

# *Curriculum Vitae*

## **Mark S. Sundrud**

**DATE/PLACE OF BIRTH:** June 26, 1978; Bemidji, Minnesota

**OFFICE ADDRESS** Borwell Research Building, HB7999  
1 Medical Center Drive  
Lebanon, NH 03756  
(P): 603.646.5232  
(F): 603.646.5233  
[mark.sundrud@dartmouth.edu](mailto:mark.sundrud@dartmouth.edu)  
[mark.s.sundrud@hitchcock.org](mailto:mark.s.sundrud@hitchcock.org)

**HOME ADDRESS:** 52 King Rd  
Etna, New Hampshire 03750

### **ACADEMIC DEGREES**

B.A.	2000	Concordia College, Moorhead, Minnesota (Biology and Psychology; Cum Laude)
Ph.D.	2005	Vanderbilt University Medical Center, Nashville, Tennessee (Microbiology and Immunology)

### **PROFESSIONAL APPOINTMENTS**

2005-09	Research Fellow, Harvard Medical School and The Immune Disease Institute (now Program in Cellular and Molecular Medicine at Children's Hospital Boston), Boston, Massachusetts
2009-11	Senior Scientist; Head, Target Discovery, Tempero Pharmaceuticals, Inc. (A GSK company), Cambridge, Massachusetts
2011-12	Principal Scientist; Head, Target Discovery, Tempero Pharmaceuticals, Inc. (A GSK company), Cambridge, Massachusetts
2013-15	Assistant Professor (tenure-track), Department of Cancer Biology, The Scripps Research Institute, Jupiter, Florida
2015-17	Assistant Professor (tenure-track), Department of Immunology and Microbiology, The Scripps Research Institute, Jupiter, Florida

- 2017-2021 Associate Professor (tenure-track), Department of Immunology and Microbiology, The Scripps Research Institute, Jupiter, Florida
- 2022 Professor (with Tenure), Department of Immunology and Microbiology, The Scripps Research Institute, Jupiter, Florida
- 2022- Principal Investigator, Dartmouth-Hitchcock Medical Center; Professor, Departments of Medicine and Microbiology & Immunology, Geisel School of Medicine at Dartmouth College, Hanover, NH

**RESEARCH INTERESTS:** Immunity, inflammation, autoimmunity, T cell biology, transcriptional regulation, translational regulation, cell metabolism, signal transduction, cellular responses to stress, clinical/translational immunology, tumor immunology and adoptive T cell therapy

#### **PROFESSIONAL SOCIETY MEMBERSHIPS**

- The American Association of Immunologists (AAI)  
The Crohn's & Colitis Foundation (CCF)  
American Society for Cell Biology (ACSB)

#### **HONORS AND AWARDS**

- 1998-2000 National honor society for undergraduates in Biological Sciences, Concordia College, Moorhead, Minnesota
- 1998-2000 Dean list, Concordia College, Moorhead, Minnesota
- 2001 NIH pre-doctoral training grant, Vanderbilt University Medical Center, Nashville, Tennessee
- 2002-05 Microbes and Defense Academic Honor Society, Vanderbilt University Medical Center, Nashville, Tennessee
- 2003 Nobel Conference nominee, Vanderbilt University Medical Center, Nashville, Tennessee
- 2004 Sidney P. Colowick memorial award for outstanding graduate student research, Vanderbilt University Medical Center, Nashville, Tennessee
- 2006-09 Irvington institute post-doctoral fellowship of the Cancer Research Institute, New York, New York
- 2007 Travel award, Coalition for Life Science (CLS) Capitol Hill Day for science advocacy, Washington, DC
- 2008 Travel award, Coalition for Life Science (CLS) Capitol Hill Day for science advocacy, Washington, DC

2014	Travel award, American Association of Immunologists (AAI)
2014	Professor R. E. Fuglestad Memorial Lecture, Concordia College, Moorhead, MN
2017	Senior Research Award, Crohn's & Colitis Foundation of America (CCFA)
2017	Travel award, American Association of Immunologists (AAI)
2019	F1000 Prime Faculty, Leukocyte signaling and gene expression section

## GRANT SUPPORT

### Completed:

Cancer Research Institute (03/01/06–02/28/09), "*Structure-function characterization of the FoxP3-NEAT interaction and its importance in Treg development*"; Mark S. Sundrud, Ph.D., Post-doctoral research fellow; 100% effort, 100% salary support; Anjana Rao, Ph.D., principal investigator.

NIH R21 AI119728-01 (07/01/2015–06/30/2017), "*Transcriptional control of Intestinal CD4<sup>+</sup> T cell adaption*"; Mark S. Sundrud, Ph.D., Principal Investigator; 25% effort, 25% salary support

NIH sub-award to U01AI30830 (04/01/2018-12/31/19), "*Gene Regulation as a Foundation for Autoimmune Disease Prevention*", Mark S. Sundrud, Ph.D., sub-award PI, 5% effort, 5% salary support

Crohn's & Colitis Foundation of America (CCFA) Senior Research Award (01/01/2017-12/31/2019), "*Control of small intestinal T cell function and inflammation by bile acids*", Mark S. Sundrud, Ph.D., Principal Investigator; 25% effort, 25% salary support

NIH R03 AI144714-01 (07/01/2019-06/30/2021), "*Updating the toolbox: applying CRISPR towards the study of the xenobiotic transporter MDR1*"; Mark S. Sundrud, Ph.D., Principal Investigator, 5% effort, 5% salary support

### Current:

NIH R01 5R01AI143821 (02/01/2019-01/31/2024), "*Determinants of bile acid-dependent T cell regulation in the intestine*"; Mark S. Sundrud, Ph.D., Principal Investigator; 3.33% effort, 3.33% salary support

1 U01 AI163063-01 (07/15/2021-03/31/2026), "*Nuclear Receptor Networks in Mucosal Immune Regulation*"; Mark S. Sundrud, Ph.D., Principal Investigator; 33.33% effort, 33.33% salary support

1 R21 AI154039-01A1 (09/01/2021-08/31/2023), "*Transcript-selective translational control of Th17 cell development and function*"; Mark S. Sundrud, Ph.D., Principal Investigator; 25% effort, 25% salary support

1 R01 AI164772-01 (9/23/2021-8/31/2026), “Nuclear receptor control of T cell function in discrete intestinal microenvironments”; Mark S. Sundrud, Ph.D., Principal Investigator; 33.33% effort, 33.33% salary support

## PUBLICATIONS

### Ph.D. Thesis

Molecular determinants of human T cell differentiation and host-pathogen interaction. Ph.D. Thesis, Vanderbilt University Medical Center, Nashville, Tennessee, 2005.

### Original Research Articles

1. **MS Sundrud**, SM Bohks, D Ni, SS Alkan, A Subramaniam D Unutmaz. 2003. Genetic reprogramming of human naïve and memory T cells reveals functional plasticity in T helper cell differentiation. **J. Immunol.** Oct; 171: 3542-9.
2. **MS Sundrud**, VJ Torres, D Unutmaz TL Cover. 2004. Inhibition of primary human T cell proliferation by Helicobacter pylori vacuolating toxin (VacA) is independent of VacA effects on IL-2 secretion. **Proc Natl Acad Sci USA.** May18; 101 (20): 7727-32.
3. K Oswald-Richter, SM Grill, N Shariat, M Leelawong, **MS Sundrud**, DW Haas D Unutmaz. 2004. HIV Infection of Naturally Occurring and Genetically Reprogrammed Human Regulatory T-cells. **PLoS Biol.** Jul; 2 (7): E198.
4. **MS Sundrud**, S VanCompernelle, A Subramaniam, S Ahujua, S Mummidi, D Unutmaz. 2005. Transcription factor GATA-1 is a potent repressor of HIV-1 co-receptor CCR5 in human T cells and dendritic cells. **Blood.** Nov 15;106 (10):3440-8.
5. K Oswald-Richter, VJ Torres, **MS Sundrud**, SE Vancompernelle, TL Cover, D Unutmaz. 2006. Helicobacter pylori VacA toxin inhibits HIV infection of primary human T cells. **J Virol.** Dec;80(23):11767-75.
6. KA Eger, **MS Sundrud**, AA Motsinger, M Tseng, L Van Kaer, D Unutmaz. 2006. Human Natural Killer T cells are Heterogenous in Their Capacity to Reprogram Their Effector Functions. **PloS One** Dec 20; 1: e50.
7. VJ Torres, SE VanCompernelle, **MS Sundrud**, D Unutmaz TL Cover. 2007. Helicobacter pylori vacuolating cytotoxin inhibits activation-induced proliferation of human T and B lymphocyte subsets. **J Immunol.** Oct 15;179 (8):5433-40.

8. **MS Sundrud**, SB Koralov, M Feuerer, DP Calado, AE Kozhaya, A Rhule-Smith, RE Lefebvre, D Unutmaz, R Mazitschek, M Whitman, TL Keller, A Rao. 2009. Halofuginone links the amino acid starvation response to Th17 differentiation. **Science**. Jun 5;324(5932): 1334-8.  
*\*F1000 Prime recommended*
9. K Peng-Koh, **MS Sundrud**, A Rao. 2009. Domain requirements and sequence specificity of DNA binding for the forkhead transcription factor FOXP3. **PloS One**. Dec 1;4(12): e8109.
10. S Ghosh, SB Koralov, I Stevanovic, **MS Sundrud**, Y Sasaki, K Rajewsky, A Rao, MR Müller. 2010. Hyperactivation of nuclear factor of activated T cells 1 (NFAT1) in T cells attenuates severity of murine autoimmune encephalomyelitis. **Proc Natl Acad Sci USA**. Aug 24; 107(34): 15169-74.
11. Q Wan, L Kozhaya, A ElHed, R Ramesh, TJ Carlson, IM Djuretic, **MS Sundrud**, D Unutmaz. 2011. Cytokine signals through PI-3 kinase pathway modulate Th17 cytokine production by CCR6+ memory T cells. **J Exp Med**. Aug 29;208 (9):1875-87. # co-corresponding author  
*\*F1000 Prime recommended*
12. TL Keller, D Zocco, **MS Sundrud**, M Hendrick, M Edenius, I Yum, C Yeol-Yeo, D Dignam, R Mazitschek, A Rao, M Whitman. 2012. Halofuginone and other febrifugine derivatives inhibit prolyl-tRNA synthetase. **Nat Chem Biol**. Feb 12;8(3):311-7.
13. L Fogli, **MS Sundrud**, S Goel, E Derruder, A Sun, S Barjwa, K Jensen, C Uyttenhove, I Van Snick, J Durbin, M Schmidt-Supprian, S Casola, K Rajewsky, S Koralov. T cell-derived IL-17 mediates epithelial changes in the airway and drives pulmonary neutrophilia. **J Immunol**. 2013 Sep 15;191(6):3100-11
14. R Ramesh, L Kozhaya, K McKeivitt, IM Djuretic, TJ Carlson, MA Quintero, JL McCauley, MT Abreu, D Unutmaz, **MS Sundrud**. 2014. Pro-inflammatory human Th17 cells selectively express P-glycoprotein and are refractory to glucocorticoids. **J Exp Med** Jan 6; 211(1): 89-104.
15. P Zhao, K Farley, L Hou, **MS Sundrud**, E Remold-O'Donnell. 2013. SerpinB1 regulates homeostatic expansion of IL-17<sup>+</sup>  $\gamma\delta$  and CD4<sup>+</sup> Th17 cells. **J. Leukoc Biol**. Mar;95(3):521-30.
16. TJ Carlson, A Pellerin, IM Djuretic, C Trivigno, SB Koralov, A Rao, **MS Sundrud**. 2014. Halofuginone-induced amino acid starvation regulates Stat3-dependent Th17 effector function and reduces established autoimmune inflammation. **J Immunol**. Mar 1;192(5):2167-76.
17. J Skepner, R Ramesh, M Trocha, D Schmidt, E Bolaglu, M Lobera, TJ Carlson, JA Hill, LA Orband-Miller, A Barnes, M Boudjelal, **MS Sundrud**, S Ghosh, J Yang. 2014. Pharmacologic inhibition of ROR $\gamma$ t suppresses Th17-signature

- gene expression and cutaneous inflammation *in vivo*. **J Immunol.** Mar 15;192(6):2564-75.
18. S Xiao, N Yosef, J Yang, Y Wang, L Zhou, C Zhu, C Wu, E Baloglu, D Schmidt, R Ramesh, M Lobera, **MS Sundrud**, P-Y Tsai, Z Xiang, J Wang, Y Xu, X Lin, K Kretschmer, PB Rahl, RA Young, Z Zhong, DA Hafler, A Regev, S Ghosh, A Marson, VK Kuchroo. 2014. Small-molecule ROR $\gamma$ t antagonists inhibit T helper 17 cell transcriptional network by divergent mechanisms. 2014. **Immunity.** Apr 17;40(4):477-89.
  19. JG Crompton, M Sukumar, R Roychoudhuri, D Clever, A Gros, RL Eil, K Tran E, Hanada, Z Yu, DC Palmer, SP Kerkar, RD Michalek, T Upham, A Leonardi, N Acquavella, E Wang, FM Marincola, L Gattinoni, P Muranski, **MS Sundrud**, CA Klebanoff, SA Rosenberg, DT Fearon, NP Restifo. 2015. Akt inhibition enhances expansion of potent tumor-specific lymphocytes with memory cell characteristics. **Cancer Res.** 2015 Jan 15;75(2):296-305.
  20. J Skepner, M Trocha, R Ramesh, XA Qu, D Schmidt, E Baloglu, M Lobera, S Davis, MA Nolan, T Carlson, J Hill, S Ghosh, **MS Sundrud**, J Yang. 2015. *In vivo* regulation of gene expression and Th17 differentiation by ROR $\gamma$ t inverse agonists. **Immunology.** 2015 Jan 21. Doi: 10.1111/imm.12444. [Epub ahead of print].
  21. A Delmas, A Oikonomopoulos, PN Lacey, M Fallahi, DW Hommes, **MS Sundrud**. 2016. Informatics-based discovery of disease-associated immune profiles. **PloS One.** Sep 26;11(9):e0163305.
  22. W Cao, H Kayama, ML Chen, A Delmas, A Sun, SY Kim, ES Rangarajan, K McKeivitt, AP Beck, CB Jackson, G. Crynen, A Oikonomopoulos, PN Lacey, GJ Martinez, T Izard, RG Lorenz, A Rodriguez-Palacios, F Cominelli, MT Abreu, DW Hommes, SB. Koralov, K Takeda, **MS Sundrud**. 2017. The xenobiotic transporter Mdr1 enforces T cell homeostasis in the presence of intestinal bile acids. **Immunity.** Dec 19;47(6):1182-1196.  
*\*F1000 Prime recommended*
  23. MH Fanok, A Sun, LK Fogli, V Narendran, M Eckstein, K Kannan, I Dolgalev, C Lazaris, A Heguy, ME Laird, **MS Sundrud**, C Liu, J Kutok, RS Lacruz, JA Latkowski, I Aifantis, N Ødum, KB Hymes, S Goel, SB Koralov. 2018. Role of dysregulated cytokine signaling and bacterial triggers in the pathogenesis of Cutaneous T Cell Lymphoma. **J Invest Dermatol.** May;138(5):1116-1125.
  24. A Basson , A LaSalla , G Lam , D Kulpins , E Moen , **MS Sundrud** , J Miyoshi , S Ilic , B Theriault , F Cominelli, A. Rodriguez-Palacios. 2020. Understanding ‘artificial’ mouse-microbiome heterogeneity and six actionable themes to increase study power and reproducibility. **Sci Rep.** Mar 19;10(1):5039.

25. Y Kim#, **MS Sundrud**#, C Zhou, M Edenius, D Zocco, K Powers, EH Noss, MB Brenner, A Rao, R Mazitschek, CY Yeo, M Whitman, TL Keller. 2020. Aminoacyl-tRNA Synthetase Inhibition Activates a Novel Pathway that Branches from the Canonical Amino Acid Response in Mammalian Cells. **Proc Natl Acad Sci USA**. Apr 21;117(16):8900-8911. #co-first author.
26. ML Chen, A Sun, W Cao, A Eliason, KM Mendez, AJ Getzler, S Tsuda, H Diao, C Mukori, NE Bruno, SY Kim, ME Pipkin, SB Koralov, **MS Sundrud**. 2020. Physiologic expression and function of the multidrug transporter MDR1 in cytotoxic T lymphocytes. **J Exp Med**. May 4;217(5):e20191388.
27. R Wang, S Campbell, M Amir, MA Bassette, A Eliason, **MS Sundrud**, TM Kamenecka, LA Solt. 2021. Genetic and pharmacological inhibition of the nuclear receptor ROR $\alpha$  regulates TH17 driven inflammatory disorders. **Nat Comm**. Jan 4;12(1):76.
28. ML Chen, X Huang, H Wang, Y Liu, J Shang, A Eliason, C Hegner, H Park, B Frey, G Wang, DJ Kojetin, CT Weaver, ME Pipkin, DD Moore, **MS Sundrud**. 2021. CAR directs T cell adaptation to bile acids in the small intestine. **Nature**. May;593(7857):147-151. doi: 10.1038/s41586-021-03421-6. Epub 2021 Apr 7.
29. MT Abreu, JM Davies, MA Quintero, A Delmas, S Diaz, CD Martinez, T Venables, A Reich, G Crynen, AR Deshpande, DH Kerman, OM Damas, I Fernandez, AM Santander, J Pignac-Kobinger, JF Burgueno, **MS Sundrud**. 2022. Transcriptional behavior of regulatory T cells predicts IBD patient responses to vedolizumab therapy. **Inflammatory Bowel Diseases**. Aug 22;izac151. doi: 10.1093/ibd/izac151.
30. R Fuerst, J-Y Choi, A Knapinska, MD Cameron, C Ruiz, A Delmas, **MS Sundrud**, GB Fields, W. Roush. 2022. Development of a Zn<sup>2+</sup>-chelating but highly selective matrix metalloproteinase 13 inhibitor. **Bioorg Med Chem Lett**. Nov 15;76:129014.

### Book Chapters and Review Articles

1. **MS Sundrud** A Rao. 2007. New Twists in T cell fate: Control of T cell activation and tolerance by TGF- $\beta$  and NFAT. **Curr Opin Immunol**. Jun; 19(3):287-93.
2. H Hu, I Djuretic, **MS Sundrud**, A Rao. 2007. Transcriptional partners in regulatory T cells: Foxp3, Runx and NFAT. **Trends Immunol**. Aug;28(8):329-32.

3. **MS Sundrud**, MA Nolan. 2010. Synergistic and combinatorial control of T cell activation and differentiation by transcription factors. **Curr Opin Immunol**. 2010 Jun; 22(3):286-92
4. **MS Sundrud**, SB Koralov. 2011. Negative regulation of Th17 differentiation. In: TH17 Cells in Health and Disease. V Quesniaux, B Ryffel, F Padova, editors. **New York: Springer Press**.
5. S Ghosh, M Lobera **MS Sundrud**. 2011. Targeting Th17 and Treg signaling pathways in autoimmunity. **Annu Rep Med Chem**. Vol. 46, pp. 155-70.
6. **MS Sundrud**, C Trivigno. 2013. Identity crisis of Th17 cells: many forms, many functions, many questions. **Semin Immunol**. Nov. 15; 25(4):263-72.
7. J Yang, **MS Sundrud**, J Skepner, T Yamagata. 2014. Targeting Th17 cells in autoimmune diseases. **Trends Pharmacol Sci**. Oct;35(10):493-500.
8. ML Chen, **MS Sundrud**. 2016. Cytokine Networks and T-Cell Subsets in Inflammatory Bowel Diseases. **Inflamm Bowel Dis**. May;22(5):1157-67.
9. ML Chen, **MS Sundrud**. 2018. Xenobiotic and endobiotic handling by the mucosal immune system. **Curr Opin Gastroenterol**. Nov;34(6):404-412.
10. ML Chen, K Takeda, **MS Sundrud**. 2019. Emerging Roles of Bile Acids in Mucosal Immunity and Inflammation. **Mucosal Immunol**. Jul;12(4):851-861.
11. AR. Basson, C Chen, F Sagl, A Trotter, I Bederman, A Gomez-Nguyen, **MS Sundrud**, S Ilic, F Cominelli, A Rodriguez-Palacios 2021. Regulation of Intestinal Inflammation by Dietary Fats. **Front. Immunol**. Feb 2;11:604989. doi: 10.3389/fimmu.2020.604989.

#### Invited Commentaries

1. **MS Sundrud**, A Rao. 2007. Regulatory T-cell gene expression: ChIP'ing away at Foxp3. **Immunol Cell Biol**. Apr-May;85(3):177-8.
2. **MS Sundrud**, A Rao. 2008. Regulation of T helper 17 differentiation by orphan nuclear receptors: it's not just ROR gamma t anymore. **Immunity**. Jan;28(1):5-7.
3. H Bandukwala, **MS Sundrud**, A Rao. 2008. Orphans against autoimmunity. **Immunity**. Aug 15;29(2):167-8.]
4. **MS Sundrud**. 2014. Drug-resistant Th17 cells: culprits in steroid-refractory Crohn's Disease? **Immunotherapy**. May;6(5):503-6.



5. **MS Sundrud**, SP Hogan. 2019. What's old is new again: Batf transcription factors and Th9 cells. **Mucosal Immunol.** May;12(3):583-585.

Complete bibliography available at:

<https://pubmed.ncbi.nlm.nih.gov/?term=sundrud+m&sort=date>

## Patents

TL Keller, R Mazitschek, M Whitman, J Lee, **MS Sundrud**, A Rao.  
Halofuginone analogs for inhibition of tRNA synthetases and uses thereof.  
*Filed – 2009; Published – 2010.*

## OTHER PROFESSIONAL ACTIVITIES

### Editorial memberships

2015-2018 *Molecular Cell Biology*

2020- *Journal of Immunology*

2019- F1000 Prime, Leukocyte Signaling and Gene Expression Section

### Ad Hoc Reviewer

*Nature*

*Cell*

*Science*

*Science Translational Medicine*

*Science Immunology*

*Nature Immunology*

*Immunity*

*Journal of Experimental Medicine*

*Proceedings of the National Academies of Sciences, USA (PNAS)*

*Blood*

*Mucosal Immunology*

*Journal of Immunology*

*Journal of Biological Chemistry*

*International Immunology*

*PLoS Biology*

*PLoS One*

### National Institutes of Health (NIH) Study Sections

- 2015 Special Emphasis Panel (SEP) on Development of Sample Sparing Assays for Monitoring Immune Responses (U24), ad hoc reviewer

- 2019 Hypersensitivity, Allergies and Mucosal Immunology (HAMI)  
special emphasis panel—ZRG1 IMM-T 57, ad hoc reviewer
- 2019-21 Digestive System Host Defense, Microbial Interactions and Immune  
and Inflammatory Diseases (DHMI), ad hoc reviewer
- 2022- Digestive System Host Defense, Microbial Interactions and Immune  
and Inflammatory Diseases (DHMI), standing member

## **TRAINEES**

### **Post-doctoral fellows**

- 2013 Catherine Trivigno, Ph.D. (currently Instructor at Florida  
Atlantic University, Department of Biology)
- 2014-16 Wei Cao, M.D., Ph.D. (currently Senior Scientist at Atreca, Inc.)

### **Ph.D. students**

- 2014-20 Mei Lan Chen (currently Associate Scientist at Regeneron  
Pharmaceuticals, Inc.)
- 2019- Courtney Hegner
- 2020- Akshaya Balasubramanian

### **Ph.D. Thesis Committees:**

#### **Past:**

- Ms. Ina Felzer, Department of Immunology and Microbiology, The Scripps Research Institute
- Mr. Cody Jackson (committee chair), Department of Immunology and Microbiology, The Scripps Research Institute
- Ms. Tracey “Liz” Bailey (committee chair), Department of Molecular Medicine, The Scripps Research Institute
- Ms. Lillian Onwuha-Ekpete, Department of Chemistry, Florida Atlantic University.

#### **Current:**

- Ms. Adrianna Wilson (committee chair), Department of Immunology and Microbiology, The Scripps Research Institute
- Ms. Alyssa Shepard (committee chair), Department of Molecular Medicine, The Scripps Research Institute
- Ms. Huitian Diao (committee chair), Department of Immunology and Microbiology, The Scripps Research Institute
- Ms. Luisa Mori (committee chair), Department of Immunology and Microbiology, The Scripps Research Institute
- Ms. Shanel Tsuda (committee chair), Department of Immunology and Microbiology, The Scripps Research Institute

- Ms. Tianling Ou (committee chair), Department of Immunology and Microbiology, The Scripps Research Institute
- Ms. Yiming Yin (committee chair), Department of Immunology and Microbiology, The Scripps Research Institute
- Ms. Zixuan Yuan (committee chair), Department of Integrative Structural and Computational Biology, The Scripps Research Institute
- Mr. Adam Getzler, Department of Immunology and Microbiology, The Scripps Research Institute
- Ms. Nathalia Gazaniga, Department of Immunology and Microbiology, The Scripps Research Institute
- Ms. Sarah Mosure, Department of Immunology and Microbiology, Department of Molecular Medicine, The Scripps Research Institute
- Mr. Jonathan Melamed, Department of Immunology and Microbiology, The Scripps Research Institute

## **TEACHING**

### **Course Directorships**

2018- Immunology (IMS510), The Scripps Research Institute

### **Lectures**

#### **2017**

February 22 Cell Signaling, The Scripps Research Institute  
March 3 Clinical Investigation, The Scripps Research Institute  
March 15 Immunology (IMS510), The Scripps Research Institute  
September 8 Scientific Communication, The Scripps Research Institute

#### **2018**

April 11 Cell Signaling, The Scripps Research Institute

#### **2019**

February 14 Immunology (IMS510), The Scripps Research Institute

#### **2020**

February 18 Immunology (IMS510), The Scripps Research Institute  
February 27 Immunology (IMS510), The Scripps Research Institute  
March 5 Immunology (IMS510), The Scripps Research Institute  
May 4 Cell Signaling, The Scripps Research Institute

#### **2021**

February 23 Immunology (IMS510), The Scripps Research Institute  
February 25 Immunology (IMS510), The Scripps Research Institute

### **INVITED SEMINARS (2013-present)**

**2013**

- September 25 Center for Molecular Biology and Biotechnology, Florida Atlantic University (FAU), Boca Raton, FL
- November 6 Department of Infectious Diseases, The Scripps Research Institute, Jupiter, Florida
- November 18-20 Towards Comprehensive Understanding of Immune Dynamism (TCUID) 2013, Osaka, Japan
- December 19 Department of Microbiology & Immunology, Miller School of Medicine, University of Miami, Miami, FL

**2014**

- May 21 La Jolla Institute of Allergy & Immunology, La Jolla, CA
- August 18 Department of Allergy & Immunology, Cincinnati Children's Hospital Medical Center, Cincinnati, OH
- October 23 ResearchFest, The Scripps Research Institute Florida, Jupiter, FL
- November 7 Florida Biomedical Career Symposium, The Scripps Research Institute Florida, Jupiter, FL
- November 17 Concordia College, Moorhead, MN
- December 4-6 Advances in Inflammatory Bowel Diseases, Orlando, FL
- December 12 Vaccine and Gene Therapy Institute (VGTI), Port Saint Lucie, FL

**2015**

- March 21 Jupiter Medical Center, Crohn's & Colitis Foundation of America, Patient Awareness and Education Symposium on Inflammatory Bowel Disease, Jupiter, FL
- June 29 Department of Pathology, New York University, New York, NY
- September 29 National Institutes of Health, Twinbrook Campus, Bethesda, MD
- October 16 Department of Microbiology, Infectious Disease, and Immunology, University of Montréal, Montréal, Quebec, Canada

**2016**

- March 29 Concordia College, Moorhead, MN
- June 28 Department of Immunology and Microbial Pathogenesis, Emory University, Atlanta, GA
- November 14 Immunology & Microbiology Departmental retreat, The Scripps Research Institute (TSRI), La Jolla, CA

**2017**

- March 4 Keystone Symposium on Bile Acid Receptors as Signal Integrators in Liver and Metabolism, Monterey, CA
- March 17 World Immune Regulation Meeting, Davos, Switzerland
- March 28 Keystone Symposium on Immune Regulation in Autoimmunity and Cancer, Whistler, British Columbia, Canada

- May 13 Immunology 2017, A conference of the American Association of Immunologists, Washington, D.C.
- September 27 Center for Molecular Biology and Biotechnology, Florida Atlantic University (FAU), Boca Raton, FL
- October 23 Department of Pathology, New York University, New York, NY
- 2018**
- June 19 25th International Symposium on Molecular Cell Biology of Macrophages, Osaka University, Osaka, Japan
- July 26 The Jackson Laboratory for Genomic Medicine, Farmington, CT
- September 19 La Jolla Institute for Allergy and Immunology, La Jolla, CA
- September 28 Concordia College, Moorhead, MN
- 2019**
- January 17 “Food for Thought”. Department of Philanthropy, The Scripps Research Institute, Jupiter, FL
- March 21 International Organization for the study of Inflammatory Bowel Diseases (IOIBD), Havana, Cuba
- June 7 Southeastern Immunology Symposium (SIS), Emory University, Atlanta, GA
- June 25 Vermont Lung Center, University of Vermont, Burlington, VT
- September 10 Genentech, San Francisco, CA
- September 12 Immunology & Microbiology Departmental retreat, The Scripps Research Institute (TSRI), La Jolla, CA
- November 12 Rutgers University, School of Arts & Sciences-Newark, Newark, NJ
- 2020**
- February 4 Center for Inflammation & Mucosal Immunology, University of Florida, Gainesville, FL
- February 28 Canadian Digestive Disease Week Symposium, Montréal, Quebec, Canada
- 2021**
- March 25 Front Row Lecture Series, The Scripps Research Institute (virtual; available at: <https://youtu.be/ZFJmtrysMCg>)
- March 31 Workshop: IBD Mouse Modeling: Best Practices for Drug Discovery, Emerging Models, and Preclinical Research, Taconic (virtual)
- May 20 Research Grand Rounds, Department of Medicine, Penn State University College of Medicine (virtual)
- September 28 Department of Microbiology & Immunology, Miller School of Medicine, University of Miami, Miami, FL
- December 7 Vanderbilt Center for Immunobiology, Nashville, TN
- December 17 Department of Microbiology & Immunology, Dartmouth-Hitchcock Medical Center, Geisel School of Medicine, Dartmouth College, Lebanon, NH

**2022**

February 10 Program in Immunology, University of Alabama-Birmingham,  
Birmingham, AL

February 15 Gastroenterology, Endocrinology, Nutrition Innovation  
Center, Emory University, Atlanta, GA