

curriculum vitae

Stephen C. Pelsue, Ph.D.

Associate Professor of Immunology & Molecular Biology
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EDUCATION

1988 B.S. Chemistry, *cum laude*, Northland College, Ashland, WI.

1993 Ph.D. Biochemistry, North Carolina State University, Raleigh, NC.

PROFESSIONAL EXPERIENCE

2010-2013 Associate Dean, College of Science, Technology, & Health, University of Southern Maine, Portland ME

2002- Present Associate Professor of Immunology & Molecular Biology, Dept. Of Applied Medical Sciences, University of Southern Maine, Portland, ME.

1998- Present Graduate Faculty, Dept of Biochemistry, Microbiology, and Molecular Biology, University of Maine, Orono, ME.

2004-2009 Adjunct Professor of Microbiology, University of New England, College of Osteopathic Medicine, Biddeford, ME

1998-2009 Adjunct Professor, School of Nursing, University of Southern Maine, Portland, ME.

1997-2004 Associate Research Scientist, Foundation for Blood Research, Scarborough, ME.

1996-2002 Assistant Professor of Immunology & Molecular Biology, Dept. Of Applied Medical Sciences, University of Southern Maine, Portland, ME.

1995-1996 Research Scientist, The Jackson Laboratory, Bar Harbor, ME.

1993-1995 Postdoctoral Fellow, The Jackson Laboratory, Bar Harbor ME.

SUPPORT

NIH SEPA (Co-PI, PI Dr. S. Monroe Duboise)

"Masters of the Virosphere: Quests for Epic Triumphs in Community and World Health"

Under Review

NSF-DRK12 (Co-PI, PI Dr. S. Monroe Duboise)

"Research Experiences and Active Learning in Science and Technology"

Under Review

USM-MEIF Commercialization Award (PI)

"Pilot Study to Develop a Biomarker for Inflammation and Cancer" 9/12-7/13

Bill & Melinda Gates Foundation Grand Challenges Exploration Round 8 (Co-PI, PI Dr. S. Monroe Duboise) "Optimizing Immunization Systems Through Development of Bacteriophage-based Vaccine Platforms" 6/2012-12/2013

Lupus Research Institute (PI) "The Role of Ttc7 in SLE Pathogenesis" 11/06-6/13

USM-MEIF Investigator Development Award (PI) "Ttc7 Regulation of B Cell Anergy and the Development of Systemic Lupus Erythematosus" 2010-2011

NSF GK-12 (Co-PI, PI Dr. S. Monroe Duboise) "Sustaining the Maine ScienceCorps" 5/1/05-4/30/10

NSF GK-12 (Co-PI, PI Dr. S. Monroe Duboise) "A Maine ScienceCorps Promoting Excellence and Equity in High School Biological Science Education"

NSF MRI (Co-PI, PI Dr. Vicent Markowski) "Acquisition of a Shared Microscopy Resource Center for The University of Southern Maine"

NIH 1 RO1 AR44529-01 (Co-PI, PI Dr. Anne M. Bowcock, Washington University School of Medicine, St. Louis MO), "Positional Cloning of the Mouse FSN Gene and its Human Homolog" 1997-2002

American Lung Association of Maine "Development of a New Mouse Model of IgE Mediated Lung Injury"

NIH Postdoctoral Training Fellowship in Immunology/ Hematology, The Jackson Laboratory, 1993-1996.

Gina Finzi Memorial Student Summer Fellowship (Lupus Foundation of America), 1991.

MEMBERSHIPS

American Association of the Advancement of Science, 1996

American Association of Immunology, 1996

Society of Leukocyte Biology, 2000-2006

UNIVERSITY AND DEPARTMENT COMMITTEES

Chair, CSTH Bond Construction Committee 2013-2014

Member, USM Enrollment Council 2010-2014

Chair, Governance Document Development Committee, College of Science, Technology, & Health, USM 2012-2013

Co-Chair, Organization committee, First Year Matters Program, 2011-2013

Chair, Naming Committee, College of Science, Technology, & Health, USM 2011-2012

Member, Biochemistry Search Committee, Dept of Chemistry 2008-2009

Chair, NEASC Research Committee 2009-2010

Chair, First Year Student Advisory Committee, Graduate School of Biomedical Sciences, 2009-2010

Member, Search Committee for the Director of the Graduate School of Biomedical Sciences, 2007.

Member, Admissions Committee, Graduate School of Biomedical Sciences, 2005-present.

Member, Institutional Biosafety Committee, 2006-present

Member, Director of Office of Research Compliance Search Committee, 2006

Vice-Chair, USM Animal Care and Use Committee, 2006-Present

Member, Science Building Space Committee, 2004-2008

Member, Trustee Professorship Selection Committee, 2003

Chair, USM Animal Care and Use Committee, 2003-2006

Chair, Faculty Load Committee, School of Applied Science, Engineering, & Technology

Member, Bioscience Research Institute of Southern Maine, Building Committee, 2001

Member, Bioscience Research Institute of Southern Maine Faculty Search Committee, 2001

Member, Graduate Council, 2000-2010

Member, R & D Building Committee, 2000-2002.

Member, Faculty Senate Research Award Review Committee, 1998-2000 (Chair 1999-2000).

Member, Search committee for Dean of Graduate Studies, 1999, 2011

Member, SAS Faculty Awards Selection Committee, 1998

Coordinator, Applied Medical Sciences Graduate program, 1996-present

OTHER SCHOLARLY ACTIVITIES

Grant Reviewer, Lupus Research Institute, Animal Model Section, 2012

Grant Reviewer, Lupus Research Institute, Immunobiology Section, 2011

Grant Reviewer, American Heart Association, 2008-2011

Grant Reviewer, Maine Cancer Foundation, 2005-2010.

Content Reviewer, Molecular Biology of the Gene 5th Edition, Pearson Education, 2005

Grant Reviewer, University of Maine, Maine Agricultural & Forest Experiment Station Seed Grant Program, 2005

Content Reviewer; Genes 8, Benjamin Lewin, Oxford University Press, 2002

Panel Review Member, National Science Foundation GK-12 Grant Panel, 2001

COURSES TAUGHT AT USM (since fall 1996):

AMS 530	Molecular Biology
AIM 531	Molecular Biology Lab
AIM 610	Cellular Immunology
AIM 620	Molecular Immunology
AMS 649	Flow Cytometry
AMS 672	Advanced Molecular Techniques
AMS 690	Seminar: Journal Club
AMS 680	Molecular Basis of Disease
AMS 698	Thesis
AMS 580	Bioinformatics
BIO 409	Cell and Molecular Biology
CHY 361	Biochemistry I

CHY 363 Biochemistry II
NUR700 Immunology & Genetics
SCI 301 Human Genetics

PUBLICATIONS

Beth L. Hill, Cocharane, K., Swett, D., Matluck, N., Walker, J., Boucher, J., Bagavant, H., Deshmukh, U., & S.C. Pelsue "Defects in B Cell Anergy and ERK signaling in *Ttc7^{fsn/fsn}* Autoimmune-Prone Mice" In Preparation.

Beth L. Hill, Newcomb, K., & S.C. Pelsue "Defects in T cell development and regulation in *Ttc7^{fsn/fsn}* Autoimmune-Prone Mice", In Preparation.

Beth L. Hill, Bagavant, H., Deshmukh, U., Walker, J., & S.C. Pelsue "Membrano-Proliferative Glomerulonephritis in *Ttc7^{fsn/fsn}* Autoimmune-Prone Mice" In Preparation.

Beth L. Hill & **S. C. Pelsue**, "Overproduction of IL-4 Leads to B Lymphocyte Hyperactivation, Elevated IgE and Autoimmunity Flaky Skin (*FSN*) Mice", In Preparation.

Eliza Duzevik, Alyson Farrington, Jen Walker, Allison Hopkins, Rob Welner, and **S.C. Pelsue** "Alterations in the Splenic Architecture, B cell maturation, and B1 B Cell Accumulation in Autoimmune-Prone Flaky Skin Mutant Mice", In Preparation.

Yaron Avitzur, Conghui Guo, Lucas A Mastropaolo, Ehsan Bahrami, Hannah Chen, Zhen Zhao, Abdul Elkadri, Sandeep Dhillon, Ryan Murchie, Ramzi Fattouh, Hien Huynh, Jennifer L Walker, Paul W Wales, Ernest Cutz, Yoichi Kakuta, Joel Dudley, Jochen Kammermeier, Fiona Powrie, Neil Shah, Thomas Kirchner, Michaela Nathrath, Daniel Kotlarz, Jacek Puchaka, Tomas Racek, John H Brumell, Anne M Griffiths, **Stephen Pelsue**, Dermot PB McGovern, Holm H Uhlig, Eric Schadt, Scott B Snapper, Christoph Klein, Aleixo M Muijs (2013) "Tetratricopeptide Repeat Domain 7 Mutations Causes Apoptotic Enterocolitis: A Novel Form of Infantile Inflammatory Bowel Disease" Submitted, *New England Journal of Medicine*.

Holmes AL, Wise SS, **Pelsue SC**, Aboueissa AM, Lingle W, Salisbury J, Gallagher J, Wise JP. (2010) "Chronic Exposure to Zinc Chromate Induces Centrosome Amplification and Spindle Assembly Checkpoint Bypass in Human Lung Fibroblasts." *Chem Res Toxicol*, 15;23(2) 386.

Xie H, Holmes AL, Young JL, Qin Q, Joyce K, **Pelsue SC**, Peng C, Wise SS, Jeevarajan AS, Wallace WT, Hammond D, Wise JP Sr. (2009) "Zinc chromate induces chromosome instability and DNA double strand breaks in human lung cells." *Toxicol Appl Pharmacol*. 1;234(3):293-9.

Goodale BC, Walter R, **Pelsue S**, Thompson WD, Wise SS, Winn RN, Mitani H, Wise JP Sr. (2008) "The cytotoxicity and genotoxicity of hexavalent chromium in medaka (*Oryzias latipes*) cells." *Aquat Toxicol*. 8;87(1):60-7.

Mattsson, N., Duvevik, E.G., and **S.C. Pelsue** (2005) "Expansion of CD22^{lo} B Cells in the Spleen of Autoimmune-Prone Flaky Skin Mice", *Cellular Immunology*, 234:124-132.

Welner R. Swett, D., and **S.C. Pelsue** (2005) "Age-related B-lymphocyte Development Alterations in the Autoimmune-Prone Flaky Skin Mutant Mouse" *Autoimmunity*, 38:399-408

Helms C., **Pelsue S.C.**, Cao L., Lamb E., Loffredo B., Taillon-Miller B., Herrin B., Burzenski L.M., Gott B., Lyons B.L., Keppler D., Shultz L.D., and A. M. Bowcock (2005) "The Tetratricopeptide Repeat Domain 7 (*Ttc7*) gene is mutated in flaky skin (*fsn*) mice, a model for psoriasis, autoimmunity and anemia" *Experimental Biology and Medicine*, 230:659-667.

Xie, H., Wise, S.S., Holmes, A.L., Wakeman, T.P., **Pelsue, S.C.**, Singh, N.P., and J.P. Wise, Sr. (2005) "Carcinogenic Lead Chromate Induces DNA Double-Strand Breaks in Human Lung Cells, *Carcinogenesis*, 586:160-172.

Welner, R., Hastings, W., Hill, B. L. and **S.C. Pelsue** (2004) "Enhanced Proliferation and Activation of Lymphocytes Enriched from the Spleen of Flaky Skin (*fsn*) Mutant Mice: Evidence of Altered IL-4 Regulation" *Autoimmunity*, 37:227-236.

Withington, S., Maltby-Askary, E., Welner, R. and S. C. Pelsue (2002) "Characterization of Antinuclear Autoantibodies in the Serum of Flaky Skin Mutant Mice" *Autoimmunity* 35:175-181.

Willoughby, D.S., and **S. Pelsue**, (2000) Effects Of High-Intensity Strength Training On Steady-State Myosin Heavy Chain Isoform mRNA Expression. *Journal of Exercise Physiology Online* 3:1-13.

Brown, B. A., 2nd, Li, Y., Brown, J. C., Hardin, C. C., Roberts, J. F., **Pelsue, S. C.**, and Shultz, L. D. (1998) Isolation and characterization of a monoclonal anti-quadruplex DNA antibody from autoimmune "viable motheaten" mice, *Biochemistry*, 46:16325-37.

Willoughby, D.S., and **S. Pelsue**, (1998) Myosin Heavy Chain mRNA Isoform Expression in the Elderly After Low- and High-Intensity Weight Training, *Journal of Applied Physiology*, 6:327-339.

Pelsue, S. C., Schweitzer, P. A., Schweitzer, I. B., Christianson, S. W., Gott, B., Sundberg, J. P., Beamer, W. G., and L. D. Shultz (1998) Lymphadenopathy Hyper-IgE, Autoimmunity, and Mast Cell Accumulation in Flaky Skin (*fsn*) Mutant Mice *European Journal of Immunology* 28:1379-1388.

Schweitzer, P. A., N. Noben-Trauth, **S. C. Pelsue**, K. R. Johnson, Wolf, S. F., and L. D. Shultz (1996) Genetic Mapping of the IL-12 alpha chain (IL12a) on Mouse Chromosome 3. *Mammalian Genome* 7(5):394.

Pelsue, S. C., P. A. Schweitzer, W. B. Beamer, and L. D. Shultz. (1995) Mapping of the flaky skin (*fsn*) mutation on distal mouse Chromosome 17. *Mammalian Genome* 6:758.

Greiner, D. L., L. D. Shultz, J. Yates, M. C. Appel, G. Pedrizet, R.M Hesselton, I Schweitzer, W. G. Beamer, K.L. Shultz, **S. C. Pelsue**, J.H. Leif, and T.V. Rajan. (1995) Improved Engraftment of Human Spleen Cells in NOD/LtSz scid/scid Mice as Compared to C.B-17 scid/scid Mice. *American Journal of Pathology* 146:888-902.

Beamer, W. G., **S. C. Pelsue**, L. D. Shultz, J. P. Sundberg, and J. E. Barker. (1995) The flaky skin (*fsn*) Mutation in Mice: Map Location and Description of the Anemia. *Blood* 86:3320-3327.

Pelsue, S. And P. F. Agris (1994) Immunoreactivity Between a Monoclonal Autoantibody and the Arginine/ Aspartic Acid Repeats Within the U1-snRNP 70K Autoantigen is Conformationally Restricted, *Journal of Protein Chemistry*, 13:401-408.

Pelsue, S. And P. F. Agris (1994) Idiotype Analysis of an Anti-U1 snRNP 70K Monoclonal Autoantibody Derived from a Lupus Prone Mouse, *Journal of Autoimmunity*, 7:165-176.

Pelsue, S., Jung, K. D., And P. F. Agris (1993) Immunochemical Analysis of an Arginine-Rich Systemic Lupus Erythematosus Autoepitope, *Autoimmunity*, 15:231-236.

Bullard-Dillard, R., Chen, J, **Pelsue, S.**, Dao, V., and P. F. Agris (1992) Anti-Sm Autoantibodies of Systemic Lupus Erythematosus Cross React with Plant Proteins, *Immunological Investigations*, 21:193-202.

Agris, P. F., Parks, R., Bowman, L., Guenther, R. H., Kovacs, S., and **S. Pelsue** (1990) Plant DNA Topoisomerase is Recognized and Inhibited by Human Scl-70 Sera Autoantibodies, *Experimental Cell Research*, 189:276-279.

PATENTS

U.S. Patent 66,001,657 (December 14, 1999) C. C. Hardin, B. A. Brown, J. F. Roberts, and **S. C. Pelsue**. "Antibodies that Selectively Bind Quadruplex Nucleic Acids".

Patent Pending D. L. Jicha and S. C. Pelsue "Methods and Compositions involving Blood T-Lymphocyte Reactivity with Collagen"