

# STEFANIE L. IVERSON CABRAL, PHD

## CURRICULUM VITAE

### CONTACT INFORMATION

University of Washington, Bothell  
School of Nursing & Health Studies  
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### OBJECTIVE STATEMENT

To work as a lecturer at an institution dedicated to diversity, higher education, and social/global justice where I can dedicate myself to the academic and professional development of future public health workers and nurses. My goal is to utilize my knowledge and research in microbiology and global health to engage students of all backgrounds using active and dynamic teaching strategies. I am committed to building strong personal relationships and mentorships with students, in addition to collaborative partnerships with faculty members across disciplines.

### EDUCATION

- PhD, Pathobiology** **2008**  
University of Washington Department of Global Health, Seattle, WA  
**Emphasis:** Bacterial Pathogenesis  
**Dissertation:** Genetic Variation in *Mycoplasma genitalium*: Antigenic Diversity and Persistence of Infection within a Genomically Challenged Pathogen  
**Advisor:** Patricia Totten, PhD
- BS, Microbiology** **2001**  
California Polytechnic State University, San Luis Obispo, CA  
**Minor:** Biotechnology  
**Senior Project:** The role multiple upstream start codons play in the regulation of the *PIS* gene in *Saccharomyces cerevisiae*  
**Advisors:** Susan Elrod, PhD (Cal Poly) and Virginia McDonough, PhD (Hope College)

### TEACHING EXPERIENCE & INTERESTS

#### TEACHING PHILOSOPHY

My teaching philosophy is anchored in the belief that a successful learning environment involves one where students participate in the learning process. I use a combination of teaching strategies to accomplish this, helping students learn about the science and microbiology of infectious disease, while making connections between these pathogens and their own personal, academic, and career experiences and interests.

## TEACHING INTERESTS

Global Health  
Epidemiology  
Disease transmission & control  
Emerging and reemerging diseases  
Maternal/child health  
Sexually transmitted infections  
Social determinants of health  
Medical & research ethics

Microbiology  
Immunology  
Cellular biology  
Genetics and molecular biology  
Research ethics  
Science education  
Scientific communication  
Real risk vs. perceived risk

## ACADEMIC POSITIONS

### Part-Time Lecturer

2015-present

University of Washington. Bothell, WA.

#### Courses Taught & Developed\*:

1. ***Disease, Human History, Society, & Civilization\****: This five-unit course for undergraduate non-majors examines the connections between infectious disease and human history focusing on how plagues of the past have influenced social upheavals and changes in civilization. BHLTH 224 (NW)
2. ***Introduction to Cancer Biology\****: This five-unit course for undergraduate non-majors examines the basic biology and history of cancer with a focus on how genetics, age, infectious agents, and environmental factors contribute to the development of disease. BHLTH 225 (NW)
3. ***Infectious Disease Detectives - The Pathogens Inside\****: This five-unit course for undergraduate non-majors explores the diagnostic process, human drama, and public health implications of infectious disease. Specific diseases (botulism, flesh eating bacteria, tape worms, etc.) are described to highlight real vs. perceived risk and the role of government in public health. BHTLH 228 (NW)
4. ***Microbiology, Human Disease, & Global Health\****: This five-unit elective introduces microbiology in the area of health and life sciences. The curriculum focuses on global health concepts related to infectious disease with an emphasis on the connection between the pathogenicity of microbes, disease outcomes, and the application of microbiology to human beings and society. BHLTH 402 (NW)
5. ***Plagues, Stigma, & Fear\****: This five-unit elective provides curriculum that focuses on the topic of health and society including the social and emotional aspects of infectious disease, plagues, and pandemics. The causes, symptoms, transmission, treatment, and prevention of various infectious agents (HIV, cholera, typhus, Ebola, Zika, etc.) will be discussed, as will the stigma fear and misunderstanding around such agents can create for certain marginalized populations. BHLTH 491 (Health & Society)
6. ***Culture, Society, & Sexually Transmitted Infections\****: This five-unit special topic elective provides an overview of the social, ethical, and scientific issues related to sexually transmitted infections, including an exploration of the issues influencing the transmission, diagnosis, and treatment of STIs and connections between social determinants and reproductive health. BHLTH 497 (Health & Society)

7. ***Global Health & Infectious Disease Diagnostics\****: This five-unit elective explores the importance of accurate and rapid diagnostics in global health. This course focuses on the tools, technology, and science behind the different approaches to infectious disease diagnostics with an emphasis on cutting edge technological developments that address the challenges and needs of diagnostic implementation in resource-limited countries. BHLTH 497 (Health & Life Sciences)
8. ***Infectious Disease & Art\****: This five-unit ultra-hybrid elective explores how artists have responded to the fear and suffering elicited by plagues and pandemics by creating pieces that record societies experience and response to some of mankind's most devastating pathogens. This course examines historical and contemporary art, while at the same time exploring the microbiology. BHLTH 497 (Health & Society; VLP).)
9. ***Monsters, Myths, and Medicine\****: This five-unit course for undergraduate non-majors covers the science of genetics, embryologic development, and infectious disease by exploring the scientific explanations for various characters from myths, legends, and fables of characters including cyclops, werewolves, mermaids, vampires and others. BCUSP 140 (NW)
10. ***Ebola: Transmission, Prevention, Stigma, & Fear\****: This online, variable-unit elective for nursing students provides an exploration of the social, political, and cultural issues influencing the transmission and prevention of the Ebola virus. BNURS 497.
11. ***Pathways to Health Studies***: Provides a forum for students to plan their educational pathway within the Health Studies major. Provides an overview of career options and professional development opportunities, supplemented with guest lectures by professionals working in the field. BHS 310.
12. ***Health Studies Senior Portfolio***. Focuses on developing a learning and professional portfolio, advancing critical thinking skills, synthesis of knowledge relevant to the health field, and honing writing and presentation capacities for appropriate audiences. Involves collaboration with other graduating students. BHS 495.

## Adjunct Professor

2015

Trinity Lutheran College. Everett, WA.

### Courses Taught & Developed\*:

1. ***Diseases of Importance\****: This five-unit non-major course covered basic introductory biology for non-major students without science background. This course was an iteration of the one developed and taught at Everett Community College (see below).

## Adjunct Professor

2008-2013

Everett Community College. Everett, WA.

### Courses Taught & Co-Developed\*:

1. ***Diseases of Modern Importance\****: This five-unit non-major course covers a basic introductory biology, as well as other public health topics including vaccination, antibiotic resistance, and the interrelatedness of social issues and disease.
2. ***Introduction to Microbiology***: This five-unit course for pre-nursing students covered the basics of microbiology. Curriculum was modified slightly to place more emphasis on public health and infectious disease to provide clinical applications and to engage student's career interests in the health care field.

## Adjunct Professor

2012

Seattle Pacific University. Seattle, WA.

### Courses Taught:

1. **General Microbiology:** This five-unit upper-division course for biology majors and pre-professional health students gave an overview of the field of microbiology, with an emphasis on microbial pathogenesis and clinical applications of microbiology.

## Teaching Assistant

2006

University of Washington. Seattle, WA.

### Courses Taught:

1. **Emerging and Reemerging Infectious Diseases:** This lower-division undergraduate course explored an overview of microbiology, concentrating on the biological, social, and cultural factors that influence the emergence and reemergence of infectious diseases. As an assistant, I was responsible for instruction components focused on the immune system, immunization, and autoimmunity, in addition to maintaining the class website, holding office hours and review sessions, and writing, administering, and grading exams.

## Teaching Aide

2001-2002

The Morgan Center. San Jose, CA.

The Morgan Center provides individualized educational services with the goal of helping children and adults with autism and other developmental disabilities maximize their potential in a dignified, positive and loving environment. As a teacher's aide in the adolescent classroom, I was responsible for developing individualized curriculum for students within the subjects of science, math, and art.

## GUEST LECTURES

### Natural Science Capstone Seminar

2010

Seattle Pacific University, Seattle, WA

*Mycoplasma genitalium*: Persistence of Infection & Immune Evasion in a Genomically Challenged Pathogen

### Diseases of Modern Importance

2010

Everett Community College, Everett, WA

Sexually transmitted infections: romantic gifts that keep on giving

### Antigenic Variation Minicourse.

2005

University of Washington, Seattle, WA

Heterogeneity of the *mgpB* gene in *Mycoplasma genitalium*: A mechanism for persistence?

## RESEARCH EXPERIENCE & INTERESTS

### RESEARCH STATEMENT

My research focuses on the sexually transmitted pathogen, *Mycoplasma genitalium* (MG). This bacterium is increasingly recognized as a public health threat as evidence mounts regarding its prevalence, disease association, and antibiotic resistance. I have produced multiple publications characterizing MG's sophisticated and unique mechanism of antigenic and phase variation, in addition to reports detailing the immune response to infection. I intend to continue this line of research at a campus where I can engage undergraduates mentoring students as they develop important laboratory skills while being exposed to the scientific process, including opportunities to publish and present data to the broader scientific community.

### RESEARCH POSITIONS

<b>Research Scientist</b> University of Washington, Seattle, WA Patricia Totten, PhD, Principle-Investigator	<b>2013-2016</b>
<b>Research Scientist</b> University of Washington. Seattle, WA. Lorenzo Giacani, PhD and Arturo Centurion-Lara, MD, Principle-Investigators	<b>2012-2014</b>
<b>Postdoctoral Research Fellow</b> University of Washington. Seattle, WA. Patricia Totten, PhD, Mentor	<b>2009-2012</b>
<b>Graduate Research Fellow</b> University of Washington. Seattle, WA Patricia Totten, PhD, Mentor	<b>2002-2008</b>
<b>Undergraduate Research Assistant</b> National Science Foundation Research Experience for Undergrads Hope College, Holland, MI Virginia McDonough, PhD, Mentor	<b>1999</b>

### FELLOWSHIPS & GRANTS

<b>STD/AIDS Post-Doctoral Training Grant</b> Center for AIDS and STD Research, University of Washington, Seattle, WA	<b>2010-2012</b>
<b>STD/AIDS Pre-Doctoral Training Grant</b> Center for AIDS and STD Research, University of Washington, Seattle, WA	<b>2006-2008</b>

## PUBLICATIONS, PEER-REVIEWED

1. Burgos, R, Wood, G.E., **Iverson-Cabral, S.L.**, and Totten, P.A. (2017) *Mycoplasma genitalium* non-adherent phase variants arise by multiple mechanisms and escape antibody-dependent growth inhibition. *Infection Immun.* 2018 Jan 22. pii: IAI.00866-17. PMID: 29358335
2. Wood, G.E., Patton, D.L., Cummings, P.K., **Iverson-Cabral, S.L.**, and Totten, P.A. (2017) Experimental infection of pig-tailed macaques (*Macaca nemestrina*) with *Mycoplasma genitalium*. *Infect Immun.* 2017 Jan 26; 85(2). pii: e00738-16. PMID: 27872239
3. **Iverson-Cabral, S.L.**, Wood, G.E., Totten, P.A. (2015) Analysis of the *Mycoplasma genitalium* MgpB Adhesin to Predict Membrane Topology, Investigate Antibody Accessibility, Characterize Amino Acid Diversity, and Identify Functional and Immunogenic Epitopes. *PLoS One.* 10(9): e0138244. doi:10.1371/journal.pone.0138244. PMID: 26381903
4. Giacani, L., Brandt, S.L., Ke, W., Brinck Reid, T., Molini, B.J., **Iverson-Cabral, S.L.**, Ciccarese, G., Drago, F., Lukehart, S.A., Centurion-Lara, A. (2015) Transcription of TP0126, *Treponema pallidum* Putative OmpW Homolog, Is Regulated by the Length of a Homopolymeric Guanosine Repeat. *Infect Immun.* Volume 83(6): 2275-2289. PMID: 25802057
5. Giacani, L., **Iverson-Cabral, S.L.**, King, J.C., Molini, B.J., Lukehart, S.A., Centurion-Lara, A. (2014) Complete Genome Sequence of the *Treponema pallidum* subsp. *pallidum* Sea81-4 Strain. *Genome Announc.* Volume 2(2): 1-2. PMID: 24744342
6. Wood, G.E., **Iverson-Cabral, S.L.\***, Patton, D.L., Cummings, P.K., Cosgrove-Sweeney, Y.T., Totten, P.A. (2013) Persistence, immune response, and antigenic variation of *Mycoplasma genitalium* in an experimentally infected pig-tailed macaque (*Macaca nemestrina*). *Infect Immun.* Volume 81(8):2938-51. PMID: 23732170 \*First and second authors contributed equally
7. **Iverson-Cabral, S.L.**, Manhart, L.E., and Totten, P.A. (2011) Detection of *Mycoplasma genitalium*-reactive cervicovaginal antibodies in infected women. *Clin. Vaccine Immunol.* Volume 18 (10): 1783. PMID: 21813666
8. **Iverson-Cabral, S.L.**, Astete, S.G., Cohen C.R., and Totten, P.A. (2007) *mgpB* and *mgpC* sequence diversity in *Mycoplasma genitalium* is generated by segmental reciprocal recombination with repetitive chromosomal sequences. *Mol Micro.* 66: 55-73. PMID: 17880423
9. Cohen, C.R., Nosek, M., Meier, A., Astete, S.G., **Iverson-Cabral, S.L.**, Mugo, N.R., and Totten, P.A. (2007) *Mycoplasma genitalium* Infection and Persistence in a Cohort of Female Sex Workers in Nairobi, Kenya. *Sex Transm Dis.* 34: 274-279. PMID: 16940898
10. **Iverson-Cabral, S.L.**, Astete, S.G., Cohen, C.R., Rocha, E.P., and Totten, P.A. (2006) Intrastrain heterogeneity of the *mgpB* gene in *Mycoplasma genitalium* is extensive in vitro and in vivo and suggests that variation is generated via recombination with repetitive chromosomal sequences. *Infect Immun* 74: 3715-3726. PMID: 16790744
11. **Iverson, S.**, Sonnemann, K., Reddick, A., and McDonough, V. (2006) Expression of the *Saccharomyces cerevisiae* *PIS1* gene is modulated by multiple ATGs in the promoter. *Biochem Biophys Res Comm* 350: 91-96. PMID: 16997274

## PRESENTED ABSTRACTS, PEER-REVIEWED

1. **Iverson-Cabral, S.L.**, Wood, G.E., Cummings, P.K., Cosgrove Sweeney, Y.T., Patton, D.L., and Totten, P.A. Genetic Diversity, Reciprocal Recombination, and Antigenic Variation During Persistent *Mycoplasma genitalium* Infection of a Non-human Primate. Oral Presentation. 19<sup>th</sup> International Organization for Mycoplasmaology Congress. Toulouse, France. July-2012
2. **Iverson-Cabral, S.L.**, Wood, G.E., Cummings, P.K., Cosgrove Sweeney, Y.T., Patton, D.L., and Totten, P.A. The evolution of antigenic diversity and development of an antibody response in a primate model of *Mycoplasma genitalium* infection. Poster Presentation. Cold Springs Harbor Microbial Pathogenesis and Host Response. Cold Springs Harbor, New York. September-2011
3. **Iverson-Cabral, S.L.**, Wood, G.E., Glass, J.I., and Totten, P.A. Frequency of recombination between *mgbC* and MgPar 7 in *Mycoplasma genitalium* G37. Poster Presentation. 17<sup>th</sup> International Organization for Mycoplasmaology Congress. Tianjin, China. July-2008
4. **Iverson-Cabral, S.L.**, Demaster, L.K., Manhart, L.E., Cohen, C.R., and Totten, P.A. The MgPa Adhesin Protein Induces a Local and Systemic Antibody Response among Women Infected with *Mycoplasma genitalium*. Poster Presentation. 108<sup>th</sup> Annual American Society of Microbiology General Meeting. Boston, Massachusetts. June-2008
5. **Iverson-Cabral, S.L.**, Astete, S.G., Cohen, C.R., and Totten, P.A. Reciprocal Recombination is Responsible for Genetic Diversity of the *mgbC* Gene in *Mycoplasma genitalium*. Oral Presentation. 107<sup>th</sup> Annual American Society of Microbiology General Meeting. Toronto, Canada. May-2007
6. **Iverson-Cabral, S.L.**, Astete, S.G., Cohen, C.R., Rocha, E.P., and Totten, P.A. Intrastrain heterogeneity of the *mgbB* and *mgbC* genes in *Mycoplasma genitalium* is extensive in vitro and in vivo and suggests variation is generated via recombination with repetitive chromosomal sequences. Poster Presentations. 16<sup>th</sup> International Organization for Mycoplasmaology Congress. Cambridge, UK. July-2006
7. **Iverson-Cabral, S.L.**, Astete, S.G., Cohen, C.R., and Totten, P.A. Heterogeneity of the *mgbB* gene in *Mycoplasma genitalium*, a mechanism for persistence? Oral Presentation. 16<sup>th</sup> Biennial meeting of the International Society for Sexually Transmitted Diseases Research. Amsterdam, The Netherlands. July-2005
8. **Iverson, S.L.**, and McDonough, V. The role multiple upstream start codons play in the regulation of the *PIS* gene in *Saccharomyces cerevisiae*. Oral Presentation. 26<sup>th</sup> Annual West Coast Biological Sciences Undergraduate Research Conference. Santa Clara, CA. May-2001
9. **Iverson, S.L.**, and McDonough, V. The role multiple upstream start codons play in the regulation of the *PIS* gene in *Saccharomyces cerevisiae*. Poster Presentation. Cal Poly Departments of Biology, Chemistry, and Biochemistry Student Research Conference. San Luis Obispo, CA. May-2000

## INVITED RESEARCH PRESENTATIONS

- The Little Pathogen that Could, Lessons from a Minimal Organism** 2011  
Northwest Association for Biomedical Research  
Ethics Short Course for Educators  
Fred Hutchison Cancer Institute, Seattle, Washington
- The Little Pathogen that Could** 2010  
Pacific Science Center Science Café  
Seattle, Washington.  
<https://www.youtube.com/watch?v=7jHWrKZu-k4>
- Maximum variation in a minimal organism: How does genetic diversity influence *Mycoplasma genitalium* persistence?** 2007  
17<sup>th</sup> Biennial Meeting of the International Society for Sexually Transmitted Diseases Research, Seattle, Washington
- Genetic variability in *Mycoplasma genitalium*: A mechanism for persistence of infection?** 2006  
University of Washington AIDS and STD Research Symposium, Seattle, WA.

## PROFESSIONAL TRAINING

- Future Faculty Fellows Program Annual Postdoctoral Workshop** 2011  
University of Washington, Seattle, WA
- Science Communication Fellowship Program** 2011  
Pacific Science Center, Seattle, WA
- How to Teach Online** 2011  
Washington Online – Washington State Board for Community and Technical Colleges
- Writing Workshop** 2011  
Department of Medicine  
University of Washington, Seattle, WA
- Biomedical Research Integrity Series** 2006, 2010, & 2011  
Core Curriculum in the University of Washington AIDS/STD Training Program
- Principles of STD/AIDS Research** 2006  
Core Curriculum in the University of Washington AIDS/STD Training Program



## HONORS & AWARDS

<b>University of Washington Pathobiology Student of the Year</b>	<b>2007</b>
<b>Henry Morton Student Award in Mycoplasmaology</b> Awarded for best student presentation at the 16th International Organization for Mycoplasmaology Congress, Cambridge, UK	<b>2006</b>
<b>Excellence in Oral Presentation and Best Student Paper in Molecular Genetics</b> Awarded at the 26th West Coast Biological Sciences Undergraduate Research Conference, Santa Clara, CA	<b>2001</b>

## PROFESSIONAL SERVICE, MENTORING AND VOLUNTEERING EXPERIENCE

<b>Art Docent</b> Woodin Elementary School, Woodinville, WA	<b>2013-present</b>
<b>Science Communication Fellow and Volunteer</b> Pacific Science Center, Seattle, WA	<b>2012-2013</b>
<b>“Biomedical Breakthroughs and My Life” Essay Contest Judge</b> Northwest Association for Biomedical Research, Seattle, WA	<b>2007 &amp; 2008</b>
<b>BioExpo Program Mentor</b> Northwest Association for Biomedical Research	<b>2007</b>
<b>BioExpo Program Genomics and Creative Writing Judge</b> Northwest Association for Biomedical Research	<b>2006 &amp; 2007</b>
<b>BioQuest Academy Mentor</b> Seattle Biomedical Research Institute	<b>2006</b>

## PROFESSIONAL AFFILIATIONS

American Society for Microbiology	<b>2007-present</b>
International Organization for Mycoplasmaology	<b>2006-present</b>
Society for Microbiology and Biotechnology, Cal Poly	<b>1999-2001</b>