

## *Curriculum Vitae*

### **Educational Background**

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#### **Medical Residency**

- 2014-2017 Yale University, Resident Physician - Clinical Pathology

#### **Graduate/Professional Degrees**

- 2006-2014 University of Minnesota, Medical Scientist Training Program (MD/PhD)
- 2008-2012 University of Minnesota, Microbiology, Immunology, and Cancer Biology (PhD)

#### **Undergraduate Degrees**

- 2002-2006 University of Minnesota, Microbiology (BS)
- 2002-2006 University of Minnesota, Genetics, Cellular Biology, and Development (BS)

### **Academic and Teaching Experience**

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- 2010-Present **Allied Medical Training**  
*EMS and AHA Instructor*  
Developed and managed online courses for First Responder, EMT-Basic, and Advanced Cardiac Life Support. This included developing curriculum, lectures, and online videos. Also instructed in-person components of these courses.
- 2007-Present **University of Minnesota, Department of Emergency Medicine**  
*EMS and AHA Instructor*  
Organized and instructed courses for emergency medical services, including basic and advanced life support. Led medical school tutorials on intravascular access, endotracheal intubation, and cardiac rhythm interpretation. Taught small group sessions on the use and interpretation of bedside ultrasound.
- 2005-2006 **University of Minnesota, Department of Computer Science**  
*Teaching Assistant, Introduction to C/C++ for Scientists and Engineers*  
Led group sessions for semester-long courses in C/C++ programming. Was responsible for creating and delivering presentations, one-on-one tutoring, office hours, and grading.

### **Research Experience**

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- 2006-2012 **University of Minnesota, Department of Microbiology, Dr. Leslie Schiff**  
*Thesis Lab: Reovirus Entry and Pathogenesis*  
Determined the cellular mechanisms that reovirus uses to enter and infect host cells. Development of a model for reovirus entry into polarized and nonpolarized cells formed the basis of my doctoral thesis.
- 2007-2007 **University of Minnesota, Lab Medicine and Pathology, Dr. Lynda Ellis**  
*Graduate School Rotation: Bioinformatics/Computational Biology*  
Developed a computational pathway and online database to predict whether proteins are secreted based on their sequence and structure.

- 2003-2006 **University of Minnesota, Department of Medicine, Dr. Patricia Tam**  
*Research Assistant: Coxsackievirus B1 Persistence*  
Created a software processing pipeline to model RNA secondary structure.  
Developed a new technique to verify RNA secondary structure by biochemical testing.

## Volunteer Experience

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- 2009-2012 **University of Minnesota, Medical Scientist Training Program**  
*Member, Student Interview Committee*  
Interviewed applicants for the Medical Scientist Training Program. Evaluated applicant performance and provided recommendations to the program steering committee. Created new online software to manage application materials, applicant reviews, and final rankings.
- 2008-2009 **University of Minnesota, Medical School Student Council**  
*Secretary, Executive Council*  
Managed and took minutes at Dean's and Student Council meetings. Created new software to manage committee content and meeting attendance. Developed strategic plans for student-led initiatives including curriculum development, course assessment, and student insurance.
- 2007-2008 **University of Minnesota, Medical School Student Council**  
*Chair, Technology and Education Committee for Health Students*  
Worked with University and Academic Health Center technology staff to create student-run web server. Managed daily server operation, application development, and user support. Created yearly goals and long-term technology plan for Student Council.
- 2007-2008 **University of Minnesota, Medical School Student Council**  
*President, Bioinformatics Group at the University of Minnesota*  
Founded and managed a group for undergraduates interested in bioinformatics. Provided lectures and supervised software development projects for group members. Created specialized software applications for multiple research groups at the University of Minnesota.

## Publications

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- **Schulz W. L., M. B. DeSilva, R. S. Velders.** 2014. Nonclassical Presentation of Transient Myeloproliferative Disorder in a Patient with Down Syndrome. *Minnesota Medicine* 97(3):48.
- **Schulz W. L., J. C. Manivel.** 2014. Amputation Neuroma Growing Intravascularly into a Thrombus. *International Journal of Surgical Pathology*. In press. PMID: 2447938.
- **Schulz W. L., A. K. Haj, and L. A. Schiff.** 2012. Reovirus uses multiple endocytic pathways for cell entry. *Journal of Virology* 86(23):12665-75.
- **Thompson C., W. L. Schulz, and T. Adam.** 2011. A Student Authored Online Medical Education Textbook: Editing Patterns and Content Evaluation of a Medical Student Wiki. *AMIA Annual Symposium Proceedings* 1392-1401.
- **Nelson B., W. Schulz, and J. Bernard** (2010). Strategies to Comply with Minnesota's e-Prescribing Mandate. *Ideas of Reference* Nov-Dec 2010:5.
- **Zacchi L. F., W. L. Schulz, and D. A. Davis.** 2010. HOS2 and HDA1 encode histone deacetylases with opposing roles in *Candida albicans* morphogenesis. *PLoS ONE* 5:e12171.

- **Sandager M. M., J. L. Nugent, W. L. Schulz, R. P. Messner, and P. E. Tam.** 2008. Interactions between multiple genetic determinants in the 5' UTR and VP1 capsid control pathogenesis of chronic post-viral myopathy caused by coxsackievirus B1. *Virology* 372:35-47.
- *In preparation:* **Schulz W. L. and L. A. Schiff.** Reovirus Infection and Transcytosis from the Apical Membrane of Polarized Epithelial Cells.
- *In preparation:* **Schulz W. L., D. Felker, and B. G. Nelson.** Comparison of Relational and Document-Based Database Approaches to Manage Genomic Data.

## Grants and Fellowships

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- Spring 2006      UMN Undergraduate Research Opportunities Program
- Summer 2005    American Society for Microbiology Undergraduate Research Fellowship
- Spring 2004      UMN Undergraduate Research Opportunities Program

## Work Experience

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- 2008-Present    **AgileMedicine, Chief Scientist/Software Architect**  
Cofounded a health informatics company with a focus on data storage and analytics. Architected and developed software applications for clinical trial management and research data acquisition. Created a novel solution for the storage of genomic and high-resolution imaging data. Invented a new approach to separate personally-identifiable information from health records for real-time research queries. Consulted for implementations of EPIC, AllScripts, and other EHR systems. Significant experience with healthcare ontology and coding.
- 2006-2008       **UMN Medical School, Student Curriculum Manager**  
Created an online system for course collaboration among medical students. Managed lecture video recordings and implemented a system for streaming live lectures to students. Developed a robust multimedia system for storing anatomy and pathology laboratory content. Implemented and managed a local installation of the VistA EHR for medical education.
- 2002-2006       **UMN Emergency Medical Services, Education Supervisor**  
Designed courses for continuing education, directed quality improvement projects, and analyzed monthly response statistics for stationary first aid and emergency services. Managed a group of ten instructors and sixty volunteers.
- 2002-2005       **Aventis Bioservices, Donor Floor Supervisor**  
Managed scheduling, quality assurance, and training for phlebotomists and laboratory technicians at a large plasma donation center. Implemented new training programs for employees. Supervised implementation of new electronic donor management system for apheresis and laboratory services.

## Professional Memberships

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- 2014-Present    Member, Association for Pathology Informatics
- 2013-Present    Member, American Society for Clinical Pathology
- 2008-Present    Member, American Society for Virology
- 2005-Present    Member, American Society for Microbiology