



## Ansuman Satpathy

Instructor, Pathology

### CLINICAL OFFICES

- **Pathology**

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### Bio

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### CLINICAL FOCUS

- Clinical Pathology
- Pathology

### ACADEMIC APPOINTMENTS

- Instructor, Pathology

### HONORS AND AWARDS

- Medical Scientist Training Program (MSTP), NIH (2006-2014)
- Predoctoral Fellowship, American Heart Association (2012)
- David M. Kipnis Dissertation Award, Washington University School of Medicine (2013)
- Irvington Postdoctoral Fellowship, Cancer Research Institute (2016)
- Bridge Scholar, Parker Institute for Cancer Immunotherapy (2017)
- Career Award for Medical Scientists, Burroughs Wellcome Fund (2018)
- Clinical Scientist Career Development Award (K08), National Cancer Institute (2018)
- Michelson Prize for Vaccine Research, Michelson Medical Research Foundation (2018)

### PROFESSIONAL EDUCATION

- B.A., University of Illinois, Urbana-Champaign , Philosophy (2006)
- B.S., University of Illinois, Urbana-Champaign , Molecular Biology (2006)
- M.D., Washington University in St. Louis , Medicine (2014)
- Ph.D., Washington University in St. Louis , Immunology (2014)
- Residency, Stanford Hospital and Clinics , Clinical Pathology (2017)

## LINKS

- [www.satpathology.com](http://www.satpathology.com): satpathology.com

## Research & Scholarship

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### CURRENT RESEARCH AND SCHOLARLY INTERESTS

Epigenomics, Cancer immunology, Single-cell genomics

## Publications

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### PUBLICATIONS

- **Transcript-indexed ATAC-seq for precision immune profiling.** *Nature medicine*  
Satpathy, A. T., Saligrama, N., Buenrostro, J. D., Wei, Y., Wu, B., Rubin, A. J., Granja, J. M., Lareau, C. A., Li, R., Qi, Y., Parker, K. R., Mumbach, M. R., Serratelli, et al  
2018
- **Enhancer connectome in primary human cells identifies target genes of disease-associated DNA elements.** *Nature genetics*  
Mumbach, M. R., Satpathy, A. T., Boyle, E. A., Dai, C., Gowen, B. G., Cho, S. W., Nguyen, M. L., Rubin, A. J., Granja, J. M., Kazane, K. R., Wei, Y., Nguyen, T., Greenside, et al  
2017
- **Gene regulation in the immune system by long noncoding RNAs.** *Nature immunology*  
Chen, Y. G., Satpathy, A. T., Chang, H. Y.  
2017; 18 (9): 962–72
- **Long Noncoding RNA in Hematopoiesis and Immunity** *IMMUNITY*  
Satpathy, A. T., Chang, H. Y.  
2015; 42 (5): 792-804
- **Runx1 and Cbf beta regulate the development of Flt3(+) dendritic cell progenitors and restrict myeloproliferative disorder** *BLOOD*  
Satpathy, A. T., Briseno, C. G., Cai, X., Michael, D. G., Chou, C., Hsiung, S., Bhattacharya, D., Speck, N. A., Egawa, T.  
2014; 123 (19): 2968-2977
- **L-Myc expression by dendritic cells is required for optimal T-cell priming** *NATURE*  
Wumesh, K. C., Satpathy, A. T., Rapaport, A. S., Briseno, C. G., Wu, X., Albring, J. C., Russler-Germain, E. V., Kretzer, N. M., Durai, V., Persaud, S. P., Edelson, B. T., Loschko, J., Cella, et al  
2014; 507 (7491): 243-?
- **Notch2-dependent classical dendritic cells orchestrate intestinal immunity to attaching-and-effacing bacterial pathogens** *NATURE IMMUNOLOGY*  
Satpathy, A. T., Briseno, C. G., Lee, J. S., Ng, D., Manieri, N. A., Wumesh, K. C., Wu, X., Thomas, S. R., Lee, W., Turkoz, M., McDonald, K. G., Meredith, M. M., Song, et al  
2013; 14 (9): 937-?
- **Re(de)fining the dendritic cell lineage** *NATURE IMMUNOLOGY*  
Satpathy, A. T., Wu, X., Albring, J. C., Murphy, K. M.  
2012; 13 (12): 1145-1154
- **Zbtb46 expression distinguishes classical dendritic cells and their committed progenitors from other immune lineages** *JOURNAL OF EXPERIMENTAL MEDICINE*  
Satpathy, A. T., Wumesh, K. C., Albring, J. C., Edelson, B. T., Kretzer, N. M., Bhattacharya, D., Murphy, T. L., Murphy, K. M.  
2012; 209 (6): 1135-1152
- **Integrative analysis of single-cell genomics data by coupled nonnegative matrix factorizations.** *Proceedings of the National Academy of Sciences of the United States of America*  
Duren, Z., Chen, X., Zamanighomi, M., Zeng, W., Satpathy, A. T., Chang, H. Y., Wang, Y., Wong, W. H.  
2018

- **Expression of the transcription factor ZBTB46 distinguishes human histiocytic disorders of classical dendritic cell origin.** *Modern pathology : an official journal of the United States and Canadian Academy of Pathology, Inc*  
Satpathy, A. T., Brown, R. A., Gomulia, E., Briseño, C. G., Mumbach, M. R., Pan, Z., Murphy, K. M., Natkunam, Y., Chang, H. Y., Kim, J.  
2018
- **Transforming Growth Factor Beta 3 (TGFB3) - a Novel Systemic Sclerosis Susceptibility Locus Involved in Fibrosis and Th17 Cell Development Identified By Genome-Wide Association Study in African Americans from the Genome Research in African American Scleroderma Patients Consortium**  
Gourh, P., Remmers, E. F., Satpathy, A., Boyden, S., Morgan, N. D., Shah, A. A., Adeyemo, A., Bentley, A., Carns, M. A., Chandrasekharappa, S. C., Chung, L., Criswell, L. A., Derk, et al  
WILEY.2017
- **Cells in Inflamed Islets of Autoimmune Diabetes Mice.** *Journal of immunology*  
Klementowicz, J. E., Mahne, A. E., Spence, A., Nguyen, V., Satpathy, A. T., Murphy, K. M., Tang, Q.  
2017
- **Revisiting the specificity of the MHC class II transactivator CIITA in classical murine dendritic cells in vivo.** *European journal of immunology*  
Anderson, D. A., Grajales-Reyes, G. E., Satpathy, A. T., Hueichucura, C. E., Murphy, T. L., Murphy, K. M.  
2017
- **An improved ATAC-seq protocol reduces background and enables interrogation of frozen tissues.** *Nature methods*  
Corces, M. R., Trevino, A. E., Hamilton, E. G., Greenside, P. G., Sinnott-Armstrong, N. A., Vesuna, S., Satpathy, A. T., Rubin, A. J., Montine, K. S., Wu, B., Kathiria, A., Cho, S. W., Mumbach, et al  
2017
- **Discovery of stimulation-responsive immune enhancers with CRISPR activation.** *Nature*  
Simeonov, D. R., Gowen, B. G., Boontanart, M., Roth, T. L., Gagnon, J. D., Mumbach, M. R., Satpathy, A. T., Lee, Y., Bray, N. L., Chan, A. Y., Lituiev, D. S., Nguyen, M. L., Gate, et al  
2017
- **Chromatin Accessibility Landscape of Cutaneous T Cell Lymphoma and Dynamic Response to HDAC Inhibitors.** *Cancer cell*  
Qu, K., Zaba, L. C., Satpathy, A. T., Giresi, P. G., Li, R., Jin, Y., Armstrong, R., Jin, C., Schmitt, N., Rahbar, Z., Ueno, H., Greenleaf, W. J., Kim, et al  
2017
- **ATAC-se reveals the accessible genome by transposase-mediated imaging and sequencing.** *Nature methods*  
Chen, X., Shen, Y., Draper, W., Buenrostro, J. D., Litzenburger, U., Cho, S. W., Satpathy, A. T., Carter, A. C., Ghosh, R. P., East-Seletsky, A., Doudna, J. A., Greenleaf, W. J., Liphardt, et al  
2016
- **A Long Noncoding RNA lincRNA-EPS Acts as a Transcriptional Brake to Restrain Inflammation** *CELL*  
Atianand, M. K., Hu, W., Satpathy, A. T., Shen, Y., Ricci, E. P., Alvarez-Dominguez, J. R., Bhatta, A., Schattgen, S. A., McGowan, J. D., Blin, J., Braun, J. E., Gandhi, P., Moore, et al  
2016; 165 (7): 1672-1685
- **Cellular morphology of BRAF V600E-positive Langerhans cell histiocytosis** *BLOOD*  
Satpathy, A. T., Tan, B. T.  
2015; 126 (15): 1857-1857
- **Heme-Mediated SPI-C Induction Promotes Monocyte Differentiation into Iron-Recycling Macrophages** *CELL*  
Haldar, M., Kohyama, M., So, A. Y., Wumesh, K. C., Wu, X., Briseno, C. G., Satpathy, A. T., Kretzer, N. M., Arase, H., Rajasekaran, N. S., Wang, L., Egawa, T., Igarashi, et al  
2014; 156 (6): 1223-1234
- **Embryonic and Adult-Derived Resident Cardiac Macrophages Are Maintained through Distinct Mechanisms at Steady State and during Inflammation** *IMMUNITY*  
Epelman, S., Lavine, K. J., Beaudin, A. E., Sojka, D. K., Carrero, J. A., Calderon, B., Brijia, T., Gautier, E. L., Ivanov, S., Satpathy, A. T., Schilling, J. D., Schwendener, R., Sergin, et al  
2014; 40 (1): 91-104
- **Extrathymic Aire-Expressing Cells Are a Distinct Bone Marrow-Derived Population that Induce Functional Inactivation of CD4(+) T Cells** *IMMUNITY*  
Gardner, J. M., Metzger, T. C., McMahon, E. J., Au-Yeung, B. B., Krawisz, A. K., Lu, W., Price, J. D., Johannes, K. P., Satpathy, A. T., Murphy, K. M., Tarbell, K. V., Weiss, A., Anderson, et al

2013; 39 (3): 560-572

- **Bcl11a Controls Flt3 Expression in Early Hematopoietic Progenitors and Is Required for pDC Development In Vivo** *PLOS ONE*  
Wu, X., Satpathy, A. T., Wumesh, K. C., Liu, P., Murphy, T. L., Murphy, K. M.  
2013; 8 (5)
- **Ly6C(hi) Monocytes in the Inflamed Colon Give Rise to Proinflammatory Effector Cells and Migratory Antigen-Presenting Cells** *IMMUNITY*  
Zigmond, E., Varol, C., Farache, J., Elmaliah, E., Satpathy, A. T., Friedlander, G., Mack, M., Shpigel, N., Boneca, I. G., Murphy, K. M., Shakhar, G., Halpern, Z., Jung, et al  
2012; 37 (6): 1076-1090
- **Compensatory dendritic cell development mediated by BATF-IRF interactions** *NATURE*  
Tussiwand, R., Lee, W., Murphy, T. L., Mashayekhi, M., Wumesh, K. C., Albring, J. C., Satpathy, A. T., Rotondo, J. A., Edelson, B. T., Kretzer, N. M., Wu, X., Weiss, L. A., Glasmacher, et al  
2012; 490 (7421): 502-?
- **Cross-dressed CD8 alpha(+)/CD103(+) dendritic cells prime CD8(+) T cells following vaccination** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
Li, L., Kim, S., Herndon, J. M., Goedegebuure, P., Belt, B. A., Satpathy, A. T., Fleming, T. P., Hansen, T. H., Murphy, K. M., Gillanders, W. E.  
2012; 109 (31): 12716-12721
- **Dual actions of Meis1 inhibit erythroid progenitor development and sustain general hematopoietic cell proliferation** *BLOOD*  
Cai, M., Langer, E. M., Gill, J. G., Satpathy, A. T., Albring, J. C., Wumesh, K. C., Murphy, T. L., Murphy, K. M.  
2012; 120 (2): 335-346
- **IRF-8 extinguishes neutrophil production and promotes dendritic cell lineage commitment in both myeloid and lymphoid mouse progenitors** *BLOOD*  
Becker, A. M., Michael, D. G., Satpathy, A. T., Sciammas, R., Singh, H., Bhattacharya, D.  
2012; 119 (9): 2003-2012
- **Transcription factor networks in dendritic cell development** *SEMINARS IN IMMUNOLOGY*  
Satpathy, A. T., Murphy, K. M., Wumesh, K. C.  
2011; 23 (5): 388-397
- **Targeting of B and T lymphocyte associated (BTLA) prevents graft-versus-host disease without global immunosuppression** *JOURNAL OF EXPERIMENTAL MEDICINE*  
Albring, J. C., Sandau, M. M., Rapaport, A. S., Edelson, B. T., Satpathy, A., Mashayekhi, M., Lathrop, S. K., Hsieh, C., Stelljes, M., Colonna, M., Murphy, T. L., Murphy, K. M.  
2010; 207 (12): 2551-2559
- **Commercially Available Outbred Mice for Genome-Wide Association Studies** *PLOS GENETICS*  
Yalcin, B., Nicod, J., Bhomra, A., Davidson, S., Cleak, J., Farinelli, L., Osteras, M., Whitley, A., Yuan, W., Gan, X., Goodson, M., Klenerman, P., Satpathy, et al  
2010; 6 (9)
- **Enhanced thymic selection of FoxP3(+) regulatory T cells in the NOD mouse model of autoimmune diabetes** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*  
Feurerer, M., Jiang, W., Holler, P. D., Satpathy, A., Campbell, C., Bogue, M., Mathis, D., Benoist, C.  
2007; 104 (46): 18181-18186
- **Cytokines in type 2 diabetes** *INTERLEUKINS*  
Johnson, D. R., O'Connor, J. C., Satpathy, A., Freund, G. G.  
2006; 74: 405-441
- **IL-1 beta-mediated innate immunity is amplified in the db/db mouse model of type 2 diabetes** *JOURNAL OF IMMUNOLOGY*  
O'Connor, J. C., Satpathy, A., Hartman, M. E., Horvath, E. M., Kelley, K. W., Dantzer, R., Johnson, R. W., Freund, G. G.  
2005; 174 (8): 4991-4997