Tool for Biological Networks and Pathways

<http://visant.bu.edu/>

VisANT aims to provide new functions to facilitate the convenient network analysis of diseases, therapies, genes and drugs.

Features include:

1. Convenient and fast network/pathway construction using either update-to-date knowledge or user's data
2. Visual navigation of disease, drug/therapy and GO hierarchies
3. Batch mode automates batch processes in the background to handle large-scale networks with millions nodes/edges
4. Meta-Graph: multi-scale visualization of bio-networks, ideal for network of functional modules
5. Flexible visual schema of the network: Customized node&edge annotation
6. Easy http linking to your network and built-in support of high resolution SVG

MIRACLES CONVERTED LYMPHODREK TO CYTOKINES



Joost J. Oppenheim

Numerous man-made scientific serendipitous miracles resulted in the identification of the multitude of mediators now known as cytokines, proteins critical for regulating our inflammatory and immunological host defenses. The idea that soluble factors were responsible for fever was first proposed by Menkin 70 years ago who claimed to have “purified” fever reducing activities from inflammatory exudates [1]. These “pyrexins” unfortunately were contaminated by bacterial endotoxins. Sixty years ago Bennett and Beeson obtained an endotoxin free “endogenous pyrogen” extracted from inflammatory exudates and peripheral blood leukocytes (PBWBC) [2]. Concomitantly, a number of other scientists miraculously developed a variety of tissue culture media making it possible to culture cells in vitro. This enabled geneticists to culture PBWBC for chromosome studies. This required stimulation of PBWBC to proliferate with a kidney bean extract containing Phytohemagglutinin (PMA), a miraculous discovery by Nowell [3]. Even the identity of the replicating cell types undergoing mitosis was unclear. Subsequently it was pointed out to me by Dr. George Brecher, that they were the nonphagocytic lymphocytic mononuclear cells, which were distinct from phagocytic monocytes that could be identified based on their capacity to ingest the latex nanospheres we added to the cultures.

Another miracle occurred down under in New Zealand where Pearmain and Lycette showed that the tuberculin antigen, PPD, stimulated a small proportion of lymphocytes to proliferate in vitro provided they were from PPD positive donors [4]. This was the first indication that this in vitro assay correlated with in vivo immune reactivity. This idea was reinforced by the observation by Bain et al. that cultures of mixtures of allogeneic leukocytes also induced some lymphocytes to proliferate and undergo blastogenesis [5]. Shinpei Kasakura and Lowenstein undertook the next logical step which was to show that the supernatants of such mixed allogeneic antigen stimulated leukocytes reactions contained a “blastogenic factor”, distinct from antibodies, that were mitogenic [6].

Another group of miracle workers had previously shown that antigens inhibited the migration of leukocytes out of clots [7]. This assay was difficult to quantitate and therefore George and Vaughan devised a means of measuring the migration of mononuclear cells out of the end of a capillary tube [8]. This technique was used by John David and coworkers to show that antigens selectively inhibited the migration of macrophages, but only if obtained from sensitized donors [9] and that lymphocytes were necessary to obtain this inhibitory effect [10]. Thus lymphocytes “text” messages to macrophages. The next logical step taken by David [11] and coworkers and Bloom [12] was to show that the supernatants of mononuclear cells from sensitized donors contained the message for this inhibitory effect and they termed this factor MIF. This really called attention of immunologists to the biological activities produced by these cells. That these mediators were distinct from antibodies was reinforced by similar discoveries by virologists of antiviral supernatant factors, they called interferons [13]. Immunologists were also dimly aware of the discovery of sarcoma cell derived nerve growth factors that stimulated the growth and differentiation of sympathetic ganglia neurons [14]. A number of other mediators with cytotoxic or activating effects were also detected. Unfortunately, attempts to purify and identify these factors proved impossible at the time because they were active at nanomolar concentrations. Consequently, the supernatants of activated leukocytes were facetiously considered to be loaded with mysterious lymphodrek [15]. On the other hand Dudley Dumonde termed these lymphocyte products “lymphokines” [16]. Igal Gery and coworkers discovered that macrophages also produce “lymphocyte activating factors” (LAF) and called them “monokines” [17]. Stanley Cohen discovered that nonleukocytic fibroblasts produced MIF-like activities, and therefore proposed the term “cytokine” [18].

Unfortunately, investigators were unable to identify the nature of the responsible molecules. During the 1970’s peer review committees determined that funding for such

phenomenological research was not warranted. Despite the failure to biochemically identify the cytokines, a review by Byron Waksman enumerated many research reports by immunologists of cytokines with over one hundred biological activities [19]. At the second meeting of cytokine aficionados held in Switzerland near Lake Interlaken in 1979, it was decided that the major lymphocytic mitogenic cytokines derived from macrophages or lymphocytes could be attributed to two mediators, which were termed Interleukin 1 and 2 respectively [20]. Fortunately, the cytokine field was rescued in the 1980's by miraculous progress in molecular biology and biochemistry which made it possible to identify the biochemical structure of the cytokines and their receptors, which now number in the hundreds. Although the decisions of the peer review committees not to fund this research field were logical and justifiable, the irrational persistence of investigators in pursuing the phenomenological studies provided the necessary bioassays and conceptual basis permitting the subsequent characterization of cytokines present in lymphodrek by molecular biologists and biochemists.

1. Menkin, V., *Chemical Basis of Fever*. Science, 1944. 100(2598): p. 337-8.
2. Bennett, I.L., Jr. and P.B. Beeson, *Studies on the pathogenesis of fever. II. Characterization of fever-producing substances from polymorphonuclear leukocytes and from the fluid of sterile exudates*. J Exp Med, 1953. 98(5): p. 493-508.
3. Nowell, P.C., Phytohemagglutinin: an initiator of mitosis in cultures of normal human leukocytes. Cancer Research, 1960. 20: p. 462-6.
4. Pearmain, G., R.R. Lycette, and P.H. Fitzgerald, *Tuberculin-induced mitosis in peripheral blood leucocytes*. Lancet, 1963. 1(7282): p. 637-8.
5. Bain, B., M.R. Vas, and L. Lowenstein, The Development of Large Immature Mononuclear Cells in Mixed Leukocyte Cultures. Blood, 1964. 23: p. 108-16.
6. Kasakura, S. and L. Lowenstein, A factor stimulating DNA synthesis derived from the medium of leukocyte cultures. Nature, 1965. 208(5012): p. 794-5.
7. Svejcar, J. and J. Johanovsky, Demonstration of delayed (tuberculin) type hypersensitivity in vitro. III. Growth stimulation of sensitive peritoneal exudate cells in antigen containing medium. Z Immun exp ther, 1961. 122: p. 437-52.
8. George, M. and J.H. Vaughan, In vitro cell migration as a model for delayed hypersensitivity. Proceedings of the Society for Experimental Biology and Medicine, 1962. 111: p. 514-21.
9. David, J.R., et al., Delayed Hypersensitivity in Vitro. I. The Specificity of Inhibition of Cell Migration by Antigens. Journal of Immunology, 1964. 93: p. 264-73.
10. David, J.R., H.S. Lawrence, and L. Thomal, *Delayed Hypersensitivity in Vitro. II. Effect of Sensitive Cells on Normal Cells in the Presence of Antigen*. Journal of Immunology, 1964. 93: p. 274-8.
11. David, J.R., Delayed hypersensitivity in vitro: its mediation by cell-free substances formed by lymphoid cell-antigen interaction. Proceedings of the National Academy of Sciences of the United States of America, 1966. 56(1): p. 72-7.
12. Bloom, B.R. and B. Bennett, Mechanism of a reaction in vitro associated with delayed-type hypersensitivity. Science, 1966. 153(3731): p. 80-2.
13. Isaacs, A. and J. Lindenmann, Virus interference. I. The interferon. Proceedings of the Royal Society of London. Series B: Biological Sciences, 1957. 147(927): p. 258-67.
14. Levi-Montalcini, R., and Hamburger, V., A diffusible agent of mouse sarcoma producing hyperplasia of sympathetic ganglia and hyperneurotization of the chick embryo. J Exp. Zool., 1953. 123: p. 233-388.
15. Oppenheim, J.J. and I. Gery, From lymphodrek to interleukin 1 (IL-1). Immunology Today, 1993. 14(5): p. 232-4.
16. Dumonde, D.C., et al., "Lymphokines": non-antibody mediators of cellular immunity generated by lymphocyte activation. Nature, 1969. 224(5214): p. 38-42.
17. Gery, I., R.K. Gershon, and B.H. Waksman, Potentiation of cultured mouse thymocyte responses by factors released by peripheral leucocytes. Journal of Immunology, 1971. 107(6): p. 1778-80.
18. Cohen, S., P.E. Bigazzi, and T. Yoshida, Commentary. Similarities of T cell function in cell-mediated immunity and antibody production. Cell Immunol, 1974. 12(1): p. 150-9.
19. Waksman, B.H., Modulation of Immunity by Soluble Mediators. Pharmacology & Therapeutics Part a-Chemotherapy Toxicology and Metabolic Inhibitors, 1978. 2(4): p. 623-672.
20. Mizel, S.B. and J.J. Farrar, Revised nomenclature for antigen-nonspecific T-cell proliferation and helper factors. Cellular Immunology, 1979. 48(2): p. 433-6.

OUT OF THE BOX

Editor's note: I choose this paper because I thought it represented some “out of the box” thinking about cytokines. ICIS members are encouraged to submit papers for consideration for future newsletters (you will be asked to interview the authors but you will get a byline in exchange). The answers to my questions were provided by:

Prof. Dlawer Ala'Aldeen PhD, FRCPath
Professor of Clinical Microbiology
Head, Molecular Bacteriology and Immunology Group
School of Life Sciences
University of Nottingham
www.nottingham.ac.uk/mbig

in consultation with Professors Jafar Mahdavi and Panos Soultanas. This project is a joint effort of Professors Ala'Aldeen, Mahdavi and Soultanas.

Howard



Professors Ala'aldeen and Soultanas



Professor Mahdavi

...**Open Biol.** 2013 Oct 9;3(10):130048. doi: 10.1098/rsob.130048.

Pro-inflammatory cytokines can act as intracellular modulators of commensal bacterial virulence.

Mahdavi J1, Royer PJ, Sjölander HS, Azimi S, Self T, Stoof J, Wheldon LM, Brännström K, Wilson R, Moreton J, Moir JW, Sihlbom C, Borén T, Jonsson AB, Soultanas P, Ala'Aldeen DA.

Abstract

Interactions between commensal pathogens and hosts are critical for disease development but the underlying mechanisms for switching between the commensal and virulent states are unknown. We show that the human pathogen *Neisseria meningitidis*, the leading cause of pyogenic meningitis, can modulate gene expression via uptake of host pro-inflammatory cytokines leading to

increased virulence. This uptake is mediated by type IV pili (Tfp) and reliant on the PilT ATPase activity. Two Tfp subunits, PilE and PilQ, are identified as the ligands for TNF- α and IL-8 in a glycan-dependent manner, and their deletion results in decreased virulence and increased survival in a mouse model. We propose a novel mechanism by which pathogens use the twitching motility mode of the Tfp machinery for sensing and importing host elicitors, aligning with the inflamed environment and switching to the virulent state.

Questions

Everyone considers cytokines to be regulators of host cell function and there is a lot of literature indicating direct effects of bacteria on host cell cytokine gene expression. What made you look for a direct response to cytokines in the microbiome?

Bacteria, being supremely adaptable, have been on earth billions of years before humans and have learned to utilize evolutionary principles to their advantage to overcome survival pressures and challenges. On the other hand, the role of

cytokines in coordination of immune system and cell signalling as immune-modulators are well established. They are secreted by various host cells and act by recruiting and activating immune cells in response to pathogens. The question was if the bacterium is able to use such important molecules/cytokines for its own welfare. Can they use them for patho-adaptation, i.e. use them as key modulators of their gene expression? Can they use them to regulate their behavior within the constantly changing host environments? It was these questions that led to the idea of looking for responses to cytokines in the microbiome.

As your model challenges the existing concepts about cytokines, did you experience skepticism and difficulties in funding the initial studies?

Absolutely. This work was carried out as a side project and has not been directly funded by the research councils. A recent application to the Medical Research Council to fund a significant effort into understanding the mechanisms of cytokine-mediated bacterial behavior and virulence was met with skepticism. It is difficult to persuade conventional reviewers to accept entirely novel concepts. The burden of proof of concept is very much higher than established concepts and the level of preliminary evidence required is almost the complete story at which stage the project would be almost completed. Nevertheless we are in the process of completing a second study on the cytokine-mediated effects on other bacterial virulence and a second publication on this topic will raise further awareness of this novel concept within the community.

Do you think your data is only relevant to pathogens or are you going to look for responses in the broader microbiome and if so, how are you going to approach that question?

We are looking into other pathogens and commensal microbes as they have been exposed to cytokines and the host immune system over many years and are likely to have developed mechanisms that enable them to respond and adapt to host defenses.

Are there other cytokines you believe might cause a direct response in microbes?

We believe that there is every chance that many cytokines will have the ability to modulate bacterial behavior. Bacteria are masters of evolutionary adaptation and as they have been exposed to our (and other hosts') immune systems either as pathogens or commensals they would have acquired the ability to intercept signaling molecules such as cytokines for their benefit. A large effort is required to screen many cytokines in different bacteria. It will require a significant effort and dedicated funding.

Your data with TNF demonstrated binding of TNF to DNA. What do you think is the biological significance of this result since it is so different from accepted activities of TNF?

Yes, this is something that we are looking in more detail. We need to reveal mechanistic details of the molecular action of cytokine-binding to DNA. Cytokines can act as transcription factors and/or nucleoid associated proteins to exert different structural/transcriptional effects on the bacterial nucleoid. Again a significant effort is required to identify DNA consensus binding sequences for different cytokines, to map in vivo binding sites of different cytokines and to reveal transcriptional effects on the genes they regulate. This will be a significant body of work, requiring substantial funding.

Do you see cytokine-microbiome interactions having any direct clinical implications?

This is precisely the focus of our work. This novel concept will open the way in a whole new field. There is massive potential here to first understand the molecular details of the cytokine-bacteria communication and then usurp it to our advantage. We will learn how to coexist with bacteria and coach them through cytokines to keep benign, commensal states over aggressive virulence ones. It will provide us with a new homeostatic mechanism to keep a mutually beneficial balance between hosts and pathogens.



Thomas Hamilton

The merger between ISICR and ICS prompts consideration of the affiliated publications (Journal of IFN and Cytokine Research and Cytokine) that have been associated with these two societies over many years. As is noted from the related article, editorial leadership at Cytokine is changing and Dhan Kalvkolanu will be taking over the Editor in Chief position.

Dhan has been a longtime Associate Editor at the JICR and we are looking forward to working together with him to provide a broad scope of publication options for members of the merged society.

Both the JICR and MaryAnn Liebert Inc, the publisher of JICR, are committed to work together with the leadership of ICIS and its publication committee to ensure that the Journal meets the needs of the Society membership.

Importantly, MaryAnn Liebert Inc has announced a sponsorship of the Society annual meeting in the form of a 5 year annual commitment of \$5,000 to support a Symposium that will be named in honor of Phillip Marcus, the first Editor-in-chief of the JICR. The first Marcus Symposium will be held at this year’s annual meeting in Melbourne.

One of the features of the JICR is the publication of issues dedicated to specific topic areas. These collections reflect the effort of individuals who organize and edit the content and they serve to provide an up-to-date overview of recent advances in areas of topical interest in cytokine and IFN biology. In 2014 we are planning to publish 4 special issues. The first, which will be out shortly, will honor Phil Marcus and will contain a collection of papers covering the detection of and response to double stranded RNA. Three others are also in preparation and deal with autoimmunity, post-transcriptional control of cytokine gene expression, and the immunogenicity of therapeutic cytokines.



Ganes Sen

As we move forward in our new relationship with the merged society, we would like to solicit suggestions from membership on how we might strengthen the Journal particularly with respect to topics on cytokines other than the IFNs. One approach to this will be through the editorial board. In this context we want to encourage the younger members of our community to publish in the Journal and to consider joining the Editorial Board.

Looking forward to these new opportunities,

Thomas Hamilton Ganes Sen
Editors-in-chief • JICR

THE ICIS SLIDE REPOSITORY

Ever see a slide in a talk that you wish you could use for your own presentation? Well now this may be possible through the ICIS Slide Repository. All ICIS Members can go in and post slides that they have developed or download slides that others have provided to the membership. OVER 500 SLIDES ARE AVAILABLE!!!!!! For this member only feature, you need to have your ICIS member number so if you are not sure what that is, please contact the membership office. We urge members to upload general slides that other members can use for lectures, classes, seminars, etc. Slides are not to be changed without permission from the donor and all copyright permissions must be obtained. The repository now has a useful search capability that allows you to find slides on a particular topic. If you have trouble uploading or downloading slides, please contact Howard Young at younghow@mail.nih.gov



A change of guard at *CYTOKINE*, an official journal of the International Cytokine and Interferon Society.

Dhan V. Kalvakolanu, M.S., Ph.D.
Professor of Microbiology & Immunology
University of Maryland School of Medicine
Baltimore, Maryland
New Editor-in-Chief appointed, *CYTOKINE*

Cytokine is a peer reviewed monthly journal published by Elsevier Journals, Amsterdam, the Netherlands. The journal came into existence as the official journal of the International Cytokine Society (ICS), which is now the ICIS after merging with the International Society for Interferon and Cytokine Research. The journal had its origins originally in the W.B. Saunders Company, later with Harcourt, Brace and Jovanovitch, then Academic Press and currently with Elsevier. The founding editors are: Drs. Scott Durum of the United States National Institutes of Health and Sir Gordon Duff of the University of Sheffield, United Kingdom. Over the last 25 plus years *Cytokine* grew into an important conduit for the publication of original cytokine research. Today *Cytokine* receives 600 plus manuscripts a year and continues to grow. After many year of managing *Cytokine*, Drs. Durum and Duff have decided to step down from the Editorship as of June 2014. It is important to recognize that without their tireless efforts, the journal would not have reached its' current status. At this time, the publishers, advisory board and the members of the editorial board join me in thanking Drs. Durum and Duff for their exemplary leadership.

I have been appointed as the new Editor-in-Chief of *Cytokine* by the publisher beginning July 01, 2014. Prior to this, I served as a member of editorial board and subsequently as an Associate Editor of the *Journal of Interferon and Cytokine Research* for several years. I have also recently completed a 5 year assignment as an Editor for the *Journal of Biological Chemistry*. I continue to serve as an Editor for two other journals- the *Open Journal of Immunology* and the *Journal of Pediatric Biochemistry*. I am excited about this new opportunity to work with the *Cytokine* research community through the journal and I wish to share some thoughts on the future activities of the journal with ICIS members here.

Since their original discovery as secreted proteins that modulate the activity of cells of the immune of system, cytokines have come a long way. Over the last 3 decades, we have learned a lot about their receptors, signal transduction pathways and biological effects. The identification of newer extracellular and intracellular receptors such as PAMPs, DAMPs and nucleic acid sensors (RLRs, cGAS and STING) in the last 10 years has given further insight into our understanding of Cytokine networks *in vivo*. Currently, we have more than 40 different cytokines in our knowledge base. Some of these, e.g. the Interferons, IL-1, IL-17, and TNF, include several structurally similar but functionally and genetically distinct members, that constitute their own families and subfamilies. The discovery of multiple chemokines and their receptors has added further insight into the complex regulation of the immune responses *in vivo*. The availability of knockout mice for receptors, their signaling adaptors, neutralizing antibodies, and identification of soluble receptors has further validated the *in vivo* relevance of many of the cytokines. It is not hyperbolic to state that almost all human diseases are a result of dysregulated cytokine responses. Much of the progress made in cytokine research to date is primarily based upon the utilization of animal/cell models and at this stage, what we have seen with regards to cytokine research is simply the tip of this iceberg. There is clearly more to come from understanding cytokine actions and the next decade will also reveal many new applications for cytokine activity in human disease. For example, the discovery of STAT3, JAK2 and JAK3 mutations in several diseases such as cancer and immunodeficiency have led to the development of small molecule inhibitors, some of which have already entered clinical trials.

The last decade has also seen introduction of new technologies such as high-throughput sequencing, and mass

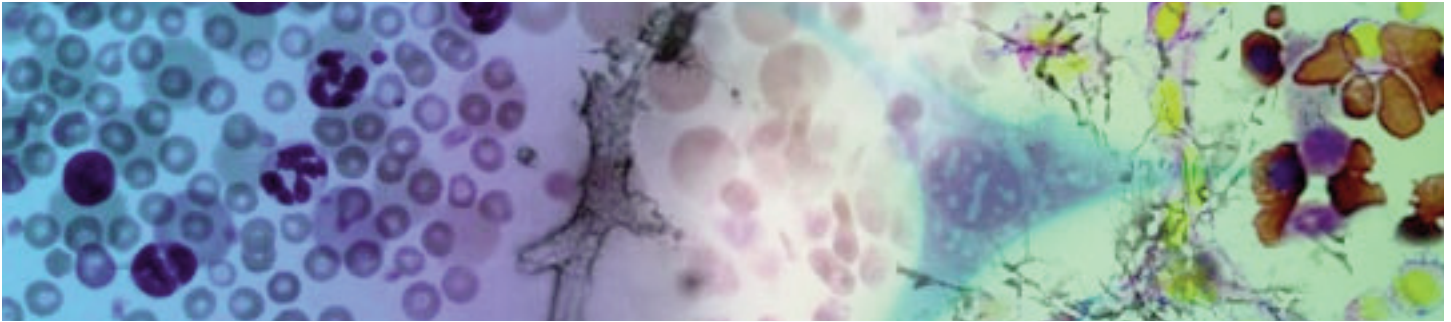
A change of guard at *CYTOKINE*, an official journal of the International Cytokine and Interferon Society. *continued*

spectrometry into biological research. Furthermore, new phenomena such as autophagy, macropinocytosis, netosis, entosis, and necroptosis, have now been defined as distinct biological processes and subtypes of immune responses, involving new immune cell populations such as alternatively activated macrophages, myeloid-derived stem cells and unique T and B cell subsets have been described. The connections between cytokines and these phenomena need to be better defined for their dysfunction may contribute to tumor growth, inflammation, pathogen evasion and chronic autoimmune diseases such as arthritis, multiple sclerosis and thyroiditis, etc. A number of questions in cytokine biology will be answered using the new technologies-including cytokine specific gene signatures, mutations in cytokine signaling pathways that result in hyper- or hypo- activation of responses, single-nucleotide polymorphisms in the cytokine receptors and signaling adaptors, protein modifications beyond phosphorylation and ubiquitylation, disease-specific associations, and new drugs based on cytokines themselves or cytokine responsive pathways. We also do not have a clear understanding of the mechanisms of inter-cytokine collaboration and antagonism. Answers to several of these questions are expected to emerge over the next decade. As the scientific community defines these processes, efforts toward translating these into human diseases will come to forefront. *Cytokine* will offer a canvas for portraying these new understandings and advances. Therefore, we look forward to publishing original research in the existing and emerging areas of cytokine biology in *Cytokine*. The journal will continue to bring erudite reviews on new subjects, phenomena and discussion forums in all aspects to cytokine biology mentioned above as it strives to become a “central message board” for all investigators interested in cytokines. As the new Editor in Chief, I and my team of editors will promise to deliver timely reviews and publication of the accepted manuscripts. The journal has already put into place the mechanisms to accept and review manuscripts online. This will change the speed of reviewing and as the journal grows, I look forward to input from the membership of the ICIS in identifying anew generation of editors for participating in the peer-review and publication process. We will consider your suggestions with respect to newer fields/special issues/topics as they relate to cytokines, in order to provide a mechanism

to help the members of ICIS become more familiar with these specific areas. In this manner, *Cytokine* will become a major source of all that is known and is to be known about cytokines. Among my first steps, I plan to bring on several new editors in current and emerging areas of cytokine research to meet these needs. We would like implement a systematic rotation of editors periodically to rejuvenate the board and give opportunities to those who have not yet served as editors. As in the past, the editorial board will continue to reflect the international nature of the journal. Also, I will strive to: 1) significantly reduce the time from the submission to publication; and 2) bring in clinical investigators into the editorial board. Lastly, we will establish a relationship with the ICIS newsletter and provide continuing information about the journal for forth coming issues.

Cytokine will publish both basic and applied science research. I invite manuscripts reporting on clinical trials, and therapeutics as they relate to cytokines or diseases caused by cytokines. We will also invite commentaries on the ongoing, basic, clinical and preclinical studies. And yes, *Cytokine* will publish manuscripts describing Interferon, Chemokines and Growth Factor research too! As envisioned by the publisher and founding editors, we will strive to make this journal a primary source of information on cytokines. As much as we will work hard to meet these goals, we need the membership of ICIS and members of the editorial board to submit and publish some of their original research manuscripts in the journal. One important point I ask of all members of the editorial board is to participate enthusiastically and support the growth of the journal by talking about it to your colleagues and encouraging them to submit their manuscripts to the journal. This is the best way to empower this important scientific journal and such small changes will enhance the impact of the journal in the near future. Finally, I expect a smooth transition of leadership to occur. We will train all newly-inducted editors to effectively familiarize them with the goals, policies and practices of *Cytokine*. I do not foresee any delays in publications or anything that will be an impediment for either the authors or the readers of the journal during this transition. As we set our sails to navigate *Cytokine* into the future, I will close this note with my favorite quote from Alfred Tennyson’s Ulysses, “to strive, to seek and not to yield”.

Austrian JakStat Cooperative



The Vienna based SFB-JakStat (www.jak-stat.at) is a special research program granted by the Austrian Science Fund FWF (www.fwf.ac.at) and extensively supported by participating research institutions. The SFB-JakStat combines six research groups from the University of Veterinary Medicine Vienna (Vetmeduni Vienna Department of Biomedical Sciences, www.vetmeduni.ac.at), the University of Vienna (Max F Perutz Laboratories, MFPL, www.mfpl.ac.at), the Research Center for Molecular Medicine (CeMM, www.cemm.oeaw.ac.at) of the Austrian Academy of Sciences and the Ludwig Boltzmann Institute for Cancer Research (LBI-CR, www.lbicr.lbg.ac.at). The principle investigators share a long-term track in Jak-Stat signaling and follow the unifying goal to create intellectual synergies and enthusiasm, to share projects and to pool expertise and resources in order to increase quality and output of the findings. SFB-JakStat thus improves the international standing and competitiveness in a research field highly relevant to biomedical research.

Jaks (Janus kinases) and Stats (signal transducers and activators of transcription) form a rapid two-component signaling chain to communicate occupancy of cell surface receptors to target genes. This linear or canonical Jak-Stat signal transduction is utilized by a broad spectrum of cytokine and growth factor receptors. Partial or complete loss and malfunction of Jak-Stat activity leads to severe consequences, e.g. to development/differentiation and immune defects, deregulated inflammation, metabolic disease and malignant cell transformation. An emerging field in Jak-Stat biology is the non-canonical Jak-Stat function, i.e. Jaks acting independent of receptor association or kinase activity and Stats acting independent of phosphorylation.

The core SFB-JakStat comprises research groups headed by principle investigators (in alphabetical order) Thomas Decker, Robert Kralovics, Richard Moriggl, Mathias Müller, Veronika Sexl and Birgit Strobl. The program is organized in the three research areas (i) infection and immunity, (ii) hematopoietic malignancies and tumor immune surveillance, (iii) molecular mechanisms of canonical and non-canonical Jak-Stat action. Jointly, the SFB-JakStat investigates in vivo consequences of Jak-Stat defects and the underlying molecular mechanisms. The research is focussed on Stat1 and Tyk2 in infectious diseases, tumor surveillance, leukemogenesis and (non)-canonical functions and on Stat5 and Jak2 in hematopoietic malignancies. The scientific approaches of SFB-JakStat are supported by an overarching housekeeping structure providing central animal and cell culture platforms, bioinformatic support, external and internal communication networks, as well as measures to promote young scientists' careers.

Vetmeduni Vienna provides a special commitment by anchoring the research, development and education in the field of JakStat mediated diseases in comparative medicine in the university developmental plan 2020 and by leading Biomodels Austria, which is a core facility for breeding, generation and phenotyping of genetically engineered mice under standardized and ethical as well as legal guidance.

In addition to the core SFB-JakStat research areas the consortium members have developed own and collaborative expertise in the fields of JakStat activities in gastrointestinal inflammation, hepatic and intestinal cancers and skin inflammatory and tumorigenic diseases. The numerous Jak and Stat gene modified mice developed by the consortium provide also a valuable tool to test the biosafety, efficacy and off-target effects of the Jak and Stat activity modifying pharmaceutical agents.

REVIEWS OF INTEREST



Alao H, Jake Liang T. **Alternative interferons and immunomodulators in the treatment of hepatitis C.** *Liver Int* 2014 Feb 34:Suppl 1, 133-138

Bosmann M, Ward PA. **Modulation of inflammation by interleukin-27.** *J Leukoc Biol* 2013; 94, 1159-1165

Canna SW. **Interferon- γ : Friend or Foe in Systemic Juvenile Idiopathic Arthritis and Adult Still's Disease.** *Arthritis Rheumatol* 2014 Jan 27. doi: 10.1002/art.38362.

Gu CF, Wu L, Li XX. **IL-17 family: Cytokines, receptors and signaling.** *Cytokine* 2013 Nov 64:2, 477-485

Ignasi Rodriguez-Pintó I, Agmon-Levin N, Howard A, Shoenfeld Y. **Fibromyalgia and cytokines.** *Immunol Lett*
<http://dx.doi.org/10.1016/j.imlet.2014.01.009>

Ivashkiv LB, Donlin LT. **Regulation of type I interferon responses.** *Nature Rev Immunol*, 2014 Jan. 14:1, 36-49

Khan S, Shukla S, Sinha S, Meeran SM. **Role of adipokines and cytokines in obesity-associated breast cancer: Therapeutic targets.** *Cytokine & Growth Factor Rev* 2013 December 24:6, 503-513

Kono DH, Baccala R, Theofilopoulos AN. **TLRs and interferons: a central paradigm in autoimmunity.** *Curr Op Immunol* 2013 December 25:6, 720-727

Lippitz BE. **Cytokine patterns in patients with cancer: a systematic review.** *Lancet Oncol* 2013 May 14:6, e218-28

Schmeisser H, Bekisz J, Zoon KC. **New Function of Type I IFN: Induction of Autophagy.** *J Interferon & Cytokine Res* 2014 February 34:2, 71-78

Votavova P, Tomala J, Kovar M. **Increasing the biological activity of IL-2 and IL-15 through complexing with anti-IL-2 mAbs and IL-15R -Fc chimera.** *Immunology Lett* May-June 2014 159:1-2, 1-10

Zhang L, Zhou FF, ten Dijke P. **Signaling interplay between transforming growth factor-beta receptor and PI3K/AKT pathways in cancer.** *Trends in Biochem Sci* 2013 Dec. 38:12, 612-620

USEFUL APPS

Reviews from *Genetic Engineering News*...



Lab Counter

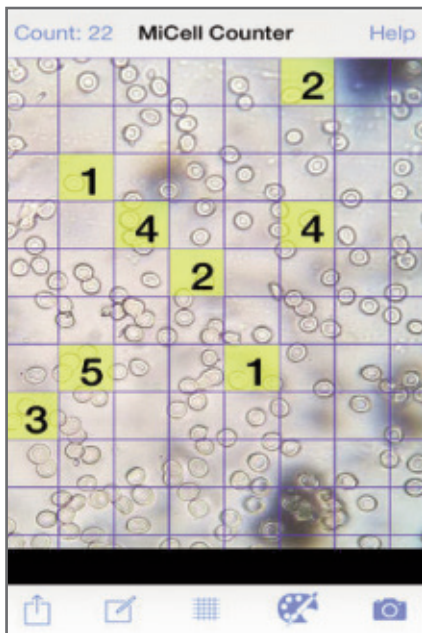
Platform: iPhone

Cost: Free

+ Can specify number of counters, names

– Cumbersome editing process, no “clear all” feature

The Lab Counter app is a generic counter app that does not restrict users to a set number of counters corresponding to pre-defined categories such as “live” and “dead” cells. Rather, when users create new experiments within the app, they can specify as many counters as they’d like per sample. These counters, in turn, can be named according to the user’s specifications. (Unfortunately, the editing process is a bit cumbersome. Rather than simply being able to tap on a text field to edit its contents, users must select the “edit” button. This gives a much more “computer,” rather than “iPhone,” feel to the app.) The counter “buttons” give the appearance of depression when you touch them and also “ding” upon being tapped, thereby providing visual and audio feedback that the counter is working. The final counters and numbers can be emailed as plain text.



MiCellCount

Platform: iPad/iPhone

Cost: \$0.99

+ Adjustable grid size, cumulative and individual counters

– New grid appears each time you open image

For all you cell-counters out there, the MiCellCount app by Scientific Device Laboratory may be a useful addition to your lab-app repertoire. The app allows users to import a photo of cells from their camera roll (or users can take a photo directly from within the app). Users can subsequently use the gridded image to count cells simply by tapping on individual squares of the grid. Individual counters corresponding to each square increase by one each time you tap; additionally, a cumulative counter appears at the bottom of the screen. You can change the color of the grid (or not show it at all), and can use pinch-and-zoom finger maneuvers to change the size of the grid squares. The marked-up image can be saved to the camera roll—although be careful, once you save it to the camera roll you can’t open again to continue counting without a second grid appearing onto the image.

2014 ICIS COMMITTEES

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(ICIS president)

Members:

Sarah Gaffen (ICIS Secretary)
Karen Mossman (ICIS Treasurer)
Past-President Luke O'Neill
Past-President Charles Samuel
Howard Young
Nancy Ruddle
President-elect TBD
Two new councilors TBD

Awards

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Eleanor Fish

Members:

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Marion Kasaian
Dhan Kalvakolanu
Warren Leonard
Bob Schreiber

Finance

Chair:

Karen Mossman

Members:

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Meetings

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Ganes Sen (ex-officio)

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Huub. Schellekens
Martin Schiestl
Steve Swanson
Meena Subramanyam
Robin Thorpe

ICIS COMMITTEE REPORTS

Awards Committee Meeting
September 29, 2013 (9:30-10:30am)

Present:

Marion Kasaian
Robert Silverman
Nancy Reich
Ganes Sen
Bryan Williams

Absent:

Jennifer Towne
Eleanor Fish
George Stark
Takashi Fujita
Dhan Kalvakalanu

The following motions were passed:

1. There is no longer a distinction for awards between interferon research and research on other types of cytokines. The only cytokine specific award in the future will be the Ed Leonard Prize for Chemotaxis/Chemokine Research.
2. Due to overlap with the Pestka Post-Graduate Award and Milstein Young Investigator Award, the ICIS Postdoctoral Investigator Award will no longer be offered.
3. The following awards only will include an oral presentation at the annual ICIS meeting:
4. The two Awards Committee Co-chairs will be selected one from the former ICS for the former ICS awards and the other from the former ISICR for the former ISICR awards (in particular the Milstein Awards).
5. For communications purposes, the awards committee should include one of the scientific organizers for the annual ICIS meeting as an ex officio, non-voting member.
6. US government employees that are offered awards must receive a minimum of \$500 according to NIH guidelines.

Awards Ceremony:

- Seymour and Vivian Milstein Award for Excellence in Interferon and Cytokine Research
- Honorary Lifetime Membership Award

Regular sessions (plenary or concurrent sessions):

- Ed Leonard Prize for Chemotaxis/Chemokine Research
- ICIS Young Investigator Award for Cytokine Research
- The Milstein Young Investigator Award
- ICIS Outstanding Scholar Award (1st place winner ONLY will be given an award talk)
- Christina Fleischmann Award to Young Women Investigators
- Sidney & Joan Pestka Graduate and Post-Graduate Award in Interferon and Cytokine Research
- Journal of Biological Chemistry/Herbert Tabor Young Investigator Award

7. There is a recommendation to continue the online application system.
8. To simplify the scoring system, there will be a limit of one scientific score per awards applicant.
9. The Awards Ceremony should include 30 minutes to present awards and, in addition, winners of the Milstein Award and Honorary Lifetime Membership should be allowed one 20 minute talk each.

Meetings Committee Meeting

September 29, 2013

Seacliff A Room, Hyatt Regency, San Francisco, California, USA

The meeting was called to order on Tuesday, September 29, 2013. The following voting members represented the former ISICR: Leon Platanius, Nancy Reich, Michael Tovey (by telephone), Hiroki Yoshida and, Committee Co-Chair Christine Czarniecki. The following voting members represented the former ICS: Scott Durum, Sarah Gaffen, Warren Leonard, and Committee Co-Chair Carl Ware. Also attending were the following invited guests: Cem Gabay (ICIS Meetings Committee Chair-elect), Otto Haller, Paul Hertzog, Jennifer Holland (by telephone), Brendan Jenkins, Sherwood Reichard, Chuck Samuel, David Wallach, Howard Young, Kathy Zoon.

2012 - Geneva, Switzerland

Cem Gabay provided a final report for the 10th Joint ISICR/ICS Conference in Geneva, Switzerland: "Cytokines: From Basic Biology to Clinical Application." The Committee thanked the Organizers for their efforts and execution of a successful conference.

Total income (including VAT) was reported as 451,312 CHF and that included; 235,460 CHF from 27 Industry Sponsors. The breakdown of income sources was 43% from registrations; 31% from Industry sponsorship and 20% from exhibitors. The income figure does not include 20,000 USD which was provided as seed funds by ICS (10,000 USD) and ISICR (10,000 USD).

Total expenses were reported as 354,763 CHF and that included 47102 CHF to MCI the meeting secretariat. The Meeting Chairs reported positive experiences with MCI. The final yield after expenses was reported as 96,549 CHF and ICS and ISICR each received 50% of that amount plus the seed funds original provided. Total number of delegates was 433 (43 invited speakers) representing 40 countries with the majority (106) coming from Switzerland followed by 77 from the United States. This total number of participants was very close to the 500 number used for budgeting purposes.

The breakdown of registrants was 78 Academic/Government ISICR/ICS Members; 87 Academic/Government Non-Members; 5 Industry ISICR/ICS Members; 40 Industry Non-Members; 87 Students/Residents in Training.

Differences noted in this meeting compared to past ISICR/ICS annual meetings: (i) This meeting was 3 days in length which is one day shorter than our previous meetings; (ii) the organizers set aside a reserve provision of 10,000 CHF and these funds will be held for one year after the meeting to cover any remaining bills that may come through.



2013 – San Francisco, CA, USA

Warren Leonard and Sherwood Reichard presented an update on the current meeting – the first Meeting of the ICIS in San Francisco, California, USA. The Scientific Theme for this conference is “Cytokines: From Molecular Mechanisms to Human Disease”. The organizers reported 600 registrants and expenses and revenue of \$457,000. The organizers obtained seed funds from each of the societies (ISICR and ICS) and the Organizers expect that the seed funds (\$20,000) will be returned to the ICIS. **(Note: The final number of registrants was 612, the seed funds were returned, and the final projected gain was \$85,931.30).**



NEXT 2014 MEETING – Melbourne, Australia

Brendan Jenkins presented an update on the planning for the ICIS Annual Conference that will take place the Melbourne Convention and Exhibition Centre which is located on the banks of the Yarra River in central Melbourne. The dates are October 26 – 29, 2014. A block of rooms at the Hilton Hotel has been reserved.

The budget, planning for 500 delegates, indicated projected expenses of 432,152 AUD and projected income of 439,995 AUD. The Organizers have obtained a confirmed commitment of 65,000 AUD/ 61,465 USD from Melbourne Convention & Visitors Bureau (MCVB), and Melbourne Convention & Exhibition Centre (MCEC). The secretariat is ASN Events, an Australian-based company. The organizers have requested seed funds from the ICIS.

A provisional program has been established with 32 invited plenary speakers and three keynote speakers have been confirmed.



2015 – Freiburg, Germany

Peter Staeheli and Otto Haller presented a proposal for an ICIS Annual Meeting to be held in Freiburg Germany. The scientific theme for the conference is “Cytokines: Protective and disease-promoting roles in human health” and the focus will be on basic science but will also cover clinical research and the therapy of human diseases.

The proposed dates are October 11-15, 2015. The proposed venue is the University of Freiburg, located in the old city center of Freiburg, within walking distance of many hotels. The main university buildings (historical KG I and more modern KG II) can accommodate plenary sessions up to 800 people and rooms for up to five parallel sessions with 150-330 attendees. There are also rooms for smaller workshops. The two foyers in the historical KG I could be used for commercial exhibits and coffee breaks. The conference dinner could be held in another university facility.

Freiburg is easily accessible by plane (Frankfurt International Airport and EuroAirport Basel-Mulhouse-Freiburg), train and car.

The conference will be supported by the University and organized by the kongress & kommunikation GmbH, which is a subsidiary of the university and university hospital and has experience in management of such congresses. This group will provide electronic abstract submission and management as well as online registration.

A budget for 800 participants was presented and proposed expenses of 234,612 Euros. Proposed registration fees range from 150 E for students to 450 E for Industry non-members. The



organizers hope to obtain financial support from the Deutsche Forschungsgemeinschaft (DFG) for covering travel expenses of some invited plenary speakers. The proposal does include obtaining support from pharmaceutical companies in the Freiburg/Basel region – but does not rely heavily on this type of financial support.

In discussion, the committee members recommended that the organizers plan for fewer than 800 attendees (such as 600 participants) and voted to accept Freiberg as the 2015 meeting location.

2016 – Crete or Rhodes, Greece

Howard Young presented a proposal that he prepared with Aegean Conferences Inc. The proposal included details and budgets for either Crete (proposed venue is Minoa Palace Hotel Conference Center in Chania, Crete) or Rhodes (Rodos Palace Hotel in Rhodes) in late October. The suggested title is “Cytokines in Health and Disease: An International Perspective”. Broad themes will broadly incorporate basic and clinical research on cytokines and interferons, including aspects of the biology, signal transduction mechanisms, gene regulation, and epigenetics of cytokines/cytokine receptors related to innate and adaptive immunity, host-pathogen interactions, inflammation, autoimmunity, tumor immunity, hematopoiesis and stem cell biology.

This proposal represents a paradigm different from previous proposals that we have considered in that the Lead Scientific Organizers would need to be identified – but the operational and administrative aspects of the meeting would be handled by Aegean Conferences Inc. thereby allowing the Lead Scientific Organizers to focus on the planning of the scientific program. The local organizers (Aegean Conferences) have experience with the organization of meetings in Greece, and have considerable familiarity with the proposed cities. The detailed proposal included a budget for 500 participants estimating expenses and income of approximately 485,000 Euros; income from Industry Sponsors/Exhibitors of 100,000 Euros. The registration fees would include all meals. 15% of exhibitor fees would go to the conference organizers; the remainder can go for speakers travel costs (estimated cost for each speaker to be ~1300-1600 Euros).



2016 – San Francisco, California, USA

Warren Leonard and Sherwood Reichard presented a suggestion that the ICIS consider holding a conference in San Francisco every other year. The proposal is to capitalize on experience gained from the 2013 meeting and repeat it on a periodic basis. The venue, budget and other details would be as that for the current meeting in San Francisco.



2016 – Italy Proposal from Society of Leukocyte Biology



Jennifer Holland [Society for Leukocyte Biology (SLB)] presented a proposal from the SLB Council for a joint SLB/ICIS Meeting to be held in late September-Early October in Italy (Riva del Garda, Lago Maggiore, or Verona). The SLB is very interested in the possibility of repeating the successful 2009 partnership for the Meeting in Lisbon. Marco Cassatella is the assigned program chair and POC for SLB and he would

work with the designated ICIS Program Chair who would be a local scientist in Italy to optimize communications and organization. The theme of the meeting and topics for all Plenary and Concurrent session would be decided jointly between the designated SLB Program Chair, Marco Cassatella, and the assigned ICIS program chair to incorporate the interests of both society focuses. SLB would also like to be certain the topical interests of EMDS and the Neutrophil group are incorporated to ensure the support in marketing and drawing attendees from their groups.

The budget proposed for 600 paid registrants showed projected income of \$473,000 and expenses of \$445,000. The goal would be to raise \$160,000 in support from grants, exhibits, and sponsorships. FASEB is the proposed Meeting Management provider based on their experience with the past joint venture in Lisbon 2009. A DMC in Italy would also be utilized to maximize efficiency of processes and local contacts in securing vendors to include but not limited to decorators (posterboards), registration staffing, hotel accommodations, logistical arrangements including transportation, catering, social event planning. Fees for FASEB are considered in the draft budget and would be shared equally via individual society management contracts with FASEB for their share (50/50) of the management fees. The DMC would collect their fees as a percentage of service fees from agreed upon vendor contracts.

VENUES:

Lago Garda

Riva del Garda is a small and picturesque town in Northern Italy, situated on the northern shore of Lake Garda, Italy's largest lake. The Riva del Garda Convention Center is a modern facility with large comfortable meeting spaces. The main building has facilities for a plenary of 800 which can be divided and used for concurrent sessions of multiple sizes. Smaller meeting rooms are available as well. The Poster session and expo area would be in the foyer of the congress center or in a part of the "Palameeting." Registration and catering would be in the "Palameeting" as well. The closest airport is Verona.

Lago Maggiore

On the borders of Piedmont, Lombardy and Switzerland, Lake Maggiore, is the second largest Italian lake. Located on Lake Maggiore, the venue (Grand Hotel Dino) has 2500 square meters of meeting rooms with the Conference Centre extending over 2000 sq.m. It has 50 meeting rooms of various sizes, which can host from for 20 to 900 participants, and a brand new ballroom. The closest airport is Milan Malpensa.

Verona

The proposed venue, the current Congress center at the University of Verona accommodates 700 people. The facilities are expanding with an anticipated opening of the new section before the fall of 2016. Cost of using the University of Verona Congress center would be the most affordable option as the SLB programmatic chair, Marco Cassatella is a professor there and will qualify for reduced pricing. Verona's airport, Villafranca Airport, is about 7 miles from the city center. As of early 2011, no direct flights operate between the United States and Verona; however, the airport accepts numerous European and domestic flights. Likely connection cities include Milan, Rome, Frankfurt or Paris.

Discussion of 2015 and 2016 Proposals

The voting members of the ICIS Meetings Committee discussed the 2015 and 2016 proposals and made the following decisions:

1. The majority voted in favor of the Freiburg proposal for 2015, and this recommendation was presented to the ICIS Council/Board where it was formally approved.
2. The committee voted down a proposal that the meeting not return to a city/venue in less than 3 years from the last time the meeting was held there.
3. The committee invited a more detailed proposal for considering San Francisco in 2016.
4. The committee invited a more detailed proposal for considering Greece in 2016, including a need to identify the scientific organizers who would plan the program. Concern was expressed regarding the impact that the location might have on attendance.

5. Regarding the SLB proposal for another joint meeting, it was decided that it is currently preferable to establish the identity of the ICIS as a new society before holding a meeting jointly with another Society.

There was no other business to discuss and the Meeting was adjourned.

Respectfully submitted,

Christine Czarniecki
2013 Co-Chair of the ICIS Meetings Committee

Membership Committee Meeting

September 29, 2013 3:00-3:30pm

Attendees:

Howard Young, Sarah Gaffen

1. Reviewed documents provided by Lisa Hetherington (attached).
2. Recommend merging ICS and ISICR Facebook sites into a single ICIS website.
3. Recommend opening an ICIS Twitter account.
4. Recommend that FASEB approach all ISICR LinkedIn signatories with ICIS Membership information.
5. Strongly recommend that the ICIS approach the Membership at large to solicit support for managing the Newsletter (Signals), the ICIS website and the ICIS App. The reason being that one volunteer should not have total responsibility for all of these ICIS initiatives.
6. Recommend that the ICIS and the Melbourne Organizing Committee consider opening up virtual attendance for plenary sessions at the Meeting. Internet audio-visual teleconferencing link for a fee. This may attract delegates who would otherwise not attend the Meeting. Fee has to be sufficiently high to ensure attending delegates are not discouraged.
7. Recommend that make up of Membership Committee be a mix of senior and early career scientists to manage various initiatives.

2013	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
Members:								
REGULAR	232	232	232	239	251	251	256	267
POST DOC	15	17	17	36	62	62	62	62
STUDENT	97	103	103	104	105	106	114	122
STUDENT WAIVED	0	0	0	9	9	9	9	9
EMERITUS	9	9	9	19	19	19	19	19
LIFE MEMBER	19	19	19	30	30	30	30	30
HONORARY MEMBER	30	30	30	0	0	0	0	0
CORPORATE	0	0	0	0	0	0	0	0
REG CORP SPONSORED	0	0	0	0	0	0	0	0
Former ICS Members						204	204	204
TOTAL	402	410	410	437	476	681	694	713
New Members	2	4		20	32	1	10	11
Renewals	43	10		7	7	1	3	7

ISICR Nomenclature Committee Meeting

Sunday, September 29, 2013

Participants:

Erik Lundgren (Chair), Sergei Kotenko, Jerome Langer (secretary)

Actions:

1. The question of whether the human protein previously referred to as “IFN- λ 4” should retain that name was discussed. Recent progress has demonstrated that: (1) a soluble IFN- λ 4 can be made and has in vitro activities comparable in type and potency to other IFN- λ s; (2) it signals through a receptor composed of the IFNLR1 and IL-10R2 subunits, as do the other IFN- λ s. Thus, while there are several properties that remain not fully understood, “IFN- λ 4” meets the sequence relatedness, receptor usage, and biological activity criteria for being a Type III IFN, and designated as such. These findings have been determined in several independent laboratories. The Nomenclature Committee affirms previous decisions that the protein designation “IFN- λ 4” is valid and accurate, with the corresponding gene designation IFNL4.
2. In a related issue, the Committee believes that the preferred nomenclature for the Type III IFN ligand-specific receptor of the subunit should be “IFNLR1” (mouse symbol “ifnlr1”), with an alias of “IL28RA”, as currently accepted by the Human Genome Nomenclature Committee (http://www.genenames.org/data/hgnc_data.php?hgnc_id=18584).

3. The report in the phylogenetic analysis of the equine genome in O. Detournay et al. [(2013) J. Interferon & Cytokine Res. PMID: 23772953] of a well-defined subtype of Type I IFNs to be designated as the μ (“mu”) subfamily appears justified. Though found during the analysis of the equine genome, sequences from other mammalian species, though not from primates or rodents, also clustered with this subtype, so this appears to be well distributed among mammalian species. Some of these sequences had previously been tentatively designated “IFN- $\alpha\omega$ ” (Krause CD and Pestka, S. 2005. Pharmacol. Ther. 106(3): 299-346). The Committee accepts that proteins that fall into this subtype should be designated “IFN- μ x”, where “x” is a numerical designation, with the corresponding gene of “IFNMx” and that the alias ifnm for IL12rb2 should be removed. The chairman is asked to contact the Human Genome Nomenclature Committee on this matter.

No other issues have been raised at this time.

Respectfully submitted,

Erik Lundgren
Chair

Standards Committee Meeting

September 29, 2013
San Francisco, USA

The meeting was called to order at 12:30 pm on Sunday, September 29th 2013.

Committee members present (call-in):

Jorgen Dahlstrom
Susan Kirshner
Robin Thorpe
Meenu Wadhwa (invited)
and Michael Tovey (chair)

Members excused:

Anna Costa-Pereira
Huub Schellekens
Martin Schiestl
Steve Swanson
Meena Subramanyam

The following topics were discussed:

I. New Cytokine Reference Preparations

Robin Thorpe & Meenu Wadhwa, NIBSC, UK, submitted a report on replacement & new cytokine International Standards & reference preparations.

1. Replacement Standards

- The international collaborative study to establish the 3rd WHO International Standards for TNF- α has been successfully completed and the study results will be submitted for endorsement by the WHO ECBS-in October 2013.

2. New standards

- The WHO Reference Reagent for IL-29 was approved by the WHO ECBS-October 2012 and is now available from the NIBSC (www.nibsc.org) code: 10/176
- TNF- α soluble receptor II non WHO Reference Material is now available from the NIBSC (www.nibsc.org) code: 93/524

3. Standards in development

Donations & Collaborations required

Provision of:

- Novel cytokines
- Cytokines for replacement standards
- Therapeutic antagonists/antibodies

Participation in Collaborative Studies

- Peg-G-CSF, TNF- α antagonists

Those interested please contact: Meenu.Wadhwa@nibsc.org

II. Initiatives to promote the use of cytokine standards

The Committee discussed initiatives to promote the use of cytokine standards by the publication in leading immunology journals of an editorial outlining the role of the ICIS Standards

Committee, the WHO, and the NIBSC in the establishment of international cytokine standards and reference preparations together with a list of reagents available from the NIBSC, similar to that previously published in Cytokine, JICR, and JLB.

III. Establishment of Standardized Assays and Reference Preparations for Human Anti-drug Antibodies

Repeated treatment of patients with recombinant analogues of cytokines such as interferon-beta or growth factors such as erythropoietin can lead to the production of antibodies against the product that can adversely affect the efficacy of treatment in some patients. There is a need to standardize immunogenicity data obtained in clinical studies using different drug products and different assays.

Ongoing initiatives:

- The establishment of a standardized neutralizing antibody assay for detection of antibodies against IFN-beta (EMA/CHMP/BWP/580136). The monoclonal anti-MxA antibodies required to undertake the ELISA for the detection of the MxA protein using the standardized assay are currently being prepared and will be made available in the near future by the NIBSC.
- A manuscript describing the establishment of the MxA standardized neutralizing antibody assay for the detection of antibodies against IFN-beta has recently been published (Wadhwa M, et al., Development of a standardized MxA protein measurement based assay for detection of neutralizing antibodies against interferon- β . J. Interferon & Cytokine Res. 33:660-671, 2013).
- The establishment of an antibody reference panel for the standardization of EPO antibody assays (WHO – ECBS proposal endorsed, Oct 2010). A panel of human antibodies of different characteristics (isotypes, affinities) for use as performance indicators for different EPO antibody assays is currently being established. The antibodies have been provided to the NIBSC recently and discussions on the next steps are ongoing.

New initiatives:

- Jorgen Dahlstrom, Molecular Partners Switzerland, presented a report on the need for drug-specific antibody standards of the IgE isotype in addition to the current WHO standard for total IgE. It was decided that Jorgen Dahlstrom would investigate the sourcing of suitable material as well as the development of methodologies to assess the potency of such material.
- Michael Tovey, INSERM, France presented an update on the initiatives under way to establish a common standardized assay for neutralizing antibodies (NAbs) against TNF α antagonists. Such drugs are used widely to treat a number of inflammatory and autoimmune diseases and there are numerous reports of the formation of neutralizing anti-drug antibodies against such products. An international collaborative study will be established in order to compare the performance of suitable assay platforms.

IV. Other Business

Susan Kirshner, FDA, reiterated the need for the publication of papers outlining the correct use of standards. The Committee's agreed that there was indeed a need for such publications as well as for the establishment of a series of workshops on the appropriate use of cytokine standards. It was decided that Michael Tovey would investigate the feasibility of implementing such initiatives.

Respectfully submitted,

Michael Tovey

Chair, ICIS Standards Committee

Cytokines 2013

From Molecular Mechanisms to Human Disease
September 30 - October 3, 2013
San Francisco, CA USA

FINAL REPORT

The scientific meeting consisted of a Keynote Address, ICIS Award Lectures, four Plenary Sessions and ten Symposia for a total of 62 talks. Six Minisymposium Sessions with a total of 38 talks selected from proffered abstracts were presented. In addition, there were three Poster Viewing Sessions with a total of 340 posters (including five Late-Breaking Abstracts). This total also includes 38 participants with Minisymposium presentations who displayed posters in addition to their oral talks. Twenty-nine invited speakers submitted abstracts of their talks.

The Scientific Organizing Committee members were Warren Leonard, NIH, Bethesda, MD; Sarah Gaffen, University of Pittsburgh, PA; Karen Mossman McMaster University, Toronto; and Robert Sheiber, Washington University, St. Louis.
Secretariat: Sherwood Reichard.

Registration:

Member Academic/Gov	131
NonMember	72
Industry	123
Postoc	89
Students	91
Speakers	60

Day Pass	16
Exhibitors	25
Other Comp	5
Total	612

Abstracts:

Abstracts as posters (include oral session proffered abstracts)	335
Invited Speaker Abstracts	29
Abstracts presented in Oral Session	38
Late Breaking Abstracts	5
Total	407

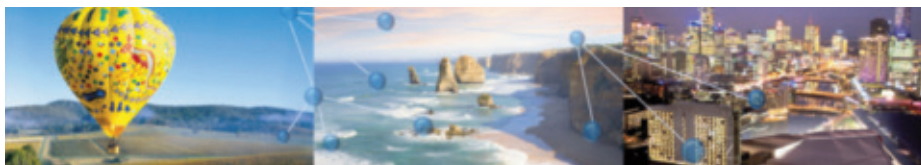
Total Sponsors	17
Exhibitors	19
Countries	22

Future ICIS Meetings

Melbourne, Australia • Melbourne Convention Centre

Cytokines 2014

October 26-29, 2014



Cytokines Down Under 2014: From Bench to Beyond

Welcome

The 2014 meeting of the International Cytokine and Interferon Society is to be held in Melbourne, Australia, during October 26-29, at the state-of-the-art Melbourne Convention Centre. The meeting will provide an outstanding forum for basic science and clinical researchers to present their latest data and exchange ideas relating to the broad role of cytokines and interferons in human disease, and applications to therapies.

The topics will include aspects of the biology, signal transduction and gene regulation related to cytokines, interferons and their receptors in innate and adaptive immunity, pattern recognition receptors and their role in host-pathogen interactions, infectious diseases, inflammation, cancer, autoimmunity and metabolism. Sessions will include

cutting edge basic science and clinical presentations in plenary and concurrent symposia, as well as eminent keynote presentations, and are strongly supported by poster sessions.

In addition to academic basic scientists and clinical investigators, the meeting will provide strong networking opportunities for scientists in the biotechnology and pharmaceutical industries. The broad attendance and blend of senior scientists and physicians, as well as graduate students and post-doctoral fellows will help assure a vibrant and exciting conference for all.

If you would like to be updated about this conference, please add your name to the mailing list by clicking [here](#).

Latest News

We are pleased to confirm the following keynote speakers for 2014:

Peter Doherty

University of Melbourne

Luke O'Neill

Trinity College Dublin

Donald Metcalf

Walter and Eliza Hall Institute of Medical Research

Confirmed symposia speakers for 2014:

Shizuo Akira

Osaka University, Japan

Mark Febbraio

Baker Institute, Australia

Kingston Mills

Trinity College, Ireland

Mark Smyth

Queensland Institute of Medical Research, Australia

K Mark Ansell

University of California San Francisco, USA

Richard Flavell

Yale University School of Medicine, USA

Denise Monack

Stanford University, USA

Dale Umetsu

Genentech, USA

Frances Balkwill

Barts Cancer Institute, UK

Frederic Geissman

King's College, UK

Masaaki Murakami

Osaka University, Japan

Carola Vinuesa

Australia National University, Australia

Gabrielle Belz

Walter and Eliza Hall Institute, Australia

Florent Ginhoux

Agency for Science, Technology and Research, Singapore

Gabriel Nunez

University of Michigan, USA

Michael Waters

University of Queensland, Australia

Jeff Babon

Walter and Eliza Hall Institute, Australia

Veit Hornung

University of Bonn, Germany

Keiko Ozato

National Institutes of Health USA

Wolfgang Weninger

Centenary Institute, Australia

Zhijian James Chen

University of Texas Southwestern Medical Center, USA

Zhengfan Jiang

Peking University, China

Belinda Parker

La Trobe University, Australia

Hua Yu

Beckman Research Institute, USA

Daniel Cua

Merck Research Laboratories, USA

Simon Jones

Cardiff University, UK

Stefan Rose-John

University of Kiel, Germany

Elena I Zuniga

University of California San Diego, USA

Vojo Deretic

University of New Mexico, USA

Eicke Latz

University of Bonn, Germany

Chuck Samuel

University of California Santa Barbara, USA



Fabienne MacKay

Monash University, Australia

Cytokines 2015

Freiburg • October 11-15



P	Progress	1 unit effort, 2 scientists, 1 manager:	1 unit effort, 1 scientist, 2 managers:
The amount of effort expended multiplied by the square of the ratio of scientists to managers:			
$P = E \times (S/M)^2$		$P = 1 \times (2/1)^2$ = 4 progress units	$P = 1 \times (1/2)^2$ = 0.25 progress units

Courtesy of Science and Ink by Nick D. Kim
<http://www.lab-initio.com/index.html>

REMEMBER TO **JOIN** THE INTERNATIONAL
CYTOKINE AND INTERFERON SOCIETY OR
RENEW YOUR MEMBERSHIP FOR 2013 OR
BEYOND (3 YEAR, 5 YEAR, LIFETIME (AGE 55+)
AND STUDENT MEMBERSHIPS ARE AVAILABLE)

Signals



International Cytokine &
Interferon Society

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