CURRICULUM VITAE
Guinevere Lykken Strand

Instructor: Microbiology, Genetics, Principles of Biology
Department of Biology
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EDUCATION

2005-2008	**M.S.**, Pathology, University of Iowa, Iowa City, IA Thesis title: PTPN13 is a Potential Tumor Suppressor for Head and Neck Squamous Cell Carcinoma Advisor: Dr. Aaron Bossler
1999-2003	**B.A.**, Biology, Luther College, Decorah, IA *magna cum laude*

TEACHING EXPERIENCE

August 2011-present **Instructor in Biology**, Luther College, Decorah, IA

- Microbiology (Bio 243): Laboratory Coordinator (2015), instruct lab sections, assist with lab design and preparation, assisted with writing and grading exams and lab reports, led weekly tutorial sessions (2011-2013)
- Genetics (Bio 248): Instruct lab sections, assist with lab design and preparation, guest lecturer (2012-2015), assisted with writing and grading exams and lab reports
- Principles of Biology: Laboratory Coordinator (2016), instruct laboratory sections, lecturer
- Biology of Cancer (Bio 139, non-lab course): Lead instructor
- Animal Pathology (Bio 395, independent study): Guided student with weekly discussions on textbook topics and research papers
- Senior paper advisor (2015-present)
- Academic advisor (2012-present)

June 2010-May 2011 **Adjunct faculty**, Scott Community College, Bettendorf, IA

- Microbiology: Instructed lecture and laboratory sections.

Fall 2005 **Tutor**, University of Iowa, Iowa City, IA

- Principles of Biology.

2001-2003 **Tutor**, Luther College Student Academic Support Center, Decorah, IA

- General Biology, Microbiology, Genetics

2001-2003 **Teaching assistant**, Luther College, Decorah, IA

- Microbiology: Attended lectures, led weekly review sessions, graded homework, prepared media and cultures for lab.

RESEARCH EXPERIENCE

2005-2008 **Master's student**, Pathology Department, University of Iowa, Iowa City, IA

- Designed a qPCR assay for detecting Human Papillomavirus High Risk Type DNA.
- Analyzed Head and Neck Cancer specimens using immunohistochemistry and qPCR to study the relationship between PTPN13 expression and Human Papillomavirus infection in human tumors.

2003-2005 **Research Assistant I**, Microbiology Department, University of Iowa, Iowa City, IA

- Characterized the functions of *Pseudomonas aeruginosa* type III secretion regulatory proteins using an enzymatic assay, immunoprecipitation, site-directed mutagenesis, and gel filtration.
- Developed a protein purification protocol for PcrV, a *Pseudomonas aeruginosa* secreted protein.

Summer 2002 **Student Intern**, Microbiology Department, University of Iowa. Iowa City, IA

- Characterized the functions of *Pseudomonas aeruginosa* type III secretion regulatory proteins using an enzymatic assay and a bacterial two-hybrid system.

January 2002 **Student Intern**, Immunology clinical lab, Mayo Clinic, Rochester, MN

- Participated in developing a novel test for measuring antibody response to *Streptococcus pneumoniae* by coupling pneumopolysaccharides to microbeads and analyzing data using the Luminex 100.

RELATED WORK EXPERIENCE

2008-2011 **Lab technologist**, Metropolitan Medical Laboratory, Moline, IL

- Performed patient testing in molecular biology, hematology, and chemistry.
- Trained new laboratory technologists.
- Developed new testing for the molecular biology lab.
- Provided interpretations of von Willebrand test results for physicians.

2001-2003 **Lab assistant**, Iowa Health Physicians and Clinics, Des Moines, IA

- Prepared specimens for testing. Entered patient and test information into clinic database.

LABORATORY AND TECHNICAL SKILLS

PCR, RT-qPCR, gel electrophoresis, DNA/RNA extraction, western blot, bacterial transformation, immunohistochemistry, gel filtration, immunoprecipitation, affinity chromatography, ELISA, karyotyping

Red and white blood cell manual count and differential, complete blood count (Beckman Coulter 500, 750), Gram stain, erythrocyte sedimentation rate, coagulation assays (Sysmex 1500), platelet function assay, serum-based chemistry assays (Sysmex RxL Max), clinical rapid testing (Influenza A/B, Respiratory Syncycial Virus, Streptococcus, Rotavirus, heparin-induced thrombocytopenia), urinalysis, drugs of abuse screen, kidney stone analysis

HONORS

2003	**Invited oral presenter***,* National Conference of Undergraduate Research, Salt Lake City, UT "Characterization of ExsD, a negative regulatory protein of the *Pseudomonas aeruginosa* type III secretion regulon."
2002-2003	**Jenson Music Scholar**, Luther College, Decorah, IA
2001	**Otto and Esther Austin Family Scholar**, Luther College, Decorah, IA
1999-2003	**Olson Presidential Scholar**, Luther College, Decorah, IA
1999-2003	**Regent Scholar**, Luther College, Decorah, IA
1999-2003	**Dean's list**, 8 semesters, Luther College, Decorah, IA

CONFERENCES AND WORKSHOPS ATTENDED

2012	New Faculty Workshop: Strategic Planning for Career Success, Hope College, Holland, MI
2009	Clinical and Laboratory Update in Thrombosis and Anticoagulation, Rochester, MN
2009	Annual Midwest Coagulation Symposium: Bleeding and Thrombosis, Indianapolis, IN
2008	Molecular Biology of DNA Tumor Viruses Conference, Madison, WI
2004	North Central Branch American Society for Microbiology Annual Meeting, Madison, WI
2003	National Conference of Undergraduate Research, Salt Lake City, UT

PUBLICATIONS

McCaw ML, **Lykken GL**, Singh PK, Yahr TL. ExsD is a negative regulator of the *Pseudomonas aeruginosa* type III secretion regulon. Mol Microbiol. 2002 46:1123-33.

Dasgupta N, **Lykken GL**, Wolfgang MC, Yahr TL. A novel anti-anti-activator mechanism regulates expression of the *Pseudomonas aeruginosa* type III secretion system. Mol Microbiol. 2004 53:297-308.

Urbanowski ML, **Lykken GL,** Yahr TL. A secreted regulatory protein couples transcription to the secretory activity of the *Pseudomonas aeruginosa* type III secretion system. Proc Natl Acad Sci USA. 2005 102:9930-5.

Lykken GL, Chen G, Brutinel ED, Chen L, Yahr TL. Characterization of ExsC and ExsD self-association and heterocomplex formation. J Bacteriol. 2006 188:6832-40.

Spanos WC, Hoover A, Harris GF, Wu S, **Strand GL**, Anderson ME, Klingelhutz AJ, Hendriks W, Bossler AD, Lee JH. The PDZ binding motif of Human Papillomavirus type 16 E6 induces PTPN13 loss, which allows anchorage-independent growth and synergizes with Ras for invasive growth. J Virol. 2008 82:2493-500.

Hoover AC, **Strand GL**, Nowicki PN, Anderson ME, Vermeer PD, Klingelhutz AJ, Bossler AD, Pottala JV, Hendriks WJ, Lee JH. Impaired PTPN13 phosphatase activity in spontaneous or HPV-induced squamous cell carcinomas potentiates oncogene signaling through the MAP kinase pathway. Oncogene. 2009 28(45):3960-70.

ABSTRACTS

Dasgupta N, **Lykken G**, Wolfgang M, Yahr T. "A novel anti-anti-activator mechanism regulates expression of the *Pseudomonas aeruginosa* type III secretion system." University of Wisconsin-Madison; 2004, North Central Branch American Society for Microbiology Annual Meeting.

Gunsolly C, Erwin M, **Strand G**, Richter S, Bossler AD. "Comparison of rRNA gene sequencing with traditional biochemical testing for identification of unusual bacteria." University of Iowa, College of Medicine; 2006, Pathology Research Day.

Strand G, Gunsolly C, Anderson M, Klingelhutz A, Lee J, Bossler A. "Loss of PTPN13 expression correlates with a subset of HPV positive squamous cell carcinomas of the oropharynx." University of Iowa, College of Medicine; 2007, Pathology Research Day.

Strand G, Gunsolly C, Hoover A, Lee J, Bossler A. "Role of PTPN13 in Head and Neck Cancer." University of Iowa, College of Medicine; 2008, College of Medicine Research Week.

Strand G, Gunsolly C, Hoover A, Anderson M, Kurago Z, Klingelhutz A, Lee J, Bossler A. "Loss of PTPN13 Correlates with a Subset of HPV Positive Oropharyngeal Cancers." University of Wisconsin-Madison; 2008, Molecular Biology of DNA Tumor Viruses Conference.

SERVICE

2012-2015	**Office Volunteer**, Decorah Covenant Church, Decorah, IA
2010-2011	**Volunteer**, Hospice Compassus, Davenport, IA
2006-2008	**Judge**, Eastern Iowa Science and Engineering Fair, Cedar Rapids, IA

INTERESTS

Academic: teaching, tutoring
Research: molecular mechanisms of disease, cancer, microbiology