

Workshops are planned and conducted by exhibitors; the listing of these workshops does not constitute endorsement of any products or services by AAI.

## SATURDAY, MAY 14

### The Immune Epitope Database & Analysis Resource (IEDB)

Immune Epitope Database & Analysis Database (IEDB)

11:00 AM – 12:00 PM, Exhibitor Workshop Room I  
*Presentation time:* 11:15 AM – 11:45 AM

Presenter: Bjoern Peters, La Jolla Institute for Allergy & Immunology

The IEDB is an NIAID-supported, freely available resource providing access to published data related to antibody and T cell epitopes as recognized in humans, non-human primates, rodents, and other animal species, as well as online tools for prediction and further analysis. The IEDB has curated infectious disease, allergen, and autoimmune epitopes, and is adding transplant and alloantigen epitopes. This workshop will showcase the latest IEDB release. Staff will tour the website, familiarizing attendees with the site, the extent of coverage, and new features. Attendees will be invited to guide demonstrations and ask general questions about building queries, viewing results, or using the tools to analyze datasets.

### Principles for Designing Multicolor Panels

BD Biosciences

12:00 PM – 1:00 PM, Exhibitor Workshop Room I  
*Presentation time:* 12:15 PM – 12:45 PM

Presenter: Maria C. Jaimes, BD Biosciences

Multicolor flow cytometry is a powerful tool for analyzing multiple cellular parameters simultaneously. It is often the only means to adequately identify or functionally characterize complex populations of interest within the immune system. Recent innovations have dramatically improved the capabilities of instruments to detect and monitor multiple targets at the same time. Not only has this increased the usefulness of flow cytometry, but it has increased the importance of proper experimental setup in order to ensure accurate and meaningful results. This talk will focus on the principles of multicolor panel design and assay optimization, as well as new online tools to assist you with panel design.

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**Exhibitor Workshops**

Saturday – Monday  
 Exhibitor Workshop Rooms  
 Exhibit Hall

### Immunoregulatory Activities and Development of Functionally Active Recombinant Mouse IL-35

IMGENEX Corporation

12:00 PM – 1:00 PM, Exhibitor Workshop Room II  
*Presentation time:* 12:15 PM – 12:45 PM

Presenters: David W. Pascual, Montana State University, Hyun-Ku Lee, IMGENEX Corporation, Sujay Singh, IMGENEX Corporation

IL-35 is known to play an essential role in immune regulation of CD4<sup>+</sup>CD25<sup>+</sup> Tregs, alleviating inflammatory responses. In this workshop, we will review the development of recombinant mouse IL-35 and present studies on T cell immunoregulatory activities in bioassays. The data present in-depth analysis of functionally active mouse IL-35 and the unique utility of this reagent for T cell subset regulation.

### Tips for the Design and Analysis of Multicolor Flow Cytometry and Fluorescent Microscopy Experiments

eBioscience, Inc.

1:00 PM – 2:00 PM, Exhibitor Workshop Room I  
*Presentation time:* 1:15 PM – 1:45 PM

Presenters: Castle J. Funatake, eBioscience, Inc., Sara G. Becker-Catania, eBioscience, Inc.

The need to study multiple aspects of cellular samples is becoming increasingly important for understanding complex cellular phenotypes and functions, as well as cell-cell interactions, both under normal conditions and in disease states. Advances in the instrumentation for flow cytometry and fluorescent microscopy, as well as the development of new fluorochromes including nanocrystals, have made it possible to characterize many properties of cells in a single experimental sample. Topics to be covered include: instrument performance and the impact on multicolor panels, tips for experimental design, and appropriate controls. The first half of the session will focus on multicolor flow cytometry and the second half will focus on multicolor fluorescent microscopy.

### So Bright, It's Brilliant: Brilliant Violet™ Antibody Conjugates

BioLegend, Inc.

1:30 PM – 2:30 PM, Exhibitor Workshop Room II  
*Presentation time:* 1:45 PM – 2:15 PM

Presenter: Kelly Lundsten, BioLegend, Inc.

Brilliant Violet 421™ and Brilliant Violet 570™ are highly sensitive fluorophores excited by the violet laser in flow cytometry. Antibody conjugates provide as much as 12-fold increase in sensitivity compared to the spectrally comparable fluorophores. Antibodies maintain expected phenotypic frequencies and are useful for intracellular staining of cytokines.

**SUNDAY, MAY 15**

**Introducing the New FlowSight Imaging Flow Cytometer**

Amnis Corporation

10:00 AM – 11:00 AM, Exhibitor Workshop Room I  
*Presentation time:* 10:00 AM – 10:45 AM

Presenter: David Basiji, Amnis Corporation

The features and benefits of the new FlowSight imaging flow cytometer will be explored. The FlowSight is a 12-channel flow cytometer that images every cell and is priced for every lab. The FlowSight can be upgraded with up to four lasers, a 96-well AutoSampler, and an image analysis package, providing the flexibility and capability to meet the needs of novice and advanced cytometrists alike. Important applications of the FlowSight in flow cytometry and image analysis will also be discussed, including nuclear translocation, apoptosis, and phagocytosis.

**Tools for Cytokine Expression Profiling: Arrays of Possibilities**

RayBiotech, Inc.

10:00 AM - 11:00 AM, Exhibitor Workshop Room II  
*Presentation time:* 10:15 AM – 10:45 AM

Presenter: Brett Burkholder, RayBiotech, Inc.

Cytokine biology is often too complex to unravel using traditional techniques of ELISA and Western blot. The extensive cross-talk and overlapping function amongst cytokines implies that studying changes in just a few cytokines gives an incomplete picture of the role of these proteins in an experimental model. Antibody arrays measure changes in expression of hundreds of proteins simultaneously, allowing researchers to obtain a more global perspective on cytokine expression. An overview of antibody array technologies will be presented, as well as specific examples of how cytokine arrays have been used to identify biomarkers and to elucidate immunologic mechanisms.

**Expanding Your Immunological Insights: Experimental Possibilities Using Flow Cytometry**

Accuri® Cytometers, Inc.

11:00 AM – 12:00 PM, Exhibitor Workshop Room I  
*Presentation time:* 11:15 AM – 11:45 AM

Presenter: Clare Rogers, Accuri® Cytometers, Inc.

This workshop will highlight the versatility of the Accuri® C6 Flow Cytometer® System. The Selectable Lasers Module and optional filters expand the combinations of fluorochromes that can be used in complex multi-color experiments, while its low cost and ease of use make the C6 ideal for simplified applications such as viability and cell counting. Experimental results will be presented to demonstrate how analyses including population and phenotypic characterization, proliferation and cell cycle analyses can be performed on this flexible platform.

**Monetizing Your Intellectual Property: Protecting Ideas that Generate Income**

Knobbe, Martens, Olson, & Bear, LLP

11:00 AM – 12:00 PM, Exhibitor Workshop Room II  
*Presentation time:* 11:15 AM – 11:45 AM

Presenter: Mark Benedict, Knobbe, Martens, Olson, & Bear, LLP

This workshop explores what types of research innovations are protectable and provides practical tips for protecting these innovations while avoiding some common pitfalls that can compromise intellectual property. You will also hear strategies on how to leverage intellectual property to generate entrepreneurial opportunities, personal revenue, and support for ongoing research.

**Innovative New Benchtop Devices for Immunology From Life Technologies**

Life Technologies

12:00 PM – 1:00 PM, Exhibitor Workshop Room I  
*Presentation time:* 12:15 PM – 12:45 PM

Presenter: Chris Langsdorf, Life Technologies

This presentation will review all aspects of your Immunology workflow, including instruments, reagents and software. Basics of acoustic cytometry will be covered along with an overview of the Attune® Acoustic Focusing Cytometer. Acoustic focusing cytometry is a new form of cellular analysis that has the potential to reshape the way many current cell assays are performed. In addition a new 3-channel (bright field, green fluorescence, red fluorescence) bench top cell analysis instrument will be revealed that can perform cell population analysis, GFP and RFP expression, and apoptosis assays.

**T Cell Monitoring by ELISPOT: Its Strength vs. Flow-based Measurements**

Cellular Technology Limited (C.T.L.)

12:00 PM - 1:00 PM, Exhibitor Workshop Room II  
*Presentation time:* 12:15 PM – 12:45 PM

Presenter: Tameem Ansari, Cellular Technology Limited (C.T.L.)

ELISPOT, intracytoplasmic cytokine staining (ICS), multimers and cytokine bead arrays (CBA/Luminex) all are increasingly used for ex vivo immune monitoring. The strengths of ELISPOT relative to these techniques include: 1) cost 2) ease of getting started 3) reproducible, objective data 4) detection of T cells that occur in frequencies less than 0.01% 5) detection of polyfunctional T cells in double color assays 6) efficient cell utilization permitting T cell affinity measurements and delineating different effector lineages and cytotoxicity using ELISPOT arrays. Moreover, the cells survive the ELISPOT assays unaffected and can be recycled for other assays.

**Getting the Most Out of Your Cytokine and Transcription Factor Flow Cytometry Data**

eBioscience, Inc.

1:00 PM – 2:00 PM, Exhibitor Workshop Room I  
*Presentation time:* 1:15 PM – 1:45 PM

Presenters: Peggy Just, eBioscience, Inc., Castle J. Funatake, eBioscience, Inc.

As multicolor flow cytometry continues to become more accessible, the ability to accurately analyze intracellular proteins in combination with cell surface proteins becomes increasingly important. With this added complexity, designing experiments with suitable controls and eliminating artifacts from dead cells through the incorporation of Fixable Viability Dyes will enable the researcher to confidently obtain accurate, reproducible results. The topics to be discussed will be: appropriate controls for staining surface and intracellular targets, considerations for choosing a staining buffer, and optimization of fluorochrome selection. eBioscience is the leader in reagents for flow cytometric analysis of Tregs and Th17 cells.

**So Bright, It's Brilliant: Brilliant Violet™ Antibody Conjugates**

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**MONDAY, MAY 16**

**From Gene Expression and DNA Copy Number to Protein Assays: TaqMan® Applications in qPCR**

Life Technologies

11:00 AM – 12:00 PM, Exhibitor Workshop Room I  
*Presentation time:* 11:15 AM – 11:45 AM

Presenter: Mark Shannon, Ph.D., Life Technologies

Whether you are studying gene or miRNA expression to address gene copy number or miRNA target analysis, or are screening cells for low expression proteins, TaqMan® assays enable a broad range of applications. These applications now include a new high sensitivity immunoassay system for measuring target proteins in cell and tissue lysates. This workshop will review the range of TaqMan® application-based assays but focus primarily on TaqMan® Protein Assays - a new technology that enables quick and easy identification and relative quantification of proteins from limited quantities of cell and tissue lysates.

**Measuring Immune Function with Imaging Flow Cytometry**

Amnis Corporation

12:00 PM – 1:00 PM, Exhibitor Workshop Room I  
*Presentation time:* 12:00 PM – 1:00 PM

Presenter: Thaddeus George, Amnis Corporation

This workshop will cover measurement of immune function using imaging flow cytometry. Applications include nuclear translocation in rare whole blood subsets, chemokine-induced receptor internalization, and shape change and measurement of immune synapse events. Data will be presented from the ImageStreamX, Amnis's most capable imaging flow cytometer, and the FlowSight, a new 12-channel flow cytometer that images every cell and is priced for every lab.