

CURRICULUM VITAE

Galen E. Card, MS

BIOGRAPHICAL:

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Home Address:
1144 Lynnwood Dr
Orem, UT 84097

EDUCATION:

MASTER OF SCIENCE: August 2018 – December 2021
University of Texas Medical Branch Galveston, Texas
Experimental Pathology
GPA: 3.78/4.00

MASTER OF SCIENCE: August 2016 – August 2018
Brigham Young University Provo, Utah
Microbiology and Molecular Biology
GPA: 4.00/4.00

BACHELOR OF SCIENCE: August 2010 – April 2016
Brigham Young University Provo, Utah
Molecular Biology
GPA: 3.57/4.00

PROFESSIONAL WORK HISTORY AND TEACHING EXPERIENCE:

GRADUATE RESEARCH ASSISTANT: August 2018—December 2021
University of Texas Medical Branch, Galveston, TX
Immunological response to *Orientia tsutsugamushi*
In vivo Biosafety level 3 infections
Multi-color flow cytometry assessing B and T cell activation
Direct ELISA assay for antibody affinity to purified *Orientia* antigen
Three color confocal fluorescent microscopy

GRADUATE RESEARCH ASSISTANT: June 2016—August 2018
Brigham Young University, Provo, UT
Pathogenesis of carbapenem resistant *Enterobacteriaceae*
Sequencing and assembly of 15 bacterial isolates
Investigate factors that enhance antimicrobial resistance
Biosafety level 3 work
Splice variants of cyclooxygenase-1
Identify new splice variants of COX-1 that may regulate chronic inflammation
RNA isolation, Northern blotting, and RT-PCR

GRADUATE TEACHING ASSISTANT: August 2016—Dec 2017
Brigham Young University, Provo, UT
Intro to Microbiology and Lab (MMBio 151)
Teach basic laboratory techniques (Staining, growth curves, dilution plating, etc.)
Manage activities of 25 students
Microbial Ecology and Lab (MMBio 363)
Teach the laboratory activities
Supervise 25 students
Molecular Genetics in Practice (MMBio 661)
Create homework assignments

Assist in planning the curriculum
For all positions:
Grade assignments and tests
Teach review sessions

RESEARCH ASSISTANT: August 2015—April 2016
Brigham Young University, Provo, UT
Microbial Physiology, Signal Transduction Research
Perform weekly/bi-weekly alkaline phosphatase assay
Strict aseptic technique
Grow and maintain different strains of *E. coli* for assay
Maintain sterile laboratory equipment and growth media

Customer Service Technician: April 2016—August 2016
Safe Home Control, Orem, UT
Assist customers with billing discrepancies
Schedule service visits
Activation and in-processing of new accounts

RESEARCH ACTIVITIES:

AREA OF RESEARCH

Host-pathogen interaction and immune activation of emerging infectious disease and bioterror related organisms.

LEADERSHIP RESPONSIBILITIES:

UTMB

Oct 2020 – Dec 2021
Vice President, Experimental Pathology Student Organization
May 2019 – April 2020
Member, Student Government Association Budget Committee
September 2018 – May 2019
Treasurer, Committee for Career Development

OTHER

August 2016 – August 2018
Vice President of Networking, Life Science Graduate Student Organization
Brigham Young University

TEACHING RESPONSIBILITIES:

GRADUATE TEACHING ASSISTANT: August 2016—Dec 2017

BRIGHAM YOUNG UNIVERSITY

Intro to Microbiology and Lab (MMBio 151)
Teach basic laboratory techniques (Staining, growth curves, dilution plating, etc.)
Manage activities of 25 students
Microbial Ecology and Lab (MMBio 363)
Teach the laboratory activities
Supervise 25 students
Molecular Genetics in Practice (MMBio 661)
Create homework assignments
Assist in planning the curriculum
For all positions:
Grade assignments and tests
Teach review sessions

HONORS:

FELLOWSHIPS

McLaughlin Predoctoral Fellowship, UTMB Graduate School (2020-2021)
TITLE: *B cell activation pathways and memory during Orientia infection*

SCHOLARSHIPS

Arthur V. Simmang Scholarship, University of Texas Medical Branch (2020)
Satish Srivastava Endowed Scholarship, UTMB Graduate School (2019)
McLaughlin Scholar Award, UTMB Graduate School (2018-2021)
BYU MMBio Departmental Scholarship (2017-2018)
Blair G. Johns Scholarship (2015-2016)
Thomas and Agnes Myers Scholarship (2015-2016)

AWARDS

Pathology Research Day, Outstanding Poster Award (2020)

ADDITIONAL INFORMATION:

PROFESSIONAL SKILLS

Biosafety Level 3 (BSL3) experience, 5 years
Animal BSL3 certified
Competent in flow cytometry analysis
Experienced with ELISA
Experienced with Western blot analysis
Expert in DNA extraction, PCR, DNA sequencing
Experienced in genome assembly and annotation
Highly experienced in molecular cloning and transformation
Working knowledge in Linux OS and command line interface
Competent public speaker
Experienced with Microsoft Office Suite
Spanish speaker

VOLUNTEER

Counselor in the Galveston Ward Bishopric (Assistant Pastor), The Church of Jesus Christ of Latter-day Saints, Galveston, TX (Feb 2019-Aug 2021)
Provide spiritual and temporal welfare to members of the congregation.
Direct Sunday church service.
Mentor youth (11-18 years of age) and help them develop life skills.
Program Director, Rural Housing Development, Provo, UT (2016)
Organize monthly groups to assist the nationwide program in our area building homes for needy.
Soccer Coach for Provo Parks and Rec. 10-12 yr olds. Provo, UT (2014)
Organize weekly practices and games.
Mentor youth and teach resiliency.

PUBLICATIONS:

THESIS/DISSERTATION:

The Diversity Found Among Carbapenem-Resistant Bacteria, **GE Card** (MS Thesis, Brigham Young University)
Dysregulated T_{FH} cell and germinal center activation in mice with severe *Orientia tsutsugamushi* infection, **GE Card** (MS Thesis (embargoed), University of Texas Medical Branch)

ABSTRACTS:

B Cell Activation and Splenic Immune Environment During Scrub Typhus, Poster, 2020 UTMB Pathology Trainee Research Day

Type-I Interferon-Related Innate Immune Responses During Infection with *Orientia tsutsugamushi*, Poster, 2019 UTMB Pathology Trainee Research Day
Characterization of Carbapenem-Resistance Plasmids, Poster, 2019 UTMB McLaughlin Colloquium.
Investigating the Variability of Cyclooxygenase-1, Poster, 2018 ASM Tri-branch meeting, Durango, CO

MANUSCRIPTS – PUBLISHED:

GE Card, BD Pickett, PG Ridge, RA Robison. *Molecular Epidemiology of Publicly Available Carbapenem-Resistance Plasmid Sequences*, 2019. Genome, NRC Research Press.
<https://doi.org/10.1139/gen-2019-0100>

EJ Mateer, J Maruyama, **GE Card**, S Paessler, C Huang. *Lassa Virus but Not Highly Pathogenic New World Arenaviruses Restrict Immunostimulatory dsRNA Accumulation During Infection*, 2020. Journal of Virology, American Society of Microbiology. doi: 10.1128/JVI.02006-19.

JR Fisher, **GE Card**, L Soong. *Neuroinflammation Associated with Scrub Typhus and Spotted Fever Group Rickettsioses*, 2020. **Review**. PLoS NTD. doi: 10.1371/journal.pntd.0008675.

Fisher J, **Card G**, Liang Y, Trent B, Rosenzweig H, Soong L. *Orientia tsutsugamushi selectively stimulates the C-type lectin receptor Mincle and type 1-skewed proinflammatory immune responses*. PLoS Pathog. 2021 Jul 28;17(7):e1009782. doi: 10.1371/journal.ppat.1009782.

MANUSCRIPTS – IN PRESS:

Liang Y, Fisher J, Gonzales C, Trent B, **Card G**, Sun J, Tumanov AV, Soong L. *Distinct role of TNFR1 and TNFR2 in protective immunity against Orientia tsutsugamushi*, Frontiers in Immunology

MANUSCRIPTS – UNDER REVIEW: