

## ***CURRICULUM VITAE***

**NAME:** Jeremy R. Bechelli

**DATE:** 6/01/2018

### **EDUCATION:**

- 08/2012 – 03/2016    Doctor of Philosophy  
Department of Pathology (Infectious Disease Pathology)  
University of Texas Medical Branch  
Galveston, Texas  
Advisors: David H. Walker, M.D. and Rong Fang, M.D., Ph.D.
- 08/2006 - 10/2009    Master of Science  
Department of Microbiology and Immunology  
University of Rochester  
Rochester, New York  
Advisor: Sanjeev K. Sahni, Ph.D.
- 08/1998 - 05/2002    Bachelor of Arts  
Department of Biology  
State University of New York College at Brockport  
Brockport, New York  
Advisor: Sarah Silverstone, Ph.D.

**LICENSURE INFORMATION:**      Certified Clinical Laboratory Technician (CLT)  
New York State License # 002617

### **PROFESSIONAL RESEARCH EXPERIENCE:**

- 03/2016 – 08/2016      Postdoctoral Researcher  
Department of Pathology  
University of Texas Medical Branch  
Galveston, Texas
- 09/2002 – 08/2012      Research Technical Associate II  
Department of Medicine (Hematology/Oncology)  
University of Rochester Medical Center,  
Rochester, New York
- 09/2001 – 05/2002      Microbiology Laboratory Instructor  
Department of Biology  
State University of New York College at Brockport  
Brockport, New York

### **TEACHING EXPERIENCE AND RESPONSIBILITIES:**

- 08/2016 – Current      Assistant Professor  
Department of Math and Science  
College of the Mainland  
Texas City, Texas 77591

12/2009 – 07/2012

Adjunct Teaching Faculty  
Department of Biology  
Monroe Community College  
Rochester, New York

**Courses Taught:**

- Essentials of Life Sciences with lab (Non-majors course)
- Human Biology (Non-majors course)
- General Biology I with lab (Majors course)
- Microbiology with lab (Health science majors)
- Anatomy and Physiology with lab

**Current Service Responsibilities**

- Co-Advisor - Phi Theta Kappa Honor Society
- Multicultural Committee Member
- Scholarship reviewer for College of the Mainland

**TEACHING RESPONSIBILITIES:**

- Provided students with appropriate learning materials and expertise.
- Identified learning objectives and evaluated student performance based on course objectives.
- Prepared course syllabi and outlines.
- Established and maintained an organized and disciplined classroom environment.
- Provided students with assistance and guidance during lectures, laboratories, and office hours.

**RESEARCH ACTIVITIES:**

A. Area of Research

The major goal of my research is to understand the mechanisms underlying virulence and signal transduction pathways in *Rickettsia* and Colorado Tick Fever Virus (CTFV) infected endothelial cells, as well as the early innate immunological response to rickettsiae. I utilize a combination of microscopy, molecular, and cell biological approaches to address these questions. My efforts are focused on: (1) Identifying the mechanism of cell death induced by *Rickettsia* and CTFV in human endothelial cells. (2) Identifying the mechanisms of rickettsial evasion of autophagy and how CTFV modulates the autophagy pathways. (3) Identifying the mechanisms by which CTFV mediates the inflammatory response during endothelial cell infection leading to neuroinvasion.

B. Grant Support Received

2017 College of the Mainland Title V Grant. \$3,000.00

2016 College of the Mainland Foundation "Bright Ideas" Mini-Grant. \$5,000.00

2014 Sigma Xi Grants-In-Aid of Research "Identification of murine dermal cells infected with the *Rickettsia massiliae*". \$1,000.00

**MEMBERSHIP IN SCIENTIFIC SOCIETIES/PROFESSIONAL ORGANIZATIONS:**

- American Association of Immunologists
- American Society for Microbiology
- International Society for Infectious Diseases

## HONORS:

- Edward S. Reynolds Award – 22<sup>nd</sup> Annual Pathology Department Trainee Research Day 2016
- Who's Who Among Students in American Universities and Colleges 2016
- American Society for Microbiology Grant Writing Institute 2016
- Zhou Sisters Great Expectations Scholarship to recognize an outstanding student 2015
- American Society for Microbiology Kadner Institute 2015
- American Society of Rickettsiology Travel Grant Award. 27th Meeting of the American Society for Rickettsiology. 2015
- American Society for Microbiology Teaching Fellowship 2014-2015
- T32-AI060549 Biodefense Training Grant 2014 - 2016
- Betty J. Williams Scholarship for outstanding bench scientist 2014
- Edward S. Reynolds Award - 20<sup>th</sup> Annual Pathology Department Trainee Research Day 2013
- Graduate School of Biomedical Science Associates Scholarship 2013
- American Society of Rickettsiology Travel Grant Award. 23rd Meeting of the American Society for Rickettsiology 2009

## PUBLICATIONS IN PROGRESS

**Bechelli J**, Vergara L, Zhao X, Zhu B, Smalley S, Bender S, Liu Y, Hwang S, Popov VL, Walker DH, Fang R. Autophagy serves as a mechanism of host clearance of *Rickettsia* in murine macrophages.

Saito T, **Bechelli J**, Smalley C, Karim S, Walker DH. Vector tick transmission animal model of spotted fever rickettsiosis.

## PUBLISHED WORK:

Smalley C, **Bechelli J**, Saito T, Brouwer D, Ismail N, Walker DH, Fang R. *Rickettsia australis* Activates Inflammasome in Human and Murine Macrophages. PLoS ONE. 2016. Currently in press.

**Bechelli J**, Smalley C, Zhao X, Judy B, Crocquet-Valdes P, Walker DH, Fang R. MyD88 Mediates Instructive Signaling in Dendritic Cells and Protective Inflammatory Response during Rickettsial Infection. Infect Immun. 2016 Mar 24;84(4):883-93. **\*\*Selected as a spotlight article of significant interest.**

**Bechelli J**, Smalley C, Milhano N, Walker DH, Fang R. *Rickettsia massiliae* and *Rickettsia conorii* Israeli Spotted Fever Strain Differentially Regulate Endothelial Cell Responses. PLoS ONE. 2015 10(9): e0138830. doi:10.1371/journal.pone.0138830

Milhano N, Saito T, **Bechelli J**, Walker DH. The role of *Rhipicephalus sanguineus* saliva in the dissemination of *Rickettsia conorii* in C3H/HeJ mice. Medical and Veterinary Entomology. Med Vet Entomol. 2015 Sep;29(3):225-9.

Liesveld JL, O'Dwyer K, Walker A, Becker MW, Ifthikharuddin JJ, Mulford D, Chen R, **Bechelli J**, Rosell K, Minhajuddin M, Jordan CT, Phillips G. A phase I study of decitabine and rapamycin in relapsed/refractory AML. Leuk Res. 2013 Dec;37(12):1622-7.

Liesveld JL, Rosell KE, **Bechelli J**, Lu C, Messina P, Mulford D, Ifthikharuddin JJ, Phillips G. Proteasome inhibition in myelodysplastic syndromes and acute myelogenous leukemia cell lines. Cancer Investigation. 2011; 29:439-450.

**Bechelli J**, Coppage M, Rosell K, Liesveld J. Cytotoxicity of algae extracts on normal and malignant cells. Leukemia Research and Treatment. 2011; Article ID 373519, 7 pages, 2011.

**Bechelli J**, Rydkina E, Sahni S. *Rickettsia rickettsii* infection protects human microvascular endothelial cells against staurosporine-induced apoptosis by a cIAP2-independent mechanism. *J Infect Dis.* 2009 May 1;199(9):1389-98.

Liesveld JL, **Bechelli J**, Rosell K, Lu C, Bridger G, Phillips G, Abboud CN. Effects of AMD3100 on transmigration and survival of acute myelogenous leukemia cells. *Leuk Res.* 2007 Nov; 31(11):1553-63

Liesveld JL, Rosell KE, Lu C, **Bechelli J**, Phillips G, Lancet JE, Abboud CN. Acute myelogenous leukemia--microenvironment interactions: role of endothelial cells and proteasome inhibition. *Hematology.* 2005 Dec; 10(6):483-94

#### **ORAL TALKS AND PRESENTATIONS:**

**Bechelli J**, Smalley C, Zhao X, Walker DH, Fang R. Autophagy Promotes *Rickettsia australis* Replication in Primary Murine Macrophages. National Student Research Forum, Galveston, TX. April 2016

**Bechelli J**, Smalley C, Zhao X, Walker DH, Fang R. MyD88 mediates host protective immunity against rickettsiae. American Society of Rickettsiology, Lake Tahoe, CA. June 2015

**Bechelli J**, Smalley C, Fang R, Walker D. Endothelial Cell Response To *Rickettsia massiliae* And *Rickettsia conorii* 'Israeli Spotted Fever'. American Society for Microbiology Texas Branch, Houston, TX. November 2014

#### **ABSTRACTS AND POSTERS:**

**Bechelli J**, Smalley C, Zhao X, Hwang S, Walker DH, Fang R. *Rickettsia australis* induces autophagy in primary murine macrophages to subvert inflammation. 22<sup>nd</sup> Annual Pathology Department Trainee Research Day. Galveston, TX. May 2016

Buzhdygan T, Wang M, Ha T, Chang Q, Shin S, **Bechelli J**, Walker DH, Lee Y, Gong B. *Rickettsia* induces tRNA cleavage to control the expression of a host gene SH3GLB1 to weaken endothelial barrier. 22<sup>nd</sup> Annual Pathology Department Trainee Research Day. Galveston, TX. May 2016

Sahasrabudhe D, **Bechelli J**, Hagen F, Paris M, Balys M, Mohammad M, Liesveld J. IQGAP1 in human acute myelogenous leukemia. *Cancer Research.* 75(15 supplement):4041-4041 August 2015  
Smalley C, **Bechelli J**, Zhao X, Walker DH, Fang R. Inflammasome activation by *Rickettsiae*. American Society of Rickettsiology, Lake Tahoe, CA. June 2015

**Bechelli J**, Zhao X, Smalley C, Vergara L, Popov V, Walker D, Fang R. The role of ATG5-dependent autophagy during *Rickettsia australis* infection. American Association of Immunologists Annual Meeting. New Orleans, LA. May 2015

**Bechelli J**, Zhao X, Smalley C, Vergara L, Popov V, Walker D, Fang R. Autophagy Serves as a Mechanism of Bacterial Killing During *Rickettsia australis* Infection. 2015 IHII / McLaughlin Colloquium on Infection & Immunity. Galveston, TX. March 2015

Vegaras L, **Bechelli J**, Popov V, Zhao X, Bender S, Liu Y, Walker DH, Fang R. Autophagy Serves as a Mechanism of Host Immune Defense against *Rickettsiae* in Macrophages. 114th General Meeting of the American Society for Microbiology, Boston, MA. May 2014.

**Bechelli J**, Smalley C, Fang R, Walker D. Endothelial Cell Response To *Rickettsia massiliae* And *Rickettsia conorii* 'Israeli Spotted Fever'. 20<sup>th</sup> Annual Pathology Department Trainee Research Day. Galveston, TX. May 2014

Fang R, Zhao X, **Bechelli J**, Vergara L, Bender S, Liu Y, Saito T, Brouwer D, Popov V, Virgin H, Ismail N, Walker D. Cytosolic Recognition and Cytoplasmic Killing of Intracellular Bacteria by Host Innate Immunity. Galveston, TX. IHII Retreat. December 2013.

Sahasrabudhe D, **Bechelli J**. IQGAP1 and major vault transporter proteins in human acute myelogenous leukemia. American Association for Cancer Research Annual Meeting. Washington, DC. April 2013

Liesveld J, O'Dwyer K, Becker M, Mulford D, Wlaker A, Chen R, **Bechelli J**, Rosell K, Jordan C, Minhajuddin M, Phillips G. Phase I Study of Decitabine and Rapamycin in Relapsed/Refractory AML. LIV<sup>st</sup> ASH Annual Meeting and Exposition. Atlanta, GA. December 2012

**Bechelli J**, Sahasrabudhe D. Isolation and molecular characterization of a shared antigenic moiety from human leukemia cells. XVI<sup>th</sup> James P. Wilmot Cancer Center Scientific Symposium. Rochester, NY. November, 2011

**Bechelli J**, Rosell K, Coppage M, Liesveld J. Activity and cytotoxicity of algae extracts on normal and leukemic Hematopoietic cells. LI<sup>st</sup> ASH Annual Meeting and Exposition. New Orleans, LA. December 2009

**Bechelli J**, Rydkina E, and Sahni S. *Rickettsia rickettsii* infection protects human microvascular endothelial cells against staurosporine-induced apoptosis by a cIAP2-independent mechanism. XXI<sup>st</sup> Meeting of the American Society for Rickettsiology. Colorado Springs, Colorado. Poster Presentation. September 8, 2007.

Liesveld, Jane L., Abboud, Camille N., Lu, Chaohui, **Bechelli, Jeremy**, Rosell, Karen, Phillips, Gordon, Lancet, Jeffrey E. Proteasome Inhibitor Combination with Cytarabine or Arsenic Trioxide Can Potentiate Apoptosis in AML Cells. ASH Annual Meeting Abstracts 2005 106: 4464