

CURRICULUM VITAE

Juliet Vescio Spencer

2130 Fulton St.
Harney Science Center Room 342
San Francisco, CA 94117
Phone: 415-422-5470
email: jspencer@usfca.edu

EDUCATION

Ph.D., Microbiology, 1998
University of Virginia, Charlottesville, VA

B.S., Biotechnology, 1993
Worcester Polytechnic Institute, Worcester, MA

PROFESSIONAL EXPERIENCE

- 2003-present University of San Francisco, San Francisco, CA
Assistant Professor, Department of Biology
- 2002-2004 UC Santa Cruz-Extension, Sunnyvale, CA
Instructor, Applied and Natural Sciences
- 2000-2003 Ceretek, LLC, Alameda, CA
Senior Scientist, Assay Development (1/02-3/03)
Scientist, Assay Development (9/00-12/01)
- 1999-2000 ChemoCentryx, Inc., San Carlos, CA
Senior Postdoctoral Fellow
- 1998-1999 University of Virginia, Charlottesville, VA
Adjunct Professor of Microbiology (1999)
Postdoctoral Fellow (3/98-11/99)
- 1995-1997 Piedmont Virginia Community College, Charlottesville, VA
Adjunct Professor of Biology
- 1993-1998 University of Virginia, Charlottesville, VA
Graduate Student, Microbiology Department
- 1992-1993 Worcester Foundation for Experimental Biology, Shrewsbury, MA
Laboratory Technician

TEACHING EXPERIENCE

University of San Francisco

Teach General Biology, Cell Physiology, General Microbiology, Medical Microbiology, and Biology of Cancer courses for Biology majors. Employ active learning exercises and classroom performance systems for instant feedback. Develop course content to include recent advances in medical research and enhance laboratory exercises to give students hands-on experience with microscopes and microorganisms.

University of California at Santa Cruz-Extension

Taught Molecular Biology and Cell Biology courses for Biotechnology and Bioinformatics certificate programs. Developed Cell Biology curriculum to introduce working adults with diverse backgrounds to foundations of cell biology. Discussed principles of cell and molecular biology as applied to current research and drug discovery efforts in the pharmaceutical industry. Integrated internet resources into classroom through the use of a class web site.

University of Virginia

Assisted in teaching Current Topics in Virology for graduate students and Medical Microbiology for medical students. Led student discussion groups and review sessions. Researched case studies in virology for presentation to medical students.

University of Virginia (Community Teaching Activities)

Saturday Enrichment Program, 1999

Instructor for the Saturday Enrichment Program, a six-week program for gifted grade school students. Developed interactive course entitled "It's A Small World" to introduce young students to the world of microbes through fun activities and hands-on exercises. Activities included growing bacteria in a petri dish, building virus models, and comparing genetic traits with parents.

Virus Day, 1995-1999

Instructor for Virus Day, an innovative program for gifted students from local middle schools. Students participated in a daylong seminar featuring hands on laboratory activities and interactive discussions with graduate students, faculty and staff. Presented seminar on virus structure, led students in building a model virus, and prepared virus samples for students to view with the electron microscope.

Piedmont Virginia Community College

Instructor for Microbiology course, Microbiology Lab, and General Biology Lab in accredited nursing program. Designed new labs to incorporate biotechnology, virology, and immunology into the curriculum. Contributed guest lectures on virology and epidemiology

to Biochemistry and Immunology courses. Invited speaker for Virginia Area Biology Educators 1997 Spring Symposium.

University of Virginia

Teaching Assistant for Medical Microbiology course (Fall 1995). Supervised medical students during laboratory exercises and led review sessions.

Worcester Polytechnic Institute

Peer Learning Assistant for introductory Biology course (BB1010/1020 Spring 1992). Advised student project groups and facilitated group discussions in active learning setting.

RESEARCH EXPERIENCE

University of San Francisco, San Francisco, CA 94117 Principal Investigator (2003-present)

Investigating immune modulation by human herpesviruses. Current projects are centered on human cytomegalovirus and its homolog of cellular interleukin-10, a potent regulator of immune responses. We are in the process of characterizing the functions of this protein and its effect on immune cell function. The results of these studies will contribute to our knowledge of virus-host interactions and also shed light on the role of IL-10 in regulation of the immune response. In addition, we have begun to investigate the function of HCMV encoded G-protein coupled receptors, with the aim of understanding how these receptors manipulate normal cell signaling.

Another area of research focuses on rhesus cytomegalovirus and potential homologs of interleukin-8 which have recently been identified in the viral genome. We are currently working in collaboration with Dr. Peter Barry from UC Davis to express the putative RhCMV IL-8-like proteins and assess their ability to stimulate neutrophil activity.

Ceretek, LLC, Alameda, CA

Senior Scientist, Assay Development (1/02-3/03)

Scientist, Assay Development (9/00-12/01)

Designed, optimized, and implemented secondary screens for characterization of lead compounds to support drug discovery efforts of oncology program. Five patent applications have been filed as a result of this work. Performed discovery research on role of *edg* (endothelial differentiation gene) family of GPCR in cancer, inflammation, and angiogenesis. Evaluated *edg* receptor expression of tumor and endothelial cell lines through RT-PCR and functional assays including ELISAs, proliferation and matrigel invasion assays. Coordinated successful custom microarray project and performed extensive data analysis to examine changes in *edg* receptor expression in normal versus tumor samples. Hired, trained, and supervised two research associates.

ChemoCentryx, San Carlos, CA

Senior Postdoctoral Fellow (1999-2000)

Performed discovery research on herpesvirus-encoded chemokines, chemokine receptors, and other proteins with immunomodulatory function (cytomegalovirus interleukin-10). Developed and characterized transgenic animal models expressing viral chemokine receptors for *in vivo* target validation. Characterized chemokine responses of leukocyte subsets purified from human blood. Coordinated projects with contract research organizations and academic collaborators.

University of Virginia, Charlottesville, VA

Postdoctoral Fellow (1998-1999)

Characterized immune response to influenza virus through T cell effector function assays, including cytotoxicity and proliferation assays, and intracellular cytokine staining. Worked extensively with transgenic murine model system to examine immune-mediated injury during influenza virus infection. Prepared class I MHC tetramer complexes for direct analysis and purification of antigen specific T cell populations by flow cytometry and FACS. Awarded Parker B. Francis Fellowship in Pulmonary Research.

University of Virginia, Charlottesville, VA

Graduate Student Research (1993-1998)

Investigated HSV-1 capsid assembly pathway by identifying protein interaction domains and elucidating sequential protein interactions in an *in vitro* capsid assembly system. Performed epitope mapping of a monoclonal antibody and used electron microscopy and 3-D image analysis to localize epitope on the structure of the HSV-1 capsid. Trained and supervised undergraduate researchers. Awarded Graduate School of Arts and Sciences Alumni Dissertation Fellowship.

Worcester Foundation for Experimental Biology, Shrewsbury, MA **Laboratory Technician (1992-1993)**

Evaluated growth of breast cancer cells in response to estrogenic compounds. Prepared media, stock solutions, and chemical inventories.

The Jackson Laboratory, Bar Harbor, ME

Summer Student Intern (1992)

Performed retroviral mutagenesis of murine pre-B cells in an effort to disrupt genes encoding minor histocompatibility antigens. Received training on proper animal handling techniques and humane treatment of research animals.

PUBLICATIONS & ABSTRACT PRESENTATIONS

Spencer, J.V. 2007. The Cytomegalovirus Homolog of Interleukin-10 Requires Phosphatidylinositol 3-Kinase Activity for Inhibition of Cytokine Synthesis in Monocytes *J. Virol.* **81**: 2083-2086.

Spencer, J. V. 2007. *Deadly Diseases and Epidemics: Cervical Cancer*. Chelsea House Publishers: New York, NY.

Spencer, J.V. and S.K. Wong. 2006. Animation of Peptidoglycan Synthesis in Gram-positive Bacteria and Inhibition by Antibiotics. ASM MicrobeLibrary.

Spencer, J.V. 2006. Role of Phosphatidylinositol-3 Kinase in cmvIL-10 Mediated Immune Suppression. 31st International Herpesvirus Workshop, Seattle, WA.

Spencer, J.V. 2005. *Deadly Diseases and Epidemics: Herpes*. Chelsea House Publishers: Philadelphia, PA.

Spencer, J.V. and V. Saini. 2004. Effect of Cytomegalovirus IL-10 on B Lymphocyte Function. 29th International Herpesvirus Workshop, Reno, NV.

Solow-Cordero, D., G. Shankar, **J.V. Spencer**, and C. Gluchowski. 2003. Methods of treating conditions associated with an Edg-1 receptor. US patent Application.

Solow-Cordero, D., G. Shankar, **J.V. Spencer**, and C. Gluchowski. 2003. Methods of treating conditions associated with an Edg-2 receptor. US patent Application.

Solow-Cordero, D., G. Shankar, **J.V. Spencer**, and C. Gluchowski. 2003. Methods of treating conditions associated with an Edg-3 receptor. US patent Application.

Solow-Cordero, D., G. Shankar, **J.V. Spencer**, and C. Gluchowski. 2003. Methods of treating conditions associated with an Edg-4 receptor. US patent Application.

Solow-Cordero, D., G. Shankar, **J.V. Spencer**, and C. Gluchowski. 2003. Methods of treating conditions associated with an Edg-7 receptor. US patent Application.

Huang, M-C., M. Graeler, G. Shankar, **J.V. Spencer**, and E.J. Goetzl. 2002. Lysophospholipid mediators of immunity and neoplasia. *Biochim. Biophys. Acta* **1582**:161-7.

Spencer, J. V., K.M. Lockridge, P.A. Barry, G. Lin, M. Tsang, M.E.T. Penfold, and T.J. Schall. 2002. Potent immunosuppressive activities of cytomegalovirus encoded interleukin-10. *J. Virol.* **76**:1285-1292.

Shankar, G., **J.V. Spencer**, and J. Munning. 2001. The use of chimeric G protein coupled receptors for high throughput screening. U.S. Patent Application.

Schall, T.J., M. Penfold, and **J.V. Spencer**. 2000. Immunologic activities of rhesus cytomegalovirus encoded IL-10 and human cytomegalovirus encoded IL-10. U.S. Patent Application.

Spencer, J. V., K.M. Lockridge, P.A. Barry, M.E.T. Penfold, and T.J. Schall. 2000. Potent immunosuppressive properties of cytomegalovirus encoded IL-10. 25th International Herpesvirus Workshop, Portland, OR.

Spencer J.V. and Braciale T.J. 2000. Incomplete CD8⁺ T Lymphocyte Differentiation as a Mechanism for Subdominant CTL Responses to a Viral Antigen. *J. Exp. Med.* 191:1687-1698.

Spencer, J. V. and T.J. Braciale. 1999. Activation and Differentiation of Cytotoxic T Lymphocytes Directed to a Subdominant Epitope. *Experimental Biology* 99, Washington, D.C.

Spencer, J.V. 1998. Structure and Assembly of the Herpes Simplex Virus Capsid. Ph.D. thesis, published by the University of Virginia, Charlottesville, VA.

Spencer, J.V., W.W. Newcomb, D. R. Thomsen, F.L. Homa, and J.C. Brown. 1998. Assembly of the Herpes Simplex Virus Capsid: Preformed Triplexes Bind to the Nascent Capsid. *J. Virol.* **72**:3944-3951.

Spencer, J.V., F.P. Booy, B.L. Trus, A.C. Steven, W.W. Newcomb, and J.C. Brown. 1997. Structure of the Herpes Simplex Virus Capsid: Peptide A862-H880 is Displayed on the Rim of the Capsomer Protrusions. *Virology* **228**: 229-235.

Spencer, J.V., W.W. Newcomb, D. R. Thomsen, F.L. Homa, and J.C. Brown. 1997. *In vitro* Formation of Triplexes: Structural Subunits that Stabilize the Herpes Simplex Virus Capsid during Morphogenesis. 15th Biennial Phage/Virus Assembly Meeting, Pacific Grove, CA.

Spencer, J.V., W.W. Newcomb, D. R. Thomsen, F.L. Homa, and J.C. Brown. 1997. *In vitro* Formation of Triplexes: Structural Subunits that Stabilize the Herpes Simplex Virus Capsid during Morphogenesis. GBS Research Symposium IV, Charlottesville, VA.

Newcomb, W.W., F.L. Homa, D.R. Thomsen, F.P. Booy, B.L. Trus, A.C. Steven, **J.V. Spencer**, and J.C. Brown. 1996. Assembly of the Herpes Simplex Virus Capsid: Characterization of Intermediates Observed During Cell-Free Capsid Formation. *J. Mol. Biol.* **263**:432-446.

Newcomb, W.W., F.L. Homa, D.R. Thomsen, F.P. Booy, B.L. Trus, A.C. Steven, **J.V. Spencer**, and J.C. Brown. 1996. Assembly of the Herpes Simplex Virus Capsid: Intermediates observed in Cell-Free Capsid Formation. 21st International Herpesvirus Workshop, Dekalb, IL.

Spencer, J.V., F.P. Booy, B.L. Trus, A.C. Steven, W.W. Newcomb, and J.C. Brown. 1996. Structure of the Herpes Simplex Virus Capsid: Amino Acid Sequence Specificity of a Monoclonal Antibody that Binds to the Capsomer Tips. GBS Research Symposium III, Charlottesville, VA.

Spencer, J.V., F.P. Booy, B.L. Trus, A.C. Steven, W.W. Newcomb, and J.C. Brown. 1996. Localization of a Monoclonal Antibody Binding Site on the Distal Hexon Tips of the Herpes Simplex Virus Capsid. 16th Annual Seminar of Cancer Researchers in Virginia, Norfolk, VA.