

## **Leonard D. Shultz, Ph.D.**

The Jackson Laboratory, Bar Harbor, ME 04609

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### ***Curriculum Vitae***

#### **EDUCATION**

1967 B.A., Biology, Northeastern University, Boston, MA  
1971-1972 Predoctoral Trainee, US Public Health Services, University of Massachusetts, Amherst, MA  
1972 Ph.D., Medical Microbiology, University of Massachusetts, Amherst, MA  
1972-1974 Postdoctoral Fellow, The Jackson Laboratory, Bar Harbor, ME

#### **RESEARCH POSITIONS**

1967-1968 Research Assistant, Tufts University School of Medicine, Boston, MA  
1968-1970 Graduate Teaching Assistant, University of Massachusetts, Amherst, MA  
1970-1971 Lecturer, University of Massachusetts, Amherst MA  
1974-1976 Research Associate, The Jackson Laboratory, Bar Harbor, ME  
1976-1979 Assistant Professor, The Jackson Laboratory, Bar Harbor, ME  
1979-1991 Associate Professor, The Jackson Laboratory, Bar Harbor, ME  
1981 Cooperating Professor in Zoology, University of Maine, Orono, ME  
1988-present Graduate Faculty Member, School of Biomedical Sciences and Engineering (GSBSE), University of Maine, Orono, ME  
1991-present Professor, The Jackson Laboratory, Bar Harbor, ME  
1995-2017 Research Professor, Department of Medicine, School of Medicine, University of Massachusetts Medical School  
2017-present Professor of Medicine, Department of Medicine, School of Medicine, University of Massachusetts Medical School  
1998-present Research Professor, Graduate School of Biomedical Sciences, University of Massachusetts Medical School  
2006-2007 Assistant Clinical Professor, Department of Immunology, University of Connecticut, School of Medicine, Farmington, CT  
2008 Adjunct Assistant Professor, Department of Immunology, University of Connecticut, School of Medicine, Farmington, CT

#### **RESEARCH INTERESTS**

Development and regulation of the immune system in normal and pathologic states: immunodeficiency; AIDS; autoimmunity; tumor immunology; Development of humanized mouse models as a preclinical bridge for translational investigations

#### **PROFESSIONAL ACTIVITIES**

##### Board Membership:

1990-2015 In Vivo  
2003-2008 Experimental Biology and Medicine  
2004-2016 Stem Cell  
2008-2014 Beta Cell Biology Consortium (BCBC), Principal Investigator  
2012-2017 Stem Cell Cobre External Advisory Committee, Maine Medical Research Center  
2018 External Advisory Committee, Targeted Sphingolipid Metabolism for AML, University of Virginia Medical Center

##### Grant Review Panels:

1987 Member, Special NIH Study Section  
1992 Member, NIH Ad hoc Study Section  
1994 NIH Study Section Mechanisms of Prostate Cancer  
1996 Member, NIH Special Study Section on Prostate Carcinoma Invasion and Metastasis Factors

1997	Special NIAID Review Committee on SCID-HIV Animal Models for Evaluating HIV Therapeutics
1998	National Cancer Institute Review Committee Site Visit to the Fox Chase Cancer Institute
1999	National Cancer Institute, Program Projects in Immunology Review Committee
2001	Member, NIH Study Section as the Deut of Novel Aids therapies
2003	NIH Special Review panel on Prostate Carcinoma Program Projects
2004	NIH Study Section Mechanisms of Prostate Cancer
2005	NIH/NAIAD Ad hoc Study Section panel to review applications for Tissue based small animal models for HIV Drug Discovery
2005	Member, Ad Hoc Study Section to review the intramural program of the Dermatology branch of the National Cancer Institute
2005	Ad Hoc Review, NIH Kidney Biological and Hematological Subcommittee
2006	NIH/NAIAD, Ad hoc Study Section Panel to review applications for tissue based small animal models for HIV Drug Discovery
2010	JDRF Grants Review Study Section
2011	Medical Research Council of Canada
2011	The Arthritis Foundation
2011	Swiss National Fund for Scientific Research
2015	US-Israel Bi-National Science Foundation

Ad hoc Manuscript Reviews for Peer Reviewed Journals:

The Journal of Immunology  
Proceedings of the National Academy of Sciences, USA  
The American Journal of Pathology  
The Journal of Gerontology  
The Journal of Nutrition  
Nature  
Science  
Nature Genetics  
Experimental Hematology  
Stem Cell Reports  
Trends in Immunology  
PloS ONE  
Drug Discovery  
The Journal of Autoimmunity  
Stem Cells and Development

Institutional Committees:

2004-present Genetic Resources Committee  
2004-present RAF Advisory Committee  
2005-2015 Human Subjects IRB, Chair  
2005-present Research Grants Committee  
2006-2007 Cancer Core Grant Committee  
2014-present Radiation & Lab Safety, Co-Chair

**PROFESSIONAL SOCIETIES**

American Association of Immunologists, American Society for Microbiology, American Diabetes Association, American Association for the Advancement of Science, American Society for Hematology, International Association for Comparative Research on Leukemia and Related Diseases

**EXTRAMURAL RESEARCH SUPPORT**

**Current:**

2018-2023 Co-Investigator, 1 U01 CA224013-01 "CSHL-JAX Patient-Derived Models of Pancreatic Cancer as Systems for Investigating Tumor Heterogeneity," NIH/NCI (03/06/18-02/28/23)

- 2017-2022 Consortium Principal Investigator, 1 R01 AI132963-02 *"Novel Humanized Mouse Model Developed from Cord Blood CD34 Positive HSC and Autologous iPS Cell Derived Thymus,"* NIH/NIAID (05/01/17-04/30/22)
- 2017-2018 Principal Investigator, JAX-DIF-FY17-SAM-MKV-LDS *"A Novel Complement Sufficient NSG Mouse Model to Study Complement-Mediated Modulation of Immune Responses Against Human Cancer,"* The Jackson Laboratory Director's Innovation Fund (11/01/17-10/31/18)
- 2014-2019 Co-Project Leader, 5 P30 CA034196-33 *"Cancer Center Support (Core) Grant – Cancer Models Development Resource,"* NIH/NCI (07/01/14-06/30/19)
- 2014-2019 Consortium PI, 1 UC4 DK104218-01 *"Humanized Mouse Avatars for T1D,"* NIH/NIDDK (09/25/14-06/30/19)
- 2014-2019 Consortium Principal Investigator, 1 UC4 DK104218-01 *"Humanized Mouse Avatars for T1D,"* NIH/NIDDK (09/25/14-06/30/19)
- 2013-2018 Principal Investigator, 5 R25 CA174584-05 *"Summer Research Experience in Cancer Biology and Genomics for Undergraduates,"* NIH/NCI (04/01/13-03/31/19)

**Completed:**

- 2017-2018 Principal Investigator, JAX-DIF-FY17-LDS-JGK-MVW *"Development of NSG Mouse to Facilitate Pharmacokinetic Efficacy Testing,"* The Jackson Laboratory Director's Innovation Fund (09/15/17-09/14/18)
- 2017-2018 Principal Investigator, JAX-DIF-FY16-LDS *"Human Natural Killer Cell Development in NSG-Tg(Hu-IL15) Mice,"* The Jackson Laboratory Director's Innovation Fund (05/01/17-04/30/18)
- 2015-2017 Co-Investigator, 5 UC4 DK097610-05 *"Type 1 Diabetes Mouse Resource (T1DR),"* NIH/NIDDK (9/15/12-6/30/17)
- 2015-2016 Consortium PI, 183-01 *"Programming Hematopoietic Stem Cells for Long-Term Targeted T Cell Therapy in Patients with Relapsed Ovarian Cancer,"* New York State Department of Health (10/01/2015-09/30/2016)
- 2015-2016 Principal Investigator, JAX-CCSG-Pilot-LDS-02 *"JAXCC Pilot and Feasibility Study,"* The Jackson Laboratory Cancer Center (01/01/15-12/31/16)
- 2015-2015 Consortium PI, 150-01 *"Heath Research Inc.-Roswell Park Division,"* (01/01/15-09/30/15)
- 2014-2018 Consortium Principal Investigator, 5 R24 OD018259-04 *"Development and Validation of Novel NSG Mouse Models for Human Stem Cell Therapy,"* NIH/OD (05/15/14-02/28/18)
- 2014-2018 Consortium Principal Investigator, 5 R01 AI111809-04 *"Boosting Cell-Intrinsic Innate Immune Recognition of HIV-1 by Dendritic Cells,"* NIH/NIAID (04/15/14-03/31/18)
- 2014-2017 Consortium Principal Investigator, 2015PG-T1D057 *"In Vivo Reconstruction of Human T1D Disease using Patient-derived Tissues and Induced Pluripotent Stem Cells (iPSCs),"* Helmsley Foundation (12/01/14-05/31/17)
- 2014-2017 Consortium Principal Investigator, 3-SRA-2014-285-M-R *"Advanced Biomaterials and Delivery Systems for Islet encapsulation,"* Juvenile Diabetes Research Foundation International (07/01/14-06/30/17)
- 2014-2016 Consortium Principal Investigator, 1 R21 AI112321-02 *"Retrogenic Humanized Mice for the Study of T1D,"* NIH/NIAID (02/01/14-01/31/16)
- 2014-2016 Principal Investigator, MCF LDS-01 *"Optimization and Validation of a Preclinical Model for Myelodysplastic Syndrome,"* Maine Cancer Foundation (07/01/14-06/30/16)
- 2014-2016 Principal Investigator, SACKLER-LDS-2014 *"The JAX Ileal Carcinoid PDX Project,"* Sackler Fund for the Arts Sciences (03/10/14-07/15/16)
- 2014-2015 Principal Investigator, JAX-CCSG-Pilot-LDS-01 *"Will novel NSG mouse models support the growth of human CLL and facilitate testing of experimental drug therapy for human CLL in vivo,"* The Jackson Laboratory Cancer Center (01/01/14-06/30/15)
- 2013-2018 Consortium Principal Investigator, 5 P01 CA171983-05 *"Targeted Sphingolipid Metabolism for Treatment of AML,"* NIH/NCI (09/10/13-08/31/18)

- 2010-2015 Consortium Principal Investigator, 5 P01 AI046629-14 "*EBV and Heterologous Alloimmunity in Humanized Mice*," NIH/NIAID (6/1/10-5/31/16)
- 2010-2015 Principal Investigator, 5 U01 DK089572-04 "*Molecular Mechanisms of Human and Murine Beta Cell Proliferation and Regeneration*," NIH/NIDDK (9/10/10-6/30/15).
- 2009-2015 Consortium Principal Investigator, 2012PG-T1D018 "*Humanized Mice for the Study of Induced Pluripotent Stem Cells*," Helmsley Foundation (9/1/09-8/31/15)

### INVITED TALKS (2008 – PRESENT)

#### 2008

- Charité Campus Virchow-Klinikum, Universitätsmedizin Berlin, Molecular Basis of Clinical Variability in Mendelian Disorders, Max Planck Institut für Molekulare Genetik, Berlin, Germany, February 5
- Institute of Medical Genetics, Charité Berlin, Humboldt University, Leipzig, Germany, February 6
- Department of Pathology and Laboratory Medicine, Medical University of South Carolina, Charleston, SC, March 3
- 2nd Annual Meeting, Humanized SCID Mouse Models: Stem Cells, Cancer & Viral Pathogenesis, Geneva, NY, May 14
- Discovery Strategies Conference: Modeling Human, Autoimmune Diseases in the laboratory Rodent, The Jackson Laboratory, Bar Harbor, ME, May 28
- Juvenile Diabetes Research Foundation, Sponsored Workshop, New York, NY, June 17
- 19th Annual NASA Space Radiation Investigators Workshop, Hyatt Regency Hotel Penn's Landing, Philadelphia, PA, July 1
- NIDDK Workshop, Bar Harbor, ME, August 4
- NIAID Dengue Virus Workshop, Washington, DC, Sept.19
- Humanized Mouse Model Meeting, Fort Detrick, MD, October 8
- Translational Research in Immunology, The 38th Annual Meeting of the Japanese Society for Immunology, Kyoto, Japan, Dec 2

#### 2009

- Vermont Cancer Center Juckett Lecture, University of Vermont, Burlington, VT, January 6
- Sanofi Aventis Web Seminar, Feb. 3
- Texas Tech University Health Sciences Center, El Paso, TX, March 18
- 2nd International Humanized Mouse Symposium, Amsterdam, The Netherlands, April 4
- Studying Type 1 Diabetes by Combining Human iPS and Humanized Mouse Technologies, Boston, MA, April 20-22
- Children's Hospital, Pittsburgh, PA, May 18
- Beta Cell Biology Consortium, Investigator Retreat, Washington, DC, May 27
- Juvenile Diabetes Research Foundation Meeting, Worcester, MA, July 14
- Mound Desert Island Biological Laboratory Stem Cell Symposium, Bar Harbor, ME, August 8
- Cancer Genetics Meeting, Jackson Laboratory, Bar Harbor, ME, August 23
- Next Generation Beta Cell Transplantation, NIH Campus, Bethesda, MD, November 9
- University of Alabama, Birmingham, AL, December 9

#### 2010

- Fort Detrick, MD, Jan 12
- JDRF Autoimmunity Center Consortium Retreat, New York, NY, March 1-3
- State University of New York, Buffalo, NY, April 14
- Biogen Inc., Cambridge, MA, May 6-7
- United Services University of Health Sciences, Washington, DC, May 12
- Workshop on Humanized Mice, Hannover, Germany, June 10
- Humanized Mouse Model Meeting, Washington DC, June 21
- Sanofi Aventis, Bridgewater, NJ, June 29
- Juvenile Diabetes Research Foundation, Diabetic Mouse Models, New York, NY July 14
- Pfizer Inc, Boston, MA July 20

- Animal Models of Diabetic Complications Consortium (AMDCC) Meeting, Baltimore, MD, August 4
- 8th Annual "Advances in Inflammation Research" Symposium, Brown University, Providence, RI, September 17
- Johnson & Johnson Pharmaceuticals, Spring House, PA, November 9
- Symposium, Executive Summit: Humanized Mouse Models and Preclinical Research, Philadelphia, PA, November 10
- Frontier Speaker Series, Eisai, Inc, Andover/Boston, MA, November 19
- Maine Medical Research Institute, Scarborough, ME, Dec. 9

**2011**

- University of Florida College of Medicine, Dept. of Pathology, Immunology and Laboratory Medicine, Gainesville, FL, February 15
- George Mason University, National Center for Biodefense and Infectious Diseases, April 22
- Beckman Research Institute, The City of Hope, Duarte, CA; May 24
- The Jackson Laboratory-West Symposium, La Jolla, CA; May 24
- DARPA-USAMRIID Workshop, Washington DC, Fort Detrick, MD, July 28
- The New York Academy of Sciences Conference, Animal Models and Their Value in Predicting Efficacy and Toxicity, New York, NY, September 14
- Helmsley Foundation Meeting, Chicago, IL - October 26-28
- Third International Workshop on Humanized Mice, Pittsburgh, PA - October 28-31

**2012**

- Seminar, University of New York, Rochester, NY, April 5
- 2012 ACLAM Forum for Life, St Petersburg Beach, FL, May 6-9
- Indiana University School of Medicine, Department of Microbiology/Immunology, Indianapolis, IN, May 17
- NIH/FDA Personalized Medical Meeting, July 10-11
- 21st Annual Short Course on Experimental Models of Human Cancer, The Jackson Laboratory, Bar Harbor, ME, August 26
- NIH Next Generation Animal Models Targeting Personalized Disease Phenotypes, Bethesda, MD, September 6-7
- 1st International Inflammation Research Association Meeting, Bolton Landing, NY, September 9-13
- Sanofi Pharmaceutical, Framingham, MA, October 24

**2013**

- EMMC Cancer Care of Maine, Brewer, ME, January 7
- 2013 Spring Research Symposium on "Models of Human Cancer for Translational Research," Hollings Cancer Center, Medical University of South Carolina, Charleston, SC, March 15
- Merck Research Laboratories, Boston, MA, April 28-30
- Astra Zeneca, Waltham, MA, April 28-30
- 2013 BCBC Investigator Retreat, "Biology of the Beta Cell Symposium," Reston, VA
- Bristol Myers Squibb, Philadelphia, PA, August 18-20
- 4th International Workshop on Humanized Mice, "Humanized Mice as Models for Cancer Growth and Therapy," Seoul-Incheon, Korea, September 30
- 46th Annual Meeting of the Society for Leukocyte Biology, "Humanized Mouse Models in Biomedical Research," Newport, RI
- Animal Models and Personalized Medicine, NIH Symposium, Bethesda, MD, Oct 28-29

**2014**

- Presented at the Stem Cell Institute, November 11-13, Minneapolis, MN
- Attended JAX Retreat, Nov 3-5,
- Attended SWOG's Fall 2014 Group Meeting, Oct 23-25, Chicago, IL
- Attended JAX – Beth Israel Deaconess Medical Center Workshop, October 20-22, Boston, MA
- Attended the Maine Medical Center Research Institute Awards, July 19, Portland, ME

- Attended the American Society Gene & Cell Therapy 17th Annual Meeting, May 22-24, Washington, D.C.
- Presented at the nPOD meeting, February 23-March 1, Atlantic Beach, FL

**2015**

- JAX Cancer Center Retreat, Portland, ME, December 10-11
- Faculty Retreat, Point Lookout Conference Center, Northport, ME, October 13-14
- Invited Speaker, 64th American Society of Tropical Medicine and Hygiene Annual Meeting, Philadelphia, PA, October 24-26
- Integrated Translational Science Center Workshop, Cold Spring Harbor, Long Island, NY, June 18-20
- American Gastroenterological Association (AGA)-Digestive Disease Week, Bethesda, MD, May 15-17
- AIDS/NIAID “Improvements and limitations of humanized mouse models for AIDS,” Rockville, MD, May 14-16
- JAX-BIDMC Immunology Workshop, JAX-GM, Farmington, CT, March 31-April 2,
- Invited Speaker, Stanford University, San Francisco, CA, March 25-27
- Jerry Hughes/MDS Research Fund-raising, Bangor, ME, March 7
- Humanized Mouse Workshop, Boston, MA, March 11-12

**2016**

- 5th International Workshop on Humanized Mice, Zurich, Switzerland, Jan 26-Feb 2
- Medimmune, “Humanized Mouse Models for Translational Biomedical Research,” The Jackson Laboratory, Bar Harbor, ME, February 18
- JDRF nPOD 8<sup>th</sup> Annual Meeting, Miami, FL, Feb 20-25
- NEIDL Meeting, Boston, MA, April 5-9
- 2016 Neuroendocrine Tumor Workshop, Cambridge, MA May 4-6
- The American Association of Immunologists Annual Meeting, Seattle, WA, May 13-17
- Human Islet Research Network Meeting, Bethesda, MD, May 24-25
- Invited Speaker, Janssen, Pharmaceutical Companies of Johnson & Johnson, Philadelphia, PA, August 17-20
- Attended the National Emerging Infectious Diseases Laboratories Symposium, Boston, MA, September 18-20
- Merck/Preclinical Models for Immunotherapy Development Scientific Input Engagement, San Francisco, CA, September 25-28
- External Advisory Board Meeting, Penn State Hershey Medical Center, Hershey, PA, October 20-21
- JAX Faculty Retreat, Portsmouth, NH, Oct 24-26
- BIDMC Cancer Symposium, Joseph B. Martin Center, Harvard Medical School, Boston, MA, November 1-3
- Invited Speaker, Janssen Pharmaceutical Companies of Johnson & Johnson, Spring Houst, PA, November 6-7
- JAX Cancer Center Winter Retreat, Portland, ME, Dec 7-9
- BIDMC JAX Immunology Symposium, Boston, MA, December 15-17

**2017**

- Invited Speaker, University of Alabama Comprehensive Cancer Center, Birmingham, AL, January 31-February 2
- Invited Speaker, “Les Pensieres,” Foundation Merieux Conference Center, Veyrier du Lac, France, April 24-29
- Invited Speaker, Oxford Global 2<sup>nd</sup> Annual Advances in Immuno-Oncology Congress, London, England, May 12-17
- Invited Speaker, the Summit for Cancer Immunotherapy, Gatineau, Quebec, Canada, June 24-27
- Attended, Diabetes Center Sponsored Research Quarterly Review Meeting, Worcester, MA, July 30-31
- Attended, GSBSE Meeting, University of Maine, Orono, ME, September 8
- Invited Speaker, NCI Workshop on “Modeling Immunotherapy in Mouse,” Rockville, MD, September 17-20

- Invited Speaker, EMBO Meeting on Humanized Mice, Heidelberg, Germany, October 15-20
- Invited Speaker, 2017 American College of Veterinary Pathologists (ACVP), Vancouver, BC, Canada, November 3-6
- Invited Speaker, Institute for Neurodegenerative Diseases, Weil Institute for Neurosciences, UCSF, November 6

**2018**

- Invited Speaker, 2018 American Association for Cancer Research Annual Meeting, Chicago IL, April 14
- Invited Speaker, 2018 Annual Human Islet Research Network (HIRN) Meeting, Washington D.C., May 9
- Invited Speaker, Society for Immunotherapy Cancer Immune Responsiveness (SITC) Workshop, Palo Alto, CA, May 14
- Invited Speaker, JAX-BIDMC Workshop: Designing the Patient-Derived Model Platform of the Future, Farmington, CT, June 12
- Invited Speaker, Novartis Pharmaceutical Corp, Cambridge, MA, June 27
- Invited Speaker, 6<sup>th</sup> Annual Dr. Stanley G. Nathenson Memorial Lecture, Albert Einstein College of Medicine, Bronx, NY, November 7
- Invited Speaker, Regeneron's Workshop on Humanized Immune System Mice, Tarrytown, NY, November 28-29
- Invited Plenary Speaker, Recent Advances and Opportunities in the Development and Use of Humanized Immune System Mouse Models, National Institutes of Health, Bethesda, MD, December 18, 2018

**TEACHING EXPERIENCE**

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| 1977-2004 | Annual Short Course on Medical and Experimental Mammalian Genetics, The Jackson Laboratory, Bar Harbor, ME                                     |
| 1984      | Faculty of Bar Harbor Medical Symposium  |
| 2005      | Discovery Strategies: Improving the Predictive Value of Mouse Models in Drug Discovery and Development, The Jackson Laboratory, Bar Harbor, ME |
| 2006      | Discovery Strategies: The Laboratory Mouse in Translational Cancer Research and Discovery, New York, NY  |
| 2006-2007 | Annual Short Course on Experimental Genetics of the Laboratory Mouse in Cancer Research, The Jackson Laboratory, Bar Harbor, ME                |
| 2006-2008 | Methods in Human Embryonic Stem Cell Research, The Jackson Laboratory, Bar Harbor, ME  |
| 2007      | Discovery Strategies: Modeling Human Metabolic Syndrome and Type 2 Diabetes in Rodents, The Jackson Laboratory, Bar Harbor, ME                 |
| 2007      | Annual Workshop on the Pathology of Mouse Models for Human Disease, The Jackson Laboratory, Bar Harbor, ME                                     |
| 2007-2018 | Annual Short Course on Experimental Models of Human Cancer, The Jackson Laboratory, Bar Harbor, ME   |
| 2008      | Discovery Strategies: Modeling Human Autoimmune Diseases in the Laboratory Rodent, The Jackson Laboratory, Bar Harbor, ME                      |
| 2009      | Special Symposium presentation, Grand Opening of The Jackson Laboratory-West, Sacramento, CA   |
| 2010      | Workshop on Animal Models for Human Stem Cell Therapy, The Jackson Laboratory, Bar Harbor, ME  |
| 2015      | Workshop on Techniques in Modeling Human Cancer in Mice, The Jackson Laboratory, Bar Harbor, ME  |
| 2015-2018 | Annual Short Course on Medical and Experimental Mammalian Genetics, The Jackson Laboratory, Bar Harbor, ME                                     |
| 2015      | Organizer, Humanized Mice in Translational Research: Cancer, Diabetes and Beyond, The Jackson Laboratory, Bar Harbor, ME                       |

2017 -2018 McKusick Short Course on Human and Mammalian Genetics and Genomics  
2017 Presented Lecture at Jackson Laboratory's 26<sup>th</sup> Annual Experimental Models of Human Cancer, August 15

**POST-DOCTORAL FELLOWS**

1987-1989 Peter A. Schweitzer  
1989-1991 Jane E. Disney  
1991-1993 Sandra M. Hayes  
1993-1996 Stephen C. Pelsue  
1993-1996 Sean McKenna  
1997-2000 Syuji Umeda  
1998-2001 Melissa Relyea  
1999-2002 Bonnie Lyons  
2004-2005 Motonobu Ueno  
2005-2009 Thomas Chase  
2007-2009 Melissa Cox  
2010-2014 Vishnu V. Hosur  
2013-2016 Mohit Verma

**GRADUATE STUDENTS/COLLEGE STUDENTS/SUMMER STUDENTS**

1973 Peter J. Horneffer, Summer Student  
1974 Susan B. Tarnofsky, Summer Student  
1975 Carol J. Wright, Summer Student  
1976 Debbie R. Cooper, Summer Student  
1976 Cynthia L. Sammis, Summer Student  
1977 Mary Ellen McCarthy  
1978 Robert Q. Terrill, Summer Student  
1980 Rose L. Glynne, Summer Student  
1980 Rose Louise Morello, Summer Student  
1981 Caroline M. Haas  
1982 Kathleen A. Kaiser-Rogers, Summer Student  
1983 Kelly K. Petrison  
1984 Tracy Elizabeth Giordano, Summer Student  
1985 Katherine S. Ullman, Summer Student  
1986 Glenn Paradis, Summer Student  
1987 Cheryl A. Skinner, Summer Student  
1988 David W. Sehy, Summer Student  
1988 Jennifer Winslow, Summer Student  
1989 Emily Miyashita, Summer Student  
1989 Deborah C. Pichler, Summer Student  
1990 Alison L. Barth, Summer Student  
1990 Philip E. Schaner, Summer Student  
1991 Holly Sherburne, Summer Student  
1992 Graciana Lapetina, Summer Student  
1993 Trac M. Duong  
1994 Gillian L. Beamer  
1995 Meenakshi H. Rajan  
1996 Rachel C. Kidman  
2001 Jane Jih  
2004 Gina M. MacMannis  
2006 Alexander S. Burn  
2008 Jennifer M. Wagner  
2009 Erica Brown  
2010 William Cheng  
2011 Deidre Michaud, Summer Student  
2012 Noah V. Lupica, Summer Student



2013	Chantal Barksdale, Summer Student
2014	Olivia A. Baranowski, Summer Student
2014	Paul C. Macklis, Summer Student
2015	Julia L. Clemens, Summer Student
2016	Cedric Lozano, Summer Student
2018	Ana Castaner, Summer Student

## PUBLICATIONS

1. **Shultz LD**, Wilder MS. 1971. Cytotoxicity of rabbit blood for *Listeria monocytogenes*. *Infect Immun* 4: 703-708. PMID: PMC416377
2. **Shultz LD**, Wilder MS. 1973. Fate of *listeria monocytogenes* in normal rabbit serum. *Infect Immun* 7: 289-297. PMID: PMC422672
3. Green MC, **Shultz LD**. 1975. Motheaten, an immunodeficient mutant of the mouse. I. Genetics and pathology. *J Hered* 66: 250-258.
4. Green MC, **Shultz LD**, Nedzi LA. 1975. Abnormal nuclear morphology of leukocytes in the mouse mutant ichthyosis. *Transplantation* 20: 172-175.
5. **Shultz LD**, Bailey DW. 1975. Genetic control of contact sensitivity in mice: Effect of H-2 and non-H-2 loci. *Immunogenetics* 1:570-583.
6. **Shultz LD**, Green MC. 1976. Motheaten, an immunodeficient mutant of the mouse. II. Depressed immune competence and elevated serum immunoglobulins. *J Immunol* 116: 936-943.
7. **Shultz LD**, Heiniger HJ, Eicher EM. 1978. Immunopathology of streaker mice, a remutation to nude in the AKR/J strain. In: *Comparative and Developmental Aspects of Immunity and Disease*, Gershwin ME, Cooper EL (eds). New York, Pergamon Press, pp. 211-222.
8. **Shultz LD**, Sidman CL, Unanue ER. 1978. Immunologic dysfunction in "motheaten" mice: Immunodeficiency, autoimmunity and hyperimmunoglobulinemia in a short-lived mutant. In: *Animal Models of Comparative and Developmental Aspects of Immunity and Disease*, Gershwin ME, Cooper EL (eds). New York, Pergamon Press, pp. 260-269.
9. **Shultz LD**, Zurier RB. 1978. "Motheaten": A single gene model for stem cell dysfunction and early onset autoimmunity. In: *Genetic Control of Autoimmune Disease*, Rose NR, Bigazzi P, Warner N (eds). New York, Elsevier, pp. 229-240.
10. Sidman CL, **Shultz LD**, Unanue ER. 1978. The mouse mutant "motheaten." II. Functional studies of the immune system. *J Immunol* 121: 2399-2404.
11. Sidman CL, **Shultz LD**, Unanue ER. 1978. The mouse mutant "motheaten". I. Development of lymphocyte populations. *J Immunol* 121: 2392-2398.
12. Bedigian HG, **Shultz LD**, Meier H. 1979. Expression of endogenous murine leukemia viruses in AKR/J streaker mice. *Nature* 279: 434-436.
13. **Shultz LD**. 1979. Mutant mouse genes affecting development of the immune system. In: *Inbred and Genetically Defined Strains of Laboratory Animals*, Altman PL, Katz DD (eds). Baltimore, MD, Federation of American Societies for Experimental Biology, pp. 67-70.
14. Clark EA, **Shultz LD**, Pollack SB. 1981. Mutations in mice that influence natural killer (NK) cell activity. *Immunogenetics* 12: 601-613.
15. Grzanna R, **Shultz LD**. 1982. The contribution of mast cells to the histamine content of the central nervous system: a regional analysis. *Life Sci* 30: 1959-1964.
16. Johnson DA, **Shultz LD**, Bedigian HG. 1982. Immunodeficiency and reticulum cell sarcoma in mice segregating for HRS/J and SJL/J genes. *Leuk Res* 6: 711-720.
17. **Shultz LD**, Bedigian HG, Heiniger HJ, Eicher EM. 1982. The congenitally athymic streaker mouse. In: *Proceedings of the Third International Workshop on Nude Mice*, Reed ND (ed). New York, Fischer Verlag, pp. 33-39.
18. **Shultz LD**, Sweet HO, Davisson MT, Coman DR. 1982. 'Wasted', a new mutant of the mouse with abnormalities characteristic to ataxia telangiectasia. *Nature* 297: 402-404.
19. Leiter EH, Beamer WG, **Shultz LD**. 1983. The effect of immunosuppression on streptozotocin-induced diabetes in C57BL/KsJ mice. *Diabetes* 32: 148-155.

20. **Shultz LD**, Bailey CL, Coman DR. 1983. Hematopoietic stem cell function in motheaten mice. *Exp Hematol* 11: 667-680.
21. **Shultz LD**, Bedigian HG, Carlson GA, Coman DR. 1983. Effect of congenital athymia on expression of preleukemic cells. In: *Leukemia Reviews International, Advances in Comparative Leukemia Research*, Yohn DS (ed). New York, Marcel Dekker, pp. 225-226.
22. Nordeen SK, Schaefer VG, Edgell MH, Hutchison CA, 3rd, **Shultz LD**, Swift M. 1984. Evaluations of wasted mouse fibroblasts and SV-40 transformed human fibroblasts as models of ataxia telangiectasia in vitro. *Mutat Res* 140: 219-222.
23. **Shultz LD**, Bailey CL, Carlson GA, Coman DR, Evans R, Outzen HC. 1984. Potential of "viable motheaten" mice for the growth of tumor xenografts. In: *Immune-Deficient Animals*, Sordat B (ed). Basel, Karger, pp. 224-229.
24. **Shultz LD**, Coman DR, Bailey CL, Beamer WG, Sidman CL. 1984. "Viable motheaten," a new allele at the motheaten locus. I. Pathology. *Am J Pathol* 116: 179-192. PMID: PMC1900532
25. Sidman CL, Marshall JD, Masiello NC, Roths JB, **Shultz LD**. 1984. Novel B-cell maturation factor from spontaneously autoimmune viable motheaten mice. *Proc Natl Acad Sci U S A* 81: 7199-7202. PMID: PMC392105
26. Sidman CL, Marshall JD, **Shultz LD**, Gray PW, Johnson HM. 1984. Gamma-interferon is one of several direct B cell-maturing lymphokines. *Nature* 309: 801-804.
27. Gershwin ME, **Shultz L**. 1985. Mechanisms of genetically determined immune dysfunction. *Immun Today* 6: 36-37.
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