

Emerson Crabill, Ph.D.

Contact Information

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Education

Ph.D. Biology, University of Nebraska-Lincoln, 2012
B.A. Biology, University of Kansas, 2004

Employment

2019-Present	Assistant Professor Department of Biology Angelo State University San Angelo, TX
2012-2019	Associate Research Scientist Mentor: Craig R. Roy, Ph.D. Department of Microbial Pathogenesis Yale School of Medicine New Haven, CT
2006-2012	Graduate Research Assistant Adviser: James R. Alfano, Ph.D. School of Biological Sciences University of Nebraska Lincoln, NE

Teaching experience

Spring 2021	Pathogenic Microbiology, lecture and 2 labs Microbiology for Non-Science Majors lecture and lab coordinator
Winter 2020	Genetics, on-line
Fall 2020	General Microbiology, lecture and 4 lab sections Microbiology for Non-Science Majors lecture and lab coordinator
Summer 2020	Genetics, Angelo State University, On-line course

Spring 2020 Pathogenic Microbiology, Angelo State University
Lecture course and two lab sections

Genetics, Angelo State University
Lecture course

Principles of Biology I, Angelo State University
Lab course

Fall 2019 General Microbiology, Angelo State University
Lecture course and two lab sections

Principles of Biology II Laboratory, Angelo State
University, two lab sections

2008-2009 Botany Lab, University of Nebraska-Lincoln
Taught multiple lab sections including background
lectures and laboratory experiments

Grants and Fellowships

2020-2021 Faculty Research Enhancement Program (FREP),
\$15,000
Angelo State University

2014-2016 National Research Service Award, National Institute
of General Medical Sciences, Award Number
1F32GM108411-01A1
Yale School of Medicine

2006-2007 Life Sciences Interdisciplinary Graduate Recruitment
Program Research Assistantship Award,
University of Nebraska-Lincoln

Research Mentoring

Spring 2021-Spring 2022 Mentored the year and a half long research project of
Sharin Salam on EmcA. Funded by office of
sponsored projects all three semesters.

Spring 2021 Mentored the research project of Calvin Benningfield
on Cbu513

2020-2021	Mentored the year-long research project of Marissa Brezgiel on EmcA. Funded by office of sponsored projects
2019-2020	Oversaw three undergraduate student research projects. Cut short by Covid19 pandemic.
Summer 2019	Mentor to undergraduate researcher Directed research on bacterial cloning and protein purification
Dec. 2018-March 2019	Mentor to graduate student during lab rotation Directed research on mutagenesis and protein purification
Summer 2018	Mentor to visiting graduate student Directed research on mutagenesis and bacterial cloning
Feb.-March 2018	Mentor to graduate student during lab rotation Directed research on bacterial infections and mutagenesis
Dec. 2015-March 2016	Mentor to graduate student during lab rotation Directed research on a screen of bacterial mutant library for immune suppression
June 2011-August 2012	Mentor to undergraduate student Directed research on plant transformation with bacterial genes
Jan. – June 2011	Mentor to graduate student Directed research on targeted bacterial mutagenesis
Aug. – Dec. 2010	Mentor to undergraduate student Directed research on bacterial infections of plants
Jan. – June 2010	Mentor to undergraduate student Directed research on bacterial in vitro secretion experiments
Summer 2009	Mentor to a high school teacher

Introduced molecular biology techniques and suggested experiments to local high school microbiology teacher to be used in his classes

Community Service

- 2020 Institutional Biosafety Committee (IBC) review of human gene transfer clinical trials for Clinical Biosafety Services
- 2020 As part of the urgent national effort for COVID-19 vaccine development accepted appointment as a Primary Local Member of the Institutional Biosafety Committee (IBC) for Benchmark Research - San Angelo
- April 2010 and 2011 Served as chair of the Biological and Medical Sciences session for the Nebraska Academy of Sciences Annual Meeting
- March 2011 Instructed high school students on how to carry out basic laboratory experiments

University Service

- 2021 Served on the Graduate Advisory Committee for Amelia Daniels
- 2020-Present Served on Angelo State University BioSafety committee

Professional Societies

- 2013-Present Member of the American Society for Rickettsiology
- 2012-Present Member of the American Society for Microbiology
- 2011-2012 Member of the Missouri Valley Branch of American Society for Microbiology
- 2008-2009 Member of the American Phytopathological Society
- 2007-2012 Member of the International Society for Molecular Plant-Microbe Interactions

Editorial Review

2020 Textbook Review for Norman-McKay L. *Microbiology : Basic and Clinical Principles*. New York, NY: Pearson; 2019.

2011 Served as a peer reviewer for Molecular Plant-Microbe Interactions

Meetings Attended

Feb 28 and 29, 2020 Texas Academy of Science Meeting, Stephen F. Austin State University in Nacogdoches, TX

July 7-13, 2018 Microbial Toxins and Pathogenicity Gordon Research Conference and Seminar, Waterville Valley in Waterville Valley, NH

June 20-23, 2015 27th Meeting of the American Society for Rickettsiology, Olympic Valley, CA

June 15-18, 2013 26th Meeting of the American Society of Rickettsiology, Portland, ME

March 24-25, 2012 2012 Midwestern Section Annual Meeting of the American Society of Plant Biologists, Lincoln, NE

September 13-17, 2011 Microbial Pathogenesis & Host Response Meeting at Cold Spring Harbor Laboratory, Cold Spring Harbor, NY

March 19-20, 2011 2011 Midwestern Section Annual Meeting of the American Society of Plant Biologists, West-Lafayette, IN

July 19-23, 2009 XIV International Congress on Molecular Plant-Microbe Interaction, Quebec City, Canada

July 26-30, 2008 2008 American Phytopathological Society Centennial Meeting, Minneapolis, MN

July 21-27, 2007 XIII International Congress on Molecular Plant-Microbe Interaction, Sorrento, Italy

Research Articles

Crabill E, Schofield WB, Newton HJ, Goodman AL, Roy CR. 2018. Dot/Icm-translocated proteins important for biogenesis of the *Coxiella burnetii*-containing vacuole identified by screening of an effector mutant sub-library. *Infect Immun* doi:10.1128/IAI.00758-17.

Newton, H. J., L. J. Kohler, J. A. McDonough, M. Temoche-Diaz, E. Crabill, E. L. Hartland & C. R. Roy. 2014. A Screen of *Coxiella burnetii* Mutants Reveals Important Roles for Dot/Icm Effectors and Host Autophagy in Vacuole Biogenesis. *PLoS Pathog* 10: e1004286.

Misas-Villamil, J.C., I. Kolodziejek, E. Crabill, F. Kaschani, S. Niessen, T. Shindo, M. Kaiser, J. R. Alfano, R. A. L. van der Hoorn. 2013. *Pseudomonas syringae* pv. *syringae* Uses Proteasome Inhibitor Syringolin A to Colonize from Wound Infection Sites. *PLoS Pathog*. 9: e1003281.

Crabill, E., A. Karpisek, and J.R. Alfano. 2012. The *Pseudomonas syringae* HrpJ protein controls the secretion of type III translocator proteins and has a virulence role inside plant cells. *Mol. Microbiol.* 85: 225-238.

Crabill, E., A. Joe, A. Block, J.M. van Rooyen and J.R. Alfano. 2010. Plant immunity directly or indirectly restricts the injection of type III effectors by the *Pseudomonas syringae* type III secretion system. *Plant Physiol.* 154: 233-244.

Wei, C.-F., B.H. Kvitko, R. Shimizu, E. Crabill, J.R. Alfano, N.-C. Lin, G.B. Martin, H.-C. Huang, A. Collmer. 2007. A *Pseudomonas syringae* pv. *tomato* DC3000 mutant lacking the type III effector HopQ1-1 is able to cause disease in the model plant *Nicotiana benthamiana*. *Plant J.* 51: 32-46.