

# 18<sup>th</sup> Annual Immunology Retreat

*Friday to Sunday, November 18-20, 2005*

Willow Valley Resort and Conference Center  
2416 Willow Street Pike Lancaster, PA 17602-4898

## **Friday, November 18, 2005**

**3-6 pm Registration and Check-in, Main Lobby**  
*When you arrive, please set up posters for the remainder of the conference in Statesman C/D*

**5:30-7pm Dinner Smorgasbord, Terrace Dining Room**

**7-10pm Session I, Statesman Hall A/B/C/D**  
Session Chairs: Ginny Shapiro and Jan Burkhardt

7-7:15pm Welcome, Steve Reiner

7:15-8:30 pm Keynote Speaker, Christophe Benoist, M.D., Ph.D.  
Member, National Academy of Sciences  
Section on Immunology and Immunogenetics  
Joslin Diabetes Center, Department of Medicine  
Brigham and Women's Hospital

8:30-8:50 pm Break

8:50-9:20 pm Stefania Gallucci, MD, Assistant Professor, Pediatrics, CHOP  
"Dendritic cells, Interferons and Lupus"

9:20-9:50 pm John Wherry, PhD, Assistant Professor, Immunology Program, Wistar  
"Memory CD8 T cell differentiation following acute versus chronic infection"

**9:50 pm End of session**

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## **Saturday, November 19, 2005**

**8-9am Breakfast Smorgasbord, Terrace Dining Room**

**9-12am Session II, Statesman Hall A/B/C/D**  
Session Chair: Ben Schwarz

9:00-9:25 Ben Schwarz, Bhandoola Lab  
"From bone marrow to the thymus: a prerequisite for T cell development"

9:25-9:50 Stanley Adoro, Singer Lab  
"Cytokine dependence of CD8 $\alpha$  coreceptor expression and CD8+ lineage choice"

9:50-10:15 Terry Fang, Pear Lab  
"Notch is a critical regulator of type 2 immunity"

- 10:15-10:45 Break
- 10:45-11:10 Marion Pepper, Hunter Lab  
“Tracking the generation of the CD4+ T cell response during Toxoplasmosis”
- 11:10-11:35 Leanne Johnson, Scott Lab  
“STAT1-independent Th1 cell development during Leishmania major infection”
- 11:35-12:00 Stacey Garrett, Sullivan Lab  
“Influence of cytokine microenvironment on epigenetic regulation of TNF-alpha in human monocytes”

**12-1pm Deli Lunch, Terrace Dining Room/ “To-Go” boxes available**

**Free Afternoon to explore Lancaster area**

**3:30-5:30pm Poster Session, Statesman Room C/D**

**5:30-7pm Dinner Smorgasbord, Terrace Dining Room**

**7-10pm Session III, Statesman Hall A/B**  
Session Chair: Ben Olenchock

7:00-7:25 Pinaki Banerjee, Orange Lab  
“Cdc42 interacting protein 4 is a potential link between actin and microtubules at the natural killer cell immunological synapse”

7:25-7:50 Chhanda Biswas, Argon Lab  
“The N-terminal fragment of GRP94 is sufficient to account for its immunological activity”

7:50-8:15 Randy Brezski, Monroe Lab  
“Membrane cholesterol content accounts for developmental differences in B cell compartmentalization and signaling”

8:15-8:45 Break

8:45-9:10 Gina Clemens, Koretzky Lab  
“The role of SLP-76 in neutrophil in vitro and in vivo function”

9:10-9:35 Claire Perchonock, Shapiro Lab  
“ALX negatively regulates T cell activation”

9:35-10:00 Ben Olenchock, Koretzky Lab  
“Diacylglycerol Kinases Regulate Antigen Receptor Responsiveness in Mast Cells and T Cells”

**10:00-12pm Party, Statesman Hall**

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**Sunday, November 20, 2005**

**8-9 am Continental Breakfast, Statesman Hall A/B**

***REMINDER: Please check out of your room by 11***

**9-12 noon Session IV, Statesman Hall A/B**

Session Chair: Emily Rowell

9:00-9:25 Andy Rankin, Caton Lab

“Autoimmune arthritis induced by focusing CD4+ T cells to a peptide synthesized by antigen presenting cells”

9:25-9:50 Emily Rowell, Wells Lab

“The cyclin-dependent kinase inhibitor p27kip1 is required for allograft tolerance induced by costimulatory blockade”

9:50-10:15 Joudy Dinall, Gallucci Lab

“Increased expression of CD40 by dendritic cells pre-dates disease onset in a murine model of lupus”

10:15-10:45 Melissa Middleton, Pure Lab

“12/15-Lipoxygenase: a novel regulator of Interleukin-12 production”

10:45-11:00 Break

11:00-11:25 Angel Varela-Rohena, Riley Lab

“In vitro expansion and effector function restoration of HIV-specific CD8+ T cells”

11:25-11:50 Rebekah O’Donnell, Muschel Lab

“Local immune response is insufficient to contain the lymphatic spread of squamous cell carcinoma of the oral cavity”

11:50-12:15 Andy Intlekofer, Reiner Lab

“Eomesodermin and T-bet coordinate growth factor-responsiveness and effector function of the cytotoxic lineages”

**12:15 Lunch, Terrace Dining Room**

**END OF CONFERENCE**

SEE YOU SAME TIME NEXT YEAR, AT THE 19<sup>TH</sup> ANNUAL IMMUNOLOGY GRADUATE GROUP RETREAT, NOVEMBER 17-19, 2006 at WILLOW VALLEY RESORT AND CONFERENCE CENTER

## Abstracts

1. Stanley Adoro, Batu Erman, Hyun Park and Alfred Singer  
“Cytokine Dependence of CD8a Coreceptor Expression and CD8+ T Cell Lineage Choice”
2. Allenspach EJ, Artis D, and Laufer TM  
“Exploring the role of MHC class II expression in the development of Th2 responses in vivo”
3. Amy L. Anderson, John Lambris, David LaRosa, and Arnold I. Levinson  
“B Cell Superantigen-induced Immune Complex Peritonitis”
4. Pinaki P Banerjee, Linda Shawver, Rena Zheng, Megan Suhoski, Jordan S Orange.  
“Cdc42 interacting protein 4 is a potential link between actin and microtubules at the natural killer cell immunological synapse”
5. Chhanda Biswas, Uma Sriram, Olga Ostrovsky, Bogoljub Ciric and Stefania Gallucci  
“The N-terminal fragment of GRP94 is sufficient to account for its immunological activity”
6. Randall J. Brezski, Fredrick G. Karnell, Leslie B. King, and John G. Monroe  
“Membrane Cholesterol Content Accounts for Developmental Differences in B Cell Compartmentalization and Signaling”
7. Jodi Buckler, Patrick Walsh, Jidong Zhang, and Laurence Turka  
“A Role for PTEN in Regulating TCR Responsiveness and Anergy Induction In CD4+ T cells “
8. Thi Bui, Julian Lum, and Craig Thompson  
“Suppression of TNF- $\alpha$  production by macrophages following inhibition of autophagy”
9. Andrea Carpenter and Craig Bassing  
“RAG Accessibility and Allelic Exclusion in the TCR $\beta$  Locus”
10. Esteban Carrizosa, Timothy S. Gomez, Sean D. McCarney, Daniel D. Billadeau, and Janis K. Burkhardt  
“HS1 is a key component of the actin regulatory complex required for T cell activation”
11. Ying-Yu Chen, Pfeffer JR, Vakoc CR, and Blobel GA  
“Mechanisms of gene activation and repression by GATA-1 and FOG-1 in hematopoiesis”
12. Clemens RA, Abtahian F, Bezman N, and G. Koretzky  
“The role of SLP-76 in neutrophil in vitro and in vivo function”
13. Sara L. Colpitts and Phillip Scott  
“IL-7 receptor expression on CD4<sup>+</sup> T cells following *Leishmania major* infection”
14. Jenni E. Crowley and Michael P. Cancro  
“Differential BlyS Receptor Expression Following B cell Surface Molecule Ligation”

15. Joudy-Ann Dinnall, Lucrezia Colonna, Debra K Shivers, Lorenza Frisoni, Roberto Caricchio and Stefania Gallucci  
“Increased expression of CD40 by dendritic cells pre-dates disease onset in a murine model of lupus”
16. Terry C. Fang, LiLi Tu, David Artis, Olga Shestova, Seth E. Pross, Ivan Maillard and Warren S. Pear  
“Notch is a critical regulator of type 2 immunity”
17. Lorenza Frisoni, Lenese Mcphie, David Michel, Minoru Satoh and Roberto Caricchio  
“Nuclear autoantigen translocation and autoantibody opsonization lead to increased dendritic cell phagocytosis and presentation of nuclear antigens: a novel pathogenic pathway for autoimmunity?”
18. Ashley Mentlik, Uma Sriram, and Stefania Gallucci  
“Activation of STAT1 and STAT2 in Lupus-Prone Mice”
19. Stacey Garrett and Kathleen Sullivan  
“Influence of Cytokine Microenvironment on Epigenetic Regulation of TNF-alpha in Human Monocytes”
20. Malavika Giri, Qi Luo, Michael Nebozhyn, Louise Showe and Luis J. Montaner  
“HIV-1 infection modulates apoptosis-related genes in monocyte/macrophage *in vivo*”
21. SM Grande, E Katz, JE Crowley, MS Bernardini, SR Ross, and JG Monroe  
“ITAM-containing proteins are oncoproteins in non-hematopoietic cells”
22. Alice Hsu and Phillip Scott  
“Reduced Th1 cell development following infection with *Leishmania mexicana*”
23. Andrew M. Intlekofer, Naofumi Takemoto, E. John Wherry, Jordan S. Orange, Ananda W. Goldrath, Rafi Ahmed, Steven L. Reiner  
“Eomesodermin and T-bet Coordinate Growth Factor-responsiveness and Effector Function of the Cytotoxic Lineages”
24. Leanne M. Johnson and Phillip Scott  
“STAT1-independent Th1 cell development during *Leishmania major* infection”
25. Marisa Juntilla, Jonathan Maltzman, and Gary Koreztky  
“Thymocyte survival, proliferation, and differentiation in the absence of SLP-76”
26. Fredrick G. Karnell, Randall Brezski, Leslie King, Michael A. Silverman, John G. Monroe  
“Membrane cholesterol content accounts for developmental differences in BCR compartmentalization and signaling”
27. Mark Zhengyu Ma, Paul Janmey, Terri Finkel  
“Probing the mechanism of TCR signal initiation with a lipid bilayer based artificial APC system”

28. Melissa Middleton, Tanya Rubinstein & Ellen Puré  
“12/15-Lipoxygenase: A Novel Regulator of Interleukin-12 Production”
29. Renell S. Morgan, Patrick Cullinan, Meredith H. Shaffer, and Janis K. Burkhardt  
“Functional Analysis of the Distal Pole Complex during T cell Activation”
30. Rebekah O’Donnell and Ruth Muschel  
“Local immune response is insufficient to contain the lymphatic spread of squamous cell carcinoma of the oral cavity”
31. Benjamin A. Olenchock, Xiao-Ping Zhong, Duke University, Gary Koretzky.  
“Diacylglycerol Kinases Regulate Antigen Receptor Responsiveness in Mast Cells and T Cells”
32. Rahul Pandey, Raquel P Deering, Pinaki P Banerjee, Martha Kienzle, Jordan S Orange  
“NF- $\kappa$ B activity is required for NK cell cytotoxicity and immunological synapse formation”
33. Antonio J. Pagán, Brian D. Hondowicz, Andrew J. Caton, and Jan Erikson  
“T cell receptor affinity modulates the activation of anti-chromatin B cells”
34. Marion Pepper, Florence Dzierszinski, David Roos, Christopher A. Hunter  
“Tracking the generation of the CD4<sup>+</sup> T cell response during Toxoplasmosis”
35. Claire Perchonock, Melissa Fernando, Michael Shapiro, and Virginia Smith Shapiro  
“ALX negatively regulates T cell activation”
36. Cristina Cozzo Picca, Andrew Rankin, Joseph Larkin III, Laura Panarey, Malinda Aitken, and Andrew J. Caton  
“Radioresistant stromal cells mediate both deletion and CD4<sup>+</sup>CD25<sup>+</sup> regulatory T cell selection”
37. Andrew L. Rankin, Amy J. Reed, Brigitte Koeberlein, Peter E. Lipsky, John E. Tomaszewki, Ali Naji, and Andrew J. Caton  
“Autoimmune arthritis induced by focusing CD4<sup>+</sup> T cells to a peptide synthesized by antigen presenting cells”
38. Emily Rowell and Andrew Wells  
“The cyclin-dependent kinase inhibitor p27kip1 is required for allograft tolerance induced by costimulatory blockade”
39. Benjamin A. Schwarz and Avinash Bhandoola  
“From bone marrow to the thymus: a prerequisite for T cell development”
40. Laura Solt, Tracy E. Zeldis, Lisa A. Madge, Michael J. May  
“Determining the role of NEMO in regulating IKK $\alpha$  and the non-canonical NF- $\kappa$ B pathway”

41. Souders NC, Verch T, and Paterson Y  
"In vivo Bactofection: *Listeria* can function as a DNA-cancer vaccine"
42. Uma Sriram and Stefania Gallucci  
"Effects of IL4 and interferon alpha in modulating dendritic cell responses to LPS"
43. Jason Stadanlick and Michael Cancro  
"Examination of Downstream Signaling Pathways Utilized in BLYS Receptor Signaling"
44. Megan M. Suhoski, James L. Riley, Carl H. June  
"Distinct Biology of Human CD8 T Cell Subsets"
45. Justin J. Taylor, Markus Mohrs and Edward J. Pearce  
"Regulatory T cell responses develop in parallel to Th responses, and dictate the magnitude and phenotype of the effector population"
46. John F Trembl, and John G Monroe  
"Integrin Regulation of B Cell Receptor Signaling"
47. Laura Simon Trembl and Michael Cancro  
"Differential Effects on BLYS Receptor Expression by Toll-like Receptor Ligation"
48. Jeff H Tsai, Sosina Makonnen and William Lee  
"Modulating Tie2 activity to alter tumor vasculature responsiveness to antiangiogenic therapy"
49. Angel Varela-Rohena, Megan Suhoski, James L. Riley PhD  
"In vitro expansion and effector function restoration of HIV-specific CD8<sup>+</sup> T-cells"
50. Irene C. B. Viorritto, Reiko Horai, Lisa D. Finkelstein, Pamela L. Schwartzberg  
"Analyses of the Immune Synapse in *Itk*<sup>-/-</sup> and *Itk*<sup>-/-</sup>*Rlk*<sup>-/-</sup> T cells"
51. Matthew Walsh, Gregory Kim, Yongwon Choi  
"Mechanism of the adapter protein TRAF6 in TLR/IL-1R signaling"
52. Mingce Zhang, Adrian Clausell, Eric Chen, Leanne Johnson, and Randy Cron  
"c-maf cooperates with NFAT2 to augment HIV-1 transcription in IL-4 producing CD4 T cells"

***The Immunology Graduate Group gratefully acknowledges the financial support of all of our contributors for the 18<sup>th</sup> Annual Retreat:***

Institutes, Centers, Departments and Divisions

Wyeth Research

Abramson Cancer Center of the University of Pennsylvania

Division of Intramural Research, NIAID

The Center for Vaccines and Immune Therapies, Children's Hospital of Philadelphia

Department of Pathobiology, University of Pennsylvania School of Veterinary Medicine

Division of Cell Pathology, Children's Hospital of Philadelphia

Immunobiology Division, Department of Pathology and Laboratory Medicine, University of Pennsylvania School of Medicine

Wistar Institute

Department of Pathology, University of Pennsylvania School of Dental Medicine

Division of Infectious Diseases and Division of Allergy-Immunology, University of Pennsylvania School of Medicine

Department of Medicine, University of Pennsylvania School of Medicine

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T32CA09140 "The Immunobiology of Normal and Neoplastic Lymphocytes"

T32 AI055428 "Immune System Development and Regulation"

T32AR07442 "Training Program in Rheumatic Disease,"

Division of Rheumatology, Hospital of the University of Pennsylvania

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**Cover Photo: courtesy Jordan Orange.**

**Title: "early stages in formation of the cytolytic immunological synapse"**

Laser scanning confocal micrograph of an ex vivo human NK cell 30minutes after conjugation with a K562 erythroleukemia cell. The lytic molecule perforin is visualized in green within secretory lysosomes using FITC-conjugated mouse anti-human perforin. Filamentous actin is demonstrated in blue using AlexaFluor 647-conjugated Phalloidin, and CD2 in red using mouse anti-CD2 and Alexafluor 568-conjugated anti-mouse. The NK cell (smaller cell on top) has formed a synapse with the K562 cell at which actin filaments and CD2 have been accumulated. The secretory lysosomes, however, have not yet polarized to the synapse. They need to traffic to the synapse in order to be secreted onto the K562 cell. The background colors in the image away from the cell are an afterglow applied using Adobe Photoshop.



