

## Curriculum Vitae

Date of Preparation: January 2017

### MELODY NEUHART NEELY

Office Address:  
University of Maine  
Molecular and Biomedical Sciences  
Hitchner Hall  
Orono, ME 04469

#### EDUCATION:

B.S. in Biology, Summa cum laude, April 1994  
Eastern Michigan University, Ypsilanti, Michigan  
Goldwater Scholar, awarded by the Barry M. Goldwater Scholarship and Excellence in Education Foundation. 1<sup>st</sup> ever awarded to Eastern Michigan University

Ph.D. in Microbiology and Immunology, July 1998  
Laboratory of David I. Friedman  
Thesis entitled "Functional and genetic analysis of the lambdoid bacteriophage H19-B, a natural vector for the Shiga-like toxin genes"

\*Awarded the Ward J. MacNeal Distinguished Dissertation Award,  
University of Michigan\*

Cellular Biotechnology Training Program Graduate Certificate  
University of Michigan, Ann Arbor, Michigan

#### TRAINING:

Post-doctoral Training:  
July 1998 to Feb. 1999 – laboratory of David I. Friedman,  
University of Michigan, Ann Arbor, MI

February 1999 to March 2001 – laboratory of Michael Caparon,  
Washington University School of Medicine, St. Louis, MO

Additional Training:  
March 2011 Stanford Development Program in Medical Teaching

8/13 to 7/14 Visiting Professor, Department of Pediatrics, University of  
Texas-Southwestern School of Medicine

#### FACULTY APPOINTMENTS

3/01 to 5/08 Assistant Professor, Department of Immunology and  
Microbiology, Wayne State University School of Medicine,  
Detroit, MI

5/08 to 9/15 Associate Professor, Department of Immunology and  
Microbiology, Wayne State University School of Medicine,  
Detroit, MI

10/15 to 9/16 Research Professor, Department of Biology, Texas Woman's  
University, Denton, TX

10/16 to present Associate Professor, Molecular and Biomedical Sciences Dept.,  
University of Maine, Orono, ME

**PROFESSIONAL SOCIETIES:**

American Society for Microbiology  
Sigma XI

**HONORS/AWARDS:**

2015 Keynote speaker, Michigan Branch of the American Society for  
Microbiology, Fall meeting. Ann Arbor, MI.  
2014 Keynote speaker, Texas Branch of the American Society for Microbiology  
Spring meeting. New Braunfels, TX.  
2013 Keynote speaker, North Atlantic Zebrafish Research symposium,  
University of Maine, Orono, ME  
2012 Allen and Neely manuscript selected by the Editors as a “Spotlight”  
article for the May 2012 Infection and Immunity Journal  
2011 External referee for thesis defense in the Division of Infection Medicine,  
University of Lund, Lund, Sweden  
2011 Keynote speaker, Eastern Michigan University 31<sup>st</sup> Undergraduate  
Research Symposium  
2010 Wayne State University School of Medicine Teaching Awards; 2013,  
2010, 2007, 2004  
2009 Kizy and Neely manuscript featured in the Current Topics Section of the  
June 2009 issue of Microbe.  
2007 Phelps and Neely manuscript selected by the Editors as a “Spotlight”  
article for the September 2007 Infection and Immunity Journal.  
2007 Invited speaker, Lorentz Center, International Center for Workshops in the  
Sciences, Model Systems for Infectious Disease and Cancer in  
Zebrafish, Leiden, Netherlands.  
2005 Invited speaker, Institute of Microbiology, Chinese Academy of Sciences,  
Beijing, China  
2002 Nestle Award for the Best Journal of Bacteriology Paper on Bacteriophage  
Biology in 2001  
2000 Ward J. MacNeal Distinguished Dissertation Award, Department of  
Microbiology and Immunology, University of Michigan  
1994 - 1997 Trainee, Cellular Biotechnology Training Program (NIH)  
1992 - 1994 Goldwater Scholar, awarded by the Barry M. Goldwater  
Scholarship and Excellence in Education Foundation.  
1<sup>st</sup> ever awarded to Eastern Michigan University

**SERVICE:**

Wayne State University Committees

1. Departmental

Curriculum Committee, 2001 to present; Chair, 2009-2015  
Graduate Committee, 01/01/03 to 10/01/15  
Salary Committee, 01/01/03 to 2008  
Seminar Committee, 08/01/02 to 10/01/15  
Faculty Search Committee, 2004 to 2006

2. School of Medicine

Graduate Recruitment Committee, 2002 to 2004  
MD/PhD advisory committee, 2009 to 10/01/15  
Professionalism Committee, 2010 to 2014

Faculty Development Liaison for the Department of  
Immunology and Microbiology, 2014 to 10/01/15

3. University -wide

Graduate Council, 2006 to 2012

- New Programs sub-committee, 2006 to 2012

Clinical and Translational Science Award (CTSA) planning committee

- New Investigators sub-committee

Nanotoxicity Research Grant planning committee

WSU Graduate Dean Search Committee, Nov 2008-2009

Biosafety Committee, 2011 to 10/01/15

Texas Woman's University Committees

1. Departmental

Seminar committee, Co-Chair, 2016 to present

Journal/Editorial Activity

Editorial Board:       Infection and Immunity 2004-present  
                              Zebrafish 2004-present

Manuscript Reviewer:

African Journal of Biotechnology

Anaerobe

Antonie van Leeuwenhoek International Journal of General and Molecular  
Microbiology

Applied and Environmental Microbiology

BMC Veterinary Research

Cellular Microbiology

Clinical and Vaccine Immunology

Current Drug Targets

Current Microbiology

Developmental and Comparative Immunology

Developmental Dynamics

Emerging Microbes and Infection

FEMS Immunology and Medical Microbiology

FEMS Microbiology Letters

Infection and Immunity

Journal of Bacteriology

Journal of Hematology

Journal of Medical Microbiology

Journal of Microbiological Methods

JoVE

mBio

Microbiology

Microbial Pathogenesis

Molecular Microbiology

PLoS Genetics

PLoS One

PLoS Pathogens

PNAS

Scandinavian Journal of Immunology

Veterinary Microbiology

Zebrafish

## National and international boards/committees

### Study Sections

Ad Hoc NIH/BM-1	November 2002
Ad Hoc NIH/BM-2	March 2003
Ad Hoc NIH/BM-2	October 2003
Ad Hoc NIH/IDM-N	March 2004
Ad Hoc NIH/IDM-A	June 2004
Ad Hoc NSF	November 2004
Ad Hoc NIH/IDM	February 2005
Ad Hoc NIH/IDM-F32	March 2005
Ad Hoc NIH/IDM-H	March 2005
Ad Hoc NIH/NIDDK	August 2005
Ad Hoc NIH/IDM	October 2005
Ad Hoc NIH/IDM	March 2006
Ad Hoc NIH/IDM	February 2007
Ad Hoc NIH/NIGMS-ZMG1	July 2009
Ad Hoc NIH/IDM-A	March 2010
Ad Hoc NIH/IDM-A	October 2010
Ad Hoc VA/INFB F11	December 2011
Ad Hoc VA/INFB F11	November 2012
ANR (Agence Nationale de la Recherche, France)	May 2015
OCAST (Oklahoma Center for the Advancement of Science and Technology)	May 2016

- Reviewer for BARD proposal (United States - Israel Binational Agricultural Research & Development Fund), December, 2005
- Reviewer for a Science and Technology Center in Ukraine (STCU) proposal funded by the Science Center programs of the U.S. Department of State, with the primary objective of providing peaceful, non-weapons opportunities to weapons scientists in the Newly Independent States of the former Soviet Union (FSU) January, 2006
- Reviewer for an NIH/NCRR R24 proposal on Zebrafish Resources, November 2007.
- Reviewer for an NIH/NCRR R24 proposal on Zebrafish Resources, June, 2008.
- Reviewer for a Marsden Fund proposal for researchers in New Zealand, July, 2008.
- NIGMS Conference on Dynamics of Host-Associated Microbial Communities – workshop to recommend funding initiatives to NIGMS- Resulted in a White paper - “Community Dynamics Conference Report 01-30-09” National Institutes of Health, Bethesda, MD 11/08
- Reviewer for the Jeffress Memorial Trust Scientific Research Grant, October, 2011
- Reviewer for the Wellcome Trust, Sir Henry Dale Fellowship March 2012
- Chief Scientist Office, Scottish Government, January 2013

### Other Service:

- a. Michigan Branch of the American Society for Microbiology  
Served on the planning committee for the Spring 2007 meeting on Bioterrorism
- b. Board Member of The Corner Health Center, Ypsilanti, MI. Non-profit health center for Teens, 2007 to 2011
- c. Planning committee for International Conference on Gram-Positive Pathogens, 2008 to present

- d. Co-Chair of the International Conference on Gram-Positive Pathogens, October 2016
- e. Planning committee for the North Atlantic Zebrafish Research Symposium to be held June 2017

## TEACHING:

1. Years at Wayne State: 14

2. Courses taught at Wayne State

- a. Graduate: IM7520 Bacterial Pathogenesis  
IM7450 Trends in Microbiology- Microbial Predators (Course director)  
IM7050 Microbiology of Bioterrorism (Course director)  
IM7040 Fundamentals of Research  
IM7060 Laboratory Research
- b. Medical Students: MS Year II Immunology and Microbiology lectures & lab
- c. Faculty: Bio101 Lecture course taught to engineering faculty and Post-docs  
RNA, DNA, and Proteins Fall 2007, Fall 2008,  
Microbiology of Bioterrorism, Winter 2008, Winter 2009

3. Essays/Theses/Dissertations directed:

Jesse D. Miller	Ph.D. 2005	“Large scale screen highlights the importance of capsule for the zoonotic pathogen, <i>Streptococcus iniae</i> ”
Hilary A. Phelps	Ph.D. 2006	“ <i>Streptococcus pyogenes</i> proteins required for host-pathogen interactions.”
Beth A. Lowe	Ph.D. 2007	“ <i>Streptococcus iniae</i> exploits the host environment during systemic infection”
Anne Kizy	Ph.D. 2008	“Trolling for <i>Streptococcus pyogenes</i> virulence genes using a zebrafish host model”
Phanramphoei Namprachan-Franz	Ph.D. 2011	“Identification of the role of the <i>sal</i> locus in <i>Streptococcus pyogenes</i> virulence during host-pathogen interactions”
Jonathan Allen	Ph.D. 2011	“Pleiotropic regulatory function of the LysR family transcriptional regulator CpsY during <i>Streptococcus iniae</i> systemic infection”
Brett Hanson	Ph.D. 2011	“Analysis of the streptococcal CpsA protein in DNA-binding and regulation of capsule and cell wall maintenance”
Hannah Rowe	Ph.D. 2014	“Cell envelope modifications by LCP family of proteins of Group B Streptococcus”
Ashley Anderson	Ph.D. 2012 - 2015	

### Undergraduate Researchers

Janice Speshok	Undergraduate SURE, summer research program – 2001
Kristie Zellen	Undergraduate SURE, summer research program – 2003
Brian C. Queen	Undergraduate Honors Thesis -2006 “The role of enolase in <i>Streptococcus iniae</i> infection”
Michelle Mohyi	Undergraduate Honors Thesis – 2007 “Effect of stress on infectious disease susceptibility”
Milad Eshaq	Undergraduate Research Project – 2007 “Analysis of <i>S. agalactiae</i> systemic infections in Zebrafish”

Chris Elkins	Undergraduate Research Project – 2007 “ Role of CpsY in dissemination to the brain”
Sonya Kiryakoza	Undergraduate Research Project – 2007 “ Role of CpsY in dissemination to the brain” (2 students worked as a team)
Peter Onyskiu	Undergraduate Honors Thesis – 2008-2009 "Nanocarriers for Drug Delivery to the Brain."(in collaboration with Dr. Sandro Da Rocha in Chemical Engineering)
Jeff Rybak	Undergraduate SURE, summer research program – 2009
Emily Schwessinger	Undergraduate SURE, summer research program – 2010
Thomas W. Carion	Undergraduate Kalamazoo College- Senior thesis – 2011
Cindy Morris	Undergraduate Henry Ford Community College, Biotechnology Internship –2011
Abhin Kumar	Undergraduate Research Project – Wayne State University-2010-2011
Aamna A. Hafeez	Undergraduate Research Project – Wayne State University-2012
Timothy Burger	Undergraduate Henry Ford Community College, Biotechnology Internship –2012
Arta Duda	Undergraduate Research Project – Wayne State University, 2013
Stela Terezius	Undergraduate Research Project – Wayne State University, 2013
Mouhamadou Seydi	Undergraduate Henry Ford Community College, Biotechnology Internship –2013
Quynh Keiu	Undergraduate Henry Ford Community College, Biotechnology Internship - 2015
Markiesha Baines	Undergraduate intern, IMSD program – WSU SOM -2013-2015
Connor Olzem	Undergraduate SURE, summer research program - 2015

#### **MD or MD/PhD student researchers**

Cale Streeter	Summer MD/PhD research rotation - 2011
Andrew Fritz	1 <sup>st</sup> year MD student summer research fellowship – 2013
Anthony Findley	Summer MD/PhD reseach rotation - 2015

#### **MS student researchers**

Matthew Johnson	MS research rotation - 2011
Sarah Bajer	MS summer student research – 2013 – present
Paula Dietz	MS research rotation – 2013

#### **Masters in Basic Medical Science Students (BMS degree)**

Michael Weindorf	Spring 2012
Mary Meram	Spring 2011
Awara Kokoiy	Spring 2011
Ralph Simillien	Spring 2009

#### **MD Fellow researchers**

Ramesh Bharadwaj MD	2008
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#### **Thesis committee member:**

Lin Lui, Dept of Immunology & Microbiology, Ph.D. 2001.
Lynne Shetron-Rama, Dept. of Immunology & Microbiology, Ph.D. 2001
George Roberts, Dept. of Immunology & Microbiology, Ph.D. 2005

Quinn Parks, Dept of Immunology & Microbiology, Ph.D. 2005  
Janice Speshock, Dept of Immunology & Microbiology, Ph.D. 2007  
Katherine T. Young, Microbiology & Immunology Dept, Univ. of Michigan, Ph.D 2008  
Melphine Harriot, Dept of Immunology & Microbiology, Ph.D. 2009  
Basel Abuaita, Dept of Immunology & Microbiology, Ph.D. 2010  
Marta Bober, Dept of Clinical Sciences, Lund University, Lund Sweden, 2011  
Jennifer Dittmer, Dept of Immunology & Microbiology, Ph.D 2013  
Sarah Pleca, Dept of Immunology & Microbiology, Ph.D. 2014  
Joshua Thomson, Dept of Immunology & Microbiology, Ph.D. 2014  
Paula Dietz, Dept of Immunology & Microbiology, M.S. 2015  
Kristie Mitchell, Dept of Immunology & Microbiology, in progress

**4. Course or curriculum development:**

**Trends in Microbiology:** Microbial Predators  
Microbiology of Bioterrorism  
RNA, DNA, and Proteins

**Development of courses and curriculum for the department of Immunology & Microbiology Masters program in 2011:**

IM7040 Fundamentals of Research  
IM7060 Laboratory Research

**Teaching at Texas Woman's University (October 2015 to October 2016)**

**Essays/Theses/Dissertations directed:**

Danielle Steffey, Department of Biology, MS, in progress

**Undergraduate Researchers**

Joshua Henderson, "Mutation of the LCP domain of the *Streptococcus agalactiae* CpsA protein and the effects on protein function." Summer 2016

Theresa Meier, "Analysis of the Immune response to antimicrobial peptides during infection using the Zebrafish infectious disease model." Summer 2016

**Thesis committee member**

Bhoomi Madhu, Department of Biology, Ph.D., in progress

**GRANTS, CONTRACTS AND OTHER FUNDING:**

**Pending National/International Grants and Contracts**

R15 AI130952-01                      Neely (PI)                      4/1/17 – 3/31/20  
NIH/NIAID  
Functional characterization of the GBS CpsA protein in capsule production and cell wall integrity.

**Previously funded Grants and Contracts:**

Seed Funding                      Taub (PI)                      11/01/10 – 12/31/15  
Environmental exposures/toxicants involved in the initiation of childhood acute lymphoblastic leukemia (ALL)  
Children's Hospital, Detroit Medical Center  
Role: Co-Investigator

Total funds: \$100,000

Biomedcore Inc, Windsore, CA Parajuli (PI) 01/01/13 – 12/31/14  
Zebrafish tumor-transplant models for studying anti-tumor drug response and tumor-immune interaction  
Total funds: \$3,250

Dr. Louis Serafin, MD Neely (PI) 06/01/13 – 12/31/14  
Biofilm formation on prosthetic joint materials  
Total funds: \$ 4,170

R21 Withey (PI) 07/01/11 – 6/30/13  
NIH/NIAID  
Zebrafish as a natural host model for *Vibrio cholerae*  
Role: Co-Investigator  
Total funds: \$275,000  
1 year no-cost extension

President's Research Enhancement Program Zhang (PI) 05/01/12 – 12/31/14  
Sustainable Water Management and Water Technology  
Development of a Novel Biosensor for the Detection of Human Pathogenic Bacteria in Water  
Role: Co-Investigator  
Total funds: \$110,000

R21 AI078147 Neely (PI) 1/1/09 – 12/31/10  
NIH/NIAID  
Analysis of the virulence mechanism of a lantibiotic locus.  
Total direct costs: \$275,000

R21 AI078147-01A1S1 Neely (PI) 7/14/09 – 10/31/09  
NIH/NIAID  
Analysis of the virulence mechanism of a lantibiotic locus.  
Recovery Act Administrative Supplements Providing Summer Research Experiences for Students and Science Educators.  
Total direct costs: \$7,468

R01A1057877-02 Eichenbaum (PI) 5/01/04-4/30/09  
NIH/NIAID  
Iron Acquisition from host proteins in *Streptococcus pyogenes*  
Neely is a Co-Investigator on this grant (10% effort)

R01 AI052141-01A1 Neely (PI) 2/15/03 – 1/31/08\*  
NIH/NIAID  
Streptococcal-Zebrafish Model of Bacterial Pathogenesis  
\*One-year no-cost extension  
Total direct costs: \$700,000

R01 AI052141-04S1 Neely (PI) 6/01/06 – 1/31/08  
NIH/NIAID



Streptococcal-Zebrafish Model of Bacterial Pathogenesis  
Research Supplements to Promote Diversity in Health-Related Research Program  
Total direct costs: \$25,649

AHA 0355376B Eichenbaum (PI) 7/1/03-6/30/05  
American Heart Association, Grant in Aid  
Molecular Genetics of iron acquisition and regulation in *Streptococcus pyogenes*  
Neely is a Collaborator on this grant (10% effort)

R21 AI054834 Roberts (PI) 9/29/03 – 09/28/05  
NIH  
Filamentous Influenza Virus and Microbial Colonization  
Role: Co-Investigator (5%)  
Total direct costs: \$453,000

R21 AI52141-01 Neely (PI) 9/15/02 – 9/14/03  
NIH/NIAID Bridge Award  
Streptococcal-Zebrafish Model of Bacterial Pathogenesis  
Total direct costs: \$175,000

American Heart Association Neely (PI) 7/01/02 – 6/30/06  
National Center Research Program  
Scientist Development Grant  
Analysis of streptococcal pathogenesis utilizing a zebrafish animal model.  
Total direct costs: \$260,000

## **PUBLICATIONS:**

### **1. Refereed journals:**

**\* indicates graduate or undergraduate researcher in my lab**

**M. N. Neely.** The zebrafish as a model for human bacterial infections. *Methods Mol Biol.* 1535:245-266. 2017

Edwards, H., M. Rubenstein, A.A. Dombkowski, J.T. Caldwell, R. Chu, A.C. Xavier, R. Thummel, **M. Neely**, L.H. Matherly, Y. Ge, and J.W. Taub. Gene signature of high white blood cells count in B-precursor acute lymphoblastic leukemia. *PLoS One.* 11(8):1-9. 2016.

Rowe, H.M.\* , B.R. Hanson\*, D.L. Runft, Q. Lin, S.M. Firestone and **M.N. Neely.** Modification of the CpsA protein reveals a role in alteration of the *Streptococcus agalactiae* cell envelope. *Infection & Immunity.* 83(4):1497-1506. 2015.

\*Rowe, H.M., J. H. Withey and **M. N. Neely.** Zebrafish as a model for aquatic zoonotic pathogens. *Developmental and Comparative Immunology.* 46(1):96-107. 2014

\*Runft, D.L., K.C. Mitchell, B.H. Abuaita, \*J.P. Allen, \*S. Bajer, K. Ginsburg, **M.N. Neely** and J.H. Withey. Zebrafish as a natural host model for *Vibrio cholerae* colonization and transmission. *Applied and Environmental Microbiology.* 80(5):1710-1717. 2014.

\*Namprachan-Frantz, P., \*H.M. Rowe, \*D.L. Runft and **M.N. Neely**, Transcriptional analysis of the *Streptococcus pyogenes* salivaricin locus. *Journal of Bacteriology* 196(3):604-613. 2014.

Wang, N.-Y., K. A. Patras, H. S. Seo, C. K. Cavaco, B. Rösler, **M. N. Neely**, P. M. Sullam, K. S. Doran. Group B streptococcal serine-rich repeat proteins promote interaction with fibrinogen and vaginal colonization. *Journal of Infectious Diseases*. 210(6):982-991. 2014

Kortum, A.N., I. Rodriguez-Nunez, J. Yang, J. Shim, \*D. Runft, M.L. O’Driscoll, R.N. Haire, J.P. Cannon, P.M. Turner, R.T. Litman, C.H. Kim, **M.N. Neely**, G.W. Litman and J. A. Yoder. Differential expression and ligand binding indicate alternative functions for zebrafish polymeric immunoglobulin receptor (plgR) and a family of plgR-like (PIGRL) proteins. *Immunogenetics*. 66(4):267-279. 2014.

Harvie, A.E., **M.N. Neely** and A. Huttenlocher. Innate Immune response to *Streptococcus iniae* infection in zebrafish. *Infection & Immunity*. 81(1):110-121. 2013.

\*Allen, J.P. and **M.N. Neely**. CpsY-dependent protection from neutrophil-mediated killing involves modification and stabilization of the *Streptococcus iniae* cell wall. *Infection & Immunity*, 80(5):1707-1715. 2012.

\*\*This paper was selected by the Editors as a “Spotlight” article for the May 2012 edition of *Infection and Immunity*.\*\*

\*Hanson, B.R. and **M.N. Neely**. Coordinate regulation of Gram-positive cell surface components. *Current Opinion in Microbiology*, 15:204-210. 2012.

\*Hanson, B.R., D.L. Runft, \*C. Streeter, \*A. Kumar, \*T.W. Carion and **M. N. Neely**. Functional analysis of the CpsA protein of *Streptococcus agalactiae*. *Journal of Bacteriology*, 194(7):1668-1678. 2012.

\*Allen, J.P. and **M. N. Neely**. The *Streptococcus iniae* transcriptional regulator CpsY is required for protection from neutrophil-mediated killing and proper growth in vitro. *Infection & Immunity*, 79:4638-48. 2011.

Dmitriev A., S.S. Mohapatra, P. Chong, M. Neely, S. Biswas, I. Biswas. CovR-controlled global regulation of gene expression in *Streptococcus mutans*. *PLoS One*. 6(5):e20127. 2011.

\*Hanson, B. R.,\*B. A. Lowe, **M.N. Neely**. Membrane topology and DNA-binding ability of the Streptococcal CpsA protein. *Journal of Bacteriology*. 193:411-420. 2011.

\*Allen, J.P. and **M.N. Neely**. Trolling for the ideal model host: Zebrafish take the bait. *Future Microbiology*, 5(4):563-569. 2010.

\*Phelps, H.A., D.R. Runft and **M.N. Neely**. Adult Zebrafish model of streptococcal infection. *Current Protocols in Microbiology*, Chapter 9: Unit 9D.1. 2009.

Kappeler K.V., S. Anbalagan, A.L. Dmitriev, E.J. McDowell, **M.N. Neely** and M. S. Chaussee. A naturally occurring Rgg variant in serotype M3 *Streptococcus pyogenes* does not activate *speB* expression due to altered specificity of DNA binding. *Infection and Immunity*. 77:5411-5417. 2009.

\*Kizy A. E. and **M. N. Neely**. First *Streptococcus pyogenes* Signature-Tagged Mutagenesis Screen Identifies Novel Virulence Determinants. *Infection and Immunity*. 77:1854-1865. 2009.

\*\*This paper was featured in the Current Topics Section of the June 2009 issue of *Microbe*, an American Society for Microbiology (ASM) publication.

\*Phelps, H.A., **M.N. Neely**. SalY of *S. pyogenes* lantibiotic locus is required for full virulence and intracellular survival in macrophages. *Infection and Immunity*. 75:4541-4551. 2007.

\*\*This paper was selected by the Editors as a "Spotlight" article for the September 2007 edition of *Infection and Immunity*.\*\*

\*Speshock, J.L., N. Doyon-Reale, R. Rabah, **M.N. Neely** and P.C. Roberts. Filamentous influenza A virus infection predisposes mice to fatal septicemia following superinfection with *Streptococcus pneumoniae* (serotype 3). *Infection and Immunity*. 75:3102-3111. 2007.

\*Lowe, B.A., \*J.D. Miller, and **M.N. Neely**. Analysis of the polysaccharide capsule of the systemic pathogen, *Streptococcus iniae* and its implications in virulence. *Infection and Immunity*. 75:1255-1264. 2007.

Locke, J.B., K.M. Colvin, A.K. Datta, S.K. Patel, N.N. Naidu, **M.N. Neely**, V. Nizet and J.T. Buchanan. *Streptococcus iniae* capsule impairs phagocytic clearance and contributes to virulence in fish. *Journal of Bacteriology*. 189:1279-1287. 2007.

Montanez, G.E., **M.N. Neely** and Z. Eichenbaum. The streptococcal iron uptake (Siu) transporter is required for iron uptake and virulence in a zebrafish infection model. *Microbiology*. 151:3749-3757. 2005.

Bates, C.S., C. Toukoki, **M.N. Neely**, Z. Eichenbaum. Characterization of MtsR a new metal regulator in group A streptococcus involved in iron acquisition and virulence. *Infection and Immunity*, 73:5743-53. 2005.

\*Miller, J.D, and **M. N. Neely**. Large-scale screen highlights the importance of capsule in virulence for the zoonotic pathogen *Streptococcus iniae*. *Infection and Immunity*, 73:921-934, 2005.

\*Phelps, H.A. and **M.N. Neely**. Evolution of the Zebrafish model: From development to immunity and infectious disease. *Zebrafish*. 2:87-103. 2005.

\*Miller, J.D, and **M. N. Neely**. Zebrafish as a model host for streptococcal pathogenesis. *Acta Tropica*, 91:53-68, 2004.

**Neely, M.N.** and D.I. Friedman. Analyzing Transcription Antitermination in Lambdoid Phages Encoding Toxin Genes. *Methods in Enzymology* 371:418-438, 2003.

**\*\*Neely, M.N.,** W. R. Lyon, D.L. Runft and M. Caparon. The role of RopB in temporal expression of the SpeB cysteine protease of *Streptococcus pyogenes*. Journal of Bacteriology 185:5166-5174, 2003.

**\*\*M.N. Neely** was corresponding author on this paper.

**Neely, M.N.,** Pfeifer, J.D. and M. Caparon. A Streptococcal-Zebrafish model of bacterial pathogenesis. Infection and Immunity 70:3904-14, 2002.

Wagner, P.L., J. Livny, **M.N. Neely,** D.W.K. Acheson, D.I. Friedman and M.K. Waldor. Bacteriophage control of Shiga toxin 1 production and release by *Escherichia coli*. Molecular Microbiology 44:957-970, 2002.

\*Wagner, P.L., **M.N. Neely,** X. Zhang, D.W. Acheson, M.K. Waldor, D. I. Friedman. Role for a phage promoter in Shiga toxin 2 expression from a pathogenic *Escherichia coli* strain. Journal of Bacteriology 183:2081-2085. 2001.

\* The first two authors contributed equally to this manuscript\*

\*\* This paper was granted the Nestle Award for the Best Journal of Bacteriology paper on Bacteriophage Biology in 2001.\*\*

**Neely, M. N.** and D. I. Friedman. N-mediated Transcription Antitermination in Lambdoid Phage H-19B is Characterized by Alternative NUT RNA Structures and a Reduced Requirement for Host Factors. Molecular Microbiology 38:1074-85, 2000.

Riley, M. A., L. Cadavid, M. S. Collet, **M. N. Neely,** M. D. Adams, C. M. Phillips, J. V. Neel, and D. I. Friedman. The newly characterized colicin Y provides evidence of positive selection in pore former colicin diversification. Microbiology 146:1671-7, 2000.

**Neely, M. N.** and D. I. Friedman. Arrangement and functional identification of genes in the regulatory region of lambdoid phage H-19B, a carrier of a Shiga-like Toxin. Gene 223:105-113, 1998.

**Neely, M. N.** and D. I. Friedman. Functional and genetic analysis of regulatory regions of coliphage H-19B: Location of Shiga-like Toxin and lysis genes suggests a role for phage functions in toxin release. Molecular Microbiology 28:1255-1267, 1998.

Champion, G. A., **M. N. Neely,** M. A. Brennan and V. J. DiRita. A branch in the ToxR regulatory cascade of *Vibrio cholerae* revealed by characterization of *toxT* mutant strains. Molecular Microbiology 23:323-331, 1997.

DiRita, V. J., **M. N. Neely,** R. K. Taylor and P. M. Bruss. Differential expression of the ToxR regulon in classical and El Tor biotypes of *Vibrio cholerae* is due to biotype specific control over *toxT* expression. Proceedings of the National Academy of Sciences USA 93: 7991-7995, 1996.

**Neely, M. N.** and E. R. Olson. Kinetics of expression of the *Escherichia coli cad* operon as a function of pH and lysine. Journal of Bacteriology 178:5522-5528, 1996.

Dell, C. L., **M. N. Neely** and E. R. Olson. Altered pH and lysine signaling mutants of *cadC*, a gene encoding a membrane-bound transcriptional activator of the *Escherichia coli cadBA* operon. Molecular Microbiology 14:7-16, 1994.

**Neely, M. N.,** C. L. Dell, and E. R. Olson. Roles of LysP and CadC in mediating the lysine requirement for acid induction of the *Escherichia coli cad* operon.

Journal of Bacteriology **176**:3278-3285, 1994.

### **Book Chapters**

M. E. Watson, Jr., **M. N. Neely** and M. G. Caparon. Animal Models. *Streptococcus pyogenes*: Basic Biology to Clinical Manifestations, Edited by Joseph J. Ferretti, Dennis L. Stevens, and Vincent A. Fischetti. *Streptococcus pyogenes*: Basic Biology to Clinical Manifestations. Oklahoma City (OK): University of Oklahoma Health Sciences Center. 2016.

### **CONFERENCE ABSTRACTS IN LAST 5 YEARS:**

- 09/14 Midwest Microbial Pathogenesis Meeting, Chicago, IL
- 09/13 Midwest Microbial Pathogenesis Meeting, Columbus, OH
- 09/12 Midwest Microbial Pathogenesis Meeting, Milwaukee, WI
- 06/12 10<sup>th</sup> International Conference Zebrafish Development and Genetics, Madison, WI
- 10/11 18<sup>th</sup> Annual Midwest Microbial Pathogenesis Meeting, Ann Arbor, MI
- 09/11 Microbial Pathogenesis and Host Response Meeting IX, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY
- 10/10 Gram-Positive Pathogens meeting, Omaha, NE
- 09/10 17<sup>th</sup> Annual Midwest Microbial Pathogenesis Meeting, St. Louis, MO
- 10/09 16<sup>th</sup> Annual Midwest Microbial Pathogenesis Meeting, West Lafayette, Indiana
- 09/09 Microbial Pathogenesis and Host Response Meeting VIII, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY
- 06/09 5<sup>th</sup> International Conference on Gram-Positive Microorganisms, San Diego, CA
- 05/09 109<sup>th</sup> General Meeting of the American Society for Microbiology, Philadelphia, PA

### **PRESENTATIONS**

#### **1. Invited and/or refereed international or national meetings**

- 06/09 Invited speaker, 5<sup>th</sup> International Conference on Gram-Positive Microorganisms, San Diego, CA
- 05/09 Session Chair and Invited speaker, 109<sup>th</sup> General Meeting of the American Society for Microbiology, Philadelphia, PA
- 10/08 Invited speaker, Gram-positive pathogens meeting, Omaha, NE
- 01/08 Invited speaker, Aquatic Animal Models for Human Disease, Durham, NC
- 09/07 Invited speaker, Microbial Pathogenesis and Host Response Meeting VII, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY
- 07/07 Invited speaker, Model Systems for Infectious Disease and Cancer in Zebrafish, Lorentz Center, International Center for Workshops in the Sciences, Leiden, Netherlands.
- 10/06 Poster presentation, National Conference on Gram-Positive Pathogens, Omaha, NE
- 07/06 Poster presentation, Gordon Research Conference, Microbial Toxins & Pathogenicity, Andover, NH
- 10/05 Invited speaker. Aquatic Animal Models of Human Disease Conference, University of Georgia, Athens, GA.
- 09/05 Poster presentation, Microbial Pathogenesis and Host Response Meeting V, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY
- 07/04 Poster presentation, FASEB - Microbial Pathogenesis: Mechanisms of Infectious Disease, Snowmass, CO
- 10/03 Invited speaker. Aquatic Animal Models of Human Disease Conference, ATCC, Manassas, VA “Zebrafish as a model host for the study of streptococcal infection”.

- 09/03 Poster presentation, Microbial Pathogenesis and Host Response, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY
- 04/03 Invited speaker. New and Re-Emerging Infectious Diseases 6<sup>th</sup> Annual Conference, University of Illinois at Urbana-Champaign, Champaign, IL. "Fishing for virulence genes: Zebrafish as a model host for streptococcal pathogenesis".
- 09/02 Invited speaker, "Virulence mechanisms in a Streptococcus-Zebrafish model of pathogenesis", FASEB conference, Snowmass, CO
- 04/02 Poster presentation, 6th Conference on Streptococcal Genetics, Asheville, NC
- 10/01 Invited speaker, "A Streptococcal-zebrafish model of Bacterial pathogenesis" Microbial Pathogenesis and Host Response Meeting, Cold Spring Harbor, NY
- 10/01 Invited speaker and session leader. "Evolution of Microbial pathogenesis", Microbial Pathogenesis and Host Response Meeting, Cold Spring Harbor, NY

**2. Invited and/or refereed local/regional meetings:**

- 10/15 Michigan Branch of the American Society for Microbiology, Ann Arbor, MI
- 06/14 North Atlantic Zebrafish Research Symposium, Orono, ME
- 04/14 Texas Branch of the American Society for Microbiology, New Braunfels, TX
- 10/11 18<sup>th</sup> Annual Midwest Microbial Pathogenesis Meeting, Ann Arbor, MI
- 09/08 15<sup>th</sup> Annual Midwest Microbial Pathogenesis Meeting, Madison, WI
- 10/06 13<sup>th</sup> Annual Midwest Microbial Pathogenesis Meeting, Cincinnati, OH
- 10/05 12<sup>th</sup> Annual Midwest Microbial Pathogenesis Meeting, Minneapolis, MN
- 09/04 11<sup>th</sup> Annual Midwest Microbial Pathogenesis Meeting, Lansing, MI
- 10/03 10<sup>th</sup> Annual Midwest Microbial Pathogenesis Meeting, Iowa City, IA

**3. Invited seminars or lectures presented in last five years:**

- 12/16 Invited Speaker, Dept of Molecular and Biomedical Sciences, Orono, ME
- 10/15 Invited Speaker, Dept. of Biology, Texas Woman's University, Denton, TX
- 02/15 Invited Speaker, Dept of Molecular Microbiology, Michigan State University, Lansing, MI
- 05/15 Invited Speaker, Dept of Chemistry, Texas Woman's University, Denton, TX
- 02/14 Invited Speaker, Dept of Molecular Microbiology, UT-Southwestern, Dallas, TX
- 05/12 Invited Speaker, Dept of Biology, University of Texas-Arlington, Arlington, TX
- 01/12 Invited Speaker, Dept of Biology, University of North Texas, Denton, TX
- 11/11 Invited Speaker, Division of Infection Medicine, Lund University, Lund, Sweden
- 04/11 Invited Speaker, Dept of Biological Sciences, Texas Woman's University, Denton, TX
- 11/10 Invited Speaker, Dept of Microbiology and Dept of Infectious Diseases, University of Georgia, Athens, GA
- 10/10 Invited Speaker, Dept of Microbiology, Immunology and Cell Biology, West Virginia University, Morgantown, WV
- 02/10 Invited Speaker, Applied Medical Research Program, Grosse Pointe North High School, Gross Pointe, MI
- 02/10 Invited Speaker, Dept of Pharmacology, Wayne State University School of Medicine, Detroit, MI
- 01/10 Invited Speaker, Dept of Microbiology and Immunology, University of Illinois-Chicago, Chicago, IL
- 04/09 Invited Speaker, Dept of Microbiology and Immunology, Oklahoma University Health Sciences Center, Oklahoma City, OK
- 03/09 Invited Speaker, Dept of Biology, Western Michigan University, Kalamazoo, MI
- 02/09 Invited Speaker, Dept of Pharmacology, College of Pharmacy, University of Toledo, Toledo, OH