

**Education:**

Postdoctoral Fellowship (2010 - 2012)—University of Texas Southwestern Medical Center  
Ph.D. Microbiology (2005 - 2010)—University of Alabama at Birmingham  
B.S. Microbiology (1999 - 2005)—Brigham Young University

**Professional Experience:**

Assistant Professor, Brigham Young University (October 2019 – Present)  
Lead Scientist, Booz Allen Hamilton (November 2018-October 2019)  
Assistant Professor, J. Craig Venter Institute (October 2016-November 2018)  
Staff Scientist, J. Craig Venter Institute (February 2016-September 2016)  
Solution Scientist, Thomson Reuters (May 2014-February 2016)  
  
Bioinformatics Analyst, J. Craig Venter Institute (June 2012 – May 2014)  
  
Postdoctoral Researcher, University of Texas Southwestern Medical Center (May 2010-May 2012). Mentor: Dr. Richard Scheuermann  
  
Graduate Student Assistant, University of Alabama at Birmingham (Aug 2005-May 2010)  
Mentor: Dr. Elliot J. Lefkowitz  
  
Undergraduate Research Assistant, Brigham Young University (Aug 2003-Apr 2005)  
Mentor: Dr. Donald P. Breakwell

**Teaching Experience:**

BYU: Assistant Professor in Microbiology and Molecular Biology

- Didactic Courses
  - MMBIO 240, *Molecular Biology* (lecture)
  - MMBIO 667, *Quantitative Genomics* (lab & lecture)
  - MMBIO 221, *General Microbiology* (lecture)
  - MMBIO 385, *Phage Genomics* (lab and lecture)
- Didactic Lab Courses
  - MMBIO 195R: *Phage Comparative Genomics* (lab and lecture)
- Mentored Research Courses
  - MMBIO 294R, *Mentored Research* (lab)
  - MMBIO 494R, *Advanced Mentored Research* (lab)
  - MMBIO 695R, *Graduate Research* (lab)

San Diego City College: Adjunct Professor in Microbiology (BIOL 205) and Human Genetics (Jan 2013 – May 2014)

- Prepared and present lectures on scheduled material in general Human Genetics (BIOL 205; non-majors) and Microbiology (BIOL 205pre-professional)
- Developed, administered and corrected assignments, labs, and examinations

North Central Texas College: Adjunct Professor in Biology and Microbiology (BIOL 1408, BIOL 2420) (Jan 2011-Dec 2011)

- Prepared and presented lectures on scheduled material in general introductory biology (non-majors) and microbiology (pre-nursing)

- Prepared and corrected assignments, virtual labs, labs, and examinations

UT Southwestern: Lecturer for Introduction to Applied Bioinformatics course (BSCI 5096-02) (Spring 2011)

- Prepared material for lectures including: phylogenetic tree reconstruction, genetic recombination detection, and statistical sequence analyses

UT Southwestern: Lecturer for Virology module of Core Concepts in Molecular Microbiology (MM5481) (Sept 2010)

- Constructed, organized, and presented lecture and exam on RNA virus replication

University of Alabama at Birmingham: Facilitator for UAB-CORD GENEius and BioTeach Laboratories (CB501) (Jun 2008-May 2010)

- Taught each group of students and teachers from underprivileged areas to:
  - Understand basic theories of Molecular Biology
  - Comprehend in-depth molecular causes of disease (HIV, Parkinson's, PCR, and sickle-cell anemia)
  - Perform various Molecular Biology techniques (PCR, western blots, DNA isolation, brain dissection)

### **Mentoring Experience:**

- Brigham Young University
  - Undergraduate Students (average of ~15 students per year)
 

1. Ethan Beausoleil	26. Isaac Johnson
2. Justin Shanklin	27. Iran Macias Aguilar
3. Kennedy Gifford	28. Scott Wynn
4. Tiana Scott	29. Landen Bailey
5. Caroline Jackson	30. Lexi Brady
6. Samuel Jensen	31. Lola Warnick
7. Cassidy Bushnell	32. Juliette Ball
8. Naomi Rapier	33. Jacqui Durney
9. Spencer Messina	34. Elise Pickett
10. Vivian Ashton	35. Lincoln Sutherland
11. Curtis Hoffmann	36. Mae-Lyn Hutchinson
12. Craig Decker	37. Cass Cook
13. Ben Hinatsu	38. Shaney McCain
14. Madison Gray	39. Thomas Coleman
15. Thomas Armond	40. Michael Told
16. Ben Stone	41. Zachary DeBernardi
17. John Krapohl	42. Hirsche Henstrom
18. Allie Becroft	43. Jacob Lang
19. Stephen Sheffield	44. Izzy Fratangelo
20. Trent Gibson	45. Leslie Ewool
21. Makayla Komer	46. Abbie Barlocker
22. Jacquelyne Howell	47. Maddie Murdrow
23. Celeste Tolley	48. Sehi Kim
24. Jeffrey Clancy	49. Sydney Lish
25. Mauri Dobbs	50. Matthew Jackson

- 51. Garrett Hill
- 52. Foxx Naylor
- 53. Julia Hughes
- 54. Seth Meline
- 55. Isaac Baugh
- 56. Ethan Frank
- 57. Isabella Irwin
- 58. Jackson Keele
- 59. Tyler Pace
- 60. Matthew Reall
- 61. Robert Hays
- 62. Myesha Gilliland
- Undergraduate Summer Interns
  - 1. Vivian Ashton (BYU-Idaho; Single-cell influenza infection analysis)
  - 2. Stephen Panossian, undergraduate intern (2018; Analysis of peptide array data for mosquito-borne viral infections in humans)
  - 3. Emma Roth, undergraduate summer intern (2017; Analytical methods for influenza A virus evolution in a Chilean patient cohort)
- Awards to Undergraduate Mentored Students
  - 1. College Undergraduate Research Award Funding
    - 2022 = \$3600
    - 2021 = \$3000
    - 2020 = \$3000
  - 2. MMBIO Department Mentoring Award
    - 2024
    - 2022
    - 2020
  - 3. Student Poster Awards
    - 2023:
      - 1<sup>st</sup> place poster, American Society for Microbiology Intermountain Branch meeting
    - 2022
      - 2<sup>nd</sup> place HBLL Life Sciences Poster Competition
      - 1<sup>st</sup> place ASM Intermountain Branch Poster Session
  - 4. Other Student Recognitions
    - 2023
      - Fulbright scholarship recipient (Ben Stone)
      - Oxford University Masters program (Craig Decker)
- Graduate Students (Committee Chair)
  - Naomi Rapiar-Sharman (PhD; Jan 2024)
    - Dissertation Title: “Using RNA-Sequencing to Explore Mechanistic Markers, New Therapeutics, and Immune Imbalance: A Study of Cancer and Autoimmunity Through the Lens of Triple Negative Breast Cancer, Systemic Lupus Erythematosus, and B-Cell Non-Hodgkin’s Lymphoma”
  - John Krapohl (MS; Aug 2022)
    - Thesis Title: “Big data meta-analyses of transcriptional responses of human samples to *Orthohantavirus* infection and shotgun metagenomics from Crohn’s disease patients”
  - Leslie Ewool (MS; April 2025)
    - Thesis Title: “Annotation and Analysis of Novel Phages from Ant Gut”

- Charlie Chou (PhD; April 2029)
  - Dissertation Title: “Using Computational Methods to Analyze and Interpret ‘-Omics’ data”
- Graduate Students (Committee Member)
  - Elizabeth Porter (MS)
  - Kyson Jensen (PhD)
  - Ashley Miller (MS)
  - Annalie Martin (PhD)
  - David Redd (MS)
  - Carlos Moreno (MS)
  - Andrea Kokkonen (MS)
  - John Johanson (PhD)
  - Tyler Brown (PhD)
  - Christopher (Topher) Haynie (MS)
  - Mekeli Sneddon (PhD)
  - Kenneth Ewool (PhD)
  - Joshua Ramsey (MS)
  - Steven (Will) Brugger (MS)
  - Travis Davies (MS)
  - McKay Meinzer (MS)
  - Braden Kartchner (PhD)
  - Sebastian Valencia Amores (PhD)
  - Iqra Farooq (PhD)
  - Brandon Lopez (MS)
  - Maliea Holden (PhD)
  - Aubrey Johansen (PhD)
  - Abraham Quaye (PhD)
  - Lucas Ramirez (MS)
  - Miranda Sharp (MS)
  - Sidney Sithole (PhD)
  - Madison Wagley (MS)
  - Charity Conlin (PhD)
- Doctoral and Post-Doctoral Trainees at Other Institutions:
  - Madison Gray Farnsworth, PhD committee member (UTMB; 2024 – present)
  - Elizabeth Gachanja, PhD committee member (2018-2020)
  - Pilar Viedma, postdoctoral fellow and staff scientist (2017-2020)

### **Professional Honors and Awards:**

- BYU Inspiring Learning Award (April 2021)
- UAB Department of Microbiology Hiramoto Travel Awardee (Jul 2009)
- T32 NIH Training Grant for Basic Mechanisms of Virology, 5T32AI007150-29 (Jun 2007-Aug 2008)
- Recipient Cold Spring Harbor Laboratory Student Travel Award (Nov 2007)

### **Other Honors and Awards:**

- Honorable completion of religious mission to Dominican Republic (Jul 2000-Jun 2002)

- Eagle Scout, Boy Scouts of America (Jun 1995)

### **Internal Committee Assignments**

- Member, College Molecular/Cellular/Genetics Curriculum Committee (2024-present)
- Chair, Department Undergraduate Curriculum Committee (2023-present)
- Member, College IT Advisory Committee (2023-present)
- Member, College Scholarship Committee (2023-present)
- Member, College Genetics/Genomics/Molecular Biology Committee (2020-2023)
- Faculty advisor, Operation Outbreak Student Academic Association (2020-present)
- Member, Undergraduate Curriculum Committee, BYU (2019-present)
- Chair, Departmental Scientific Review Committee, BYU (2019-present)

### **Professional Service**

- ASM Intermountain Branch President (2023-2024)
- ASM Intermountain Branch President-Elect (2022-2023)
- ASM Intermountain Branch Treasurer (2021-2022)
- Smithsonian National Museum of Natural History docent for *Outbreak* exhibit (2018-2019)
- J. Craig Venter Institute External Seminar Committee Member (2016-2018)
- UT Southwestern Postdoctoral Association Symposium Subcommittee co-chair of committee (Apr 2011 – May 2012), member (Aug 2010 – May 2012),
- UT Southwestern Postdoctoral Career Development Subcommittee member (Nov 2010 – May 2012)
- Vice President and member of Board of Directors for UAB Scientists and Engineers for America chapter (Jun 2009- May 2010)
- Chairperson mentor of UAB Industry Roundtable (Aug 2008-Aug 2009)
- Co-chairperson of UAB Industry Roundtable (April 2007-Aug 2008)
- Member of the UAB Industry Roundtable Planning Committee (2005-2010)
- Author for UAB's Graduate Student Newsletter (2009)

### ***Ad Hoc* Peer Reviewer:**

- *BMC Bioinformatics* (2022-present)
- *Nucleic Acids Research* (2022-present)
- *ASM mBio* (2021-present)
- *ASM mSystems* (2021-present)
- *Biostatistics & Epidemiology* (2020-present)
- *Gigascience* (2020-present)
- *Virology Journal* (2010-present)
- Research Grants Council (2014-present)
- NIH study section: Rapid Assessment of Zika Virus Complications (2016)
- *BMC Microbiology* (2016-present)
- *PLoS Neglected Tropical Diseases* (2017-present)
- *Computational Biology and Chemistry* (2018-present)
- *Virus Research* (2018-present)

- *Viruses* (2018-present)

**Editorial Board Memberships:**

- Editorial Board Member, *Frontiers in RNA Research* (2022-present)
- Editorial Board Member, *Genes* (2022-2024)
- Editorial Board Member, *PeerJ* (2019-present)

**Additional Skills:**

- Computer programming
  - Proficient with programming in R
  - Experience with Docker, Conda, Java, perl, python, mySQL, and Oracle
  - Slurm-based high-performance computing environments

**Memberships:**

- World Society of Virology (2021-present)
- American Society for Microbiology (2017-present)
- European Virus Bioinformatics Center (2017-present)
- American Society for Virology (2009-present)
- UAB chapter of Scientists and Engineers for America (2009-2010)
- Sigma Delta Pi (2004-present)

**Professional Development:**

- Summer of Nanopore Sequencing Workshop (Salt Lake City, Utah 2024)
- Virus Evolution and Molecular Evolution (Berlin, Germany 2018)
- GABRIEL Network: Applications of Genomics & Bioinformatics to Infectious Diseases (Lyon, France 2017)
- Hamilton Robotics: Programming Course (La Jolla, CA 2017)
- Immune Epitope Database: User Workshop (La Jolla, CA 2016)
- San Diego SuperComputer Center: 1<sup>st</sup> Workshop on bioKepler Tools and its Applications (San Diego, CA, 2012)
- Texas Advanced Computing Center Workshop: High Performance Computing for Next-Generation Sequence Analysis (Austin, TX, 2011)
- First Annual NSF-funded Short Course on Statistical Genetics & Statistical Genomics (Birmingham, AL, 2008)

**Meetings Attended:**

- Annual American Society for Microbiology Intermountain Branch Meeting (Provo, UT, 2024)
- Annual HHMI Science Education Alliance-Phage Hunters Advancing Genomics and Evolutionary Science Program Meeting (Chevy Chase, MD, 2023)
- Annual American Society for Microbiology Intermountain Branch Meeting (Provo, UT, 2023)
- Annual American Society for Microbiology Intermountain Branch Meeting (Boise, ID, 2023)

- 41<sup>st</sup> Annual American Society for Virology meeting (Madison, Wisconsin 2022)
- Annual American Society for Microbiology Intermountain Branch Meeting (Provo, UT, 2022)
- Annual American Society for Microbiology Intermountain Branch Meeting (Virtual / Ogden, UT, 2021)
- Annual American Mosquito Control Association Meeting (Virtual / Salt Lake City, UT, 2021)
- 20<sup>th</sup> Annual American Society for Microbiology Regional Meeting (Weber State University, 2020)
- 37<sup>th</sup> Annual American Society for Virology meeting (College Park, Maryland, 2018)
- 2<sup>nd</sup> Annual European Virus Bioinformatics Center meeting (Utrecht, Netherlands, 2018)
- 36<sup>th</sup> Annual American Society for Virology meeting (Madison, Wisconsin, 2017)
- 19<sup>th</sup> Genomic Standards Consortium meeting (Brisbane, Australia, 2017)
- Molecular Medicine Tri Conference (San Francisco, CA, 2015)
- 38<sup>th</sup> Annual International Herpesvirus Workshop (Grand Rapids, MI, 2013)
- 37<sup>th</sup> Annual International Herpesvirus Workshop (Calgary, Alberta, Canada, 2012)
- 6<sup>th</sup> Annual NIAID Centers of Excellence for Influenza Research and Surveillance (CEIRS) Network Meeting (New York, NY, 2012)
- 31<sup>st</sup> American Society for Virology Annual Meeting (Madison, Wisconsin, 2012)
- XV International Union of Microbiological Societies, Congress of Virology Meeting. (Sapporo, Japan, 2011)
- 30<sup>th</sup> American Society for Virology Annual Meeting (Minneapolis, Minnesota, 2011)
- A Re-Emerging Challenge in the Americas: Opportunities for Dengue Research Collaboration Meeting (San Juan, Puerto Rico, 2011)
- 9<sup>th</sup> Annual ASM Biodefense and Emerging Diseases Research Meeting (Washington D.C. 2011)
- 29<sup>th</sup> American Society for Virology Annual Meeting (Bozeman, Montana, 2010)
- 28<sup>th</sup> American Society for Virology Annual Meeting (Vancouver, Canada, 2009)
- 15<sup>th</sup> Annual International Symposium on Hepatitis C Virus and Related Viruses (San Antonio, TX, 2008)
- 7<sup>th</sup> Cold Spring Harbor Laboratory/Wellcome Trust conference on Genome Informatics (Cold Spring Harbor, NY, 2007)
- 8<sup>th</sup> International Symposium on Positive-Strand RNA Viruses (Washington DC, 2007)
- 9<sup>th</sup> Annual Conference for Computational Genomics (Baltimore, MD, 2006).
- 53<sup>rd</sup> Annual ASM Regional Meeting (Ogden, UT, 2005)

### **Invited Oral Presentations:**

1. ➤ *Combining Large Datasets to Better Understand Human Diseases*. BYU-Idaho Biology Department Seminar Series. Rexburg, ID; May, 2023.
2. ➤ *Career Paths, Experiences, and Research in Science*. American Society for Microbiology Intermountain Branch Meeting. Provo, UT; April, 2023.
3. ➤ *Data Mining Methods to Facilitate Identification of Emerging Pathogenic Traits in Human Infectious Diseases*. Emerging Infectious Disease Surveillance Workshop. McLean, VA; April, 2022 .

4. ➤ *Using Bioinformatics to Better Understand Molecular Mechanisms of Cancer.* Simmons Center for Cancer Research Weekly Seminar Series. May, 2021.
  5. ➤ *Using a simulated campus SARS-CoV-2 outbreak to inform better decision making.* MMBIO Department Weekly Seminary. Provo, UT, 2021.
  6. ➤ *Developing a peptide-based diagnostic platform to detect past infection with mosquito-borne viruses using human convalescent serum.* Annual American Mosquito Control Association Meeting; Salt Lake City, UT, 2021.
  7. *Reference-based assembly and variant calling in NGS data.* Virus Evolution and Molecular Epidemiology; Berlin, Germany, 2018.
  8. *Genome Sequencing, serodiagnostics, and the intracellular host response: making sense of -omics data for Zika virus.* European Virus Bioinformatics Center; Utrecht, Netherlands, 2018.
  9. *Applications of next generation sequencing technologies to viral infectious diseases.* GABRIEL Network; Fondation Merieux; Lyon, France, 2017.
  10. *Next generation sequencing technologies for host response.* GABRIEL Network; Fondation Merieux; Lyon, France, 2017.
  11. *Molecular Evolution of Viral Genomes and the Host Response.* Dept of Biology; Brigham Young University; Provo, UT, 2014.
  12. *Using siRNA Screens to Identify Host Genes Important for Dengue Virus Replication.* Dept of Microbiology and Molecular Biology; Brigham Young University; Provo, UT, 2014.
  13. *Introduction to the Metadata-driven Comparative Analysis Tool for Sequences (meta-CATS).* Dept of Microbiology and Molecular Biology; Brigham Young University; Provo, UT, 2013.
  14. *Influenza Research Database / Virus Pathogen Resource Hands-on Workshop at annual Pork Board Meeting.* US Dept of Agriculture; Ames, IA, 2013.
  15. *Influenza Research Database / Virus Pathogen Resource Hands-on Workshop.* Emory University. October 5, 2012.
  16. *Features and Capabilities of the Virus Pathogen Database and Analysis Resource (ViPR).* Purdue University. September 7, 2011.
- Since starting at BYU

### Oral Presentations:

1. ➤ **Pickett BE.** Secondary Analysis of Triple Negative Breast Cancer Reveals ASPM and RGS1 as Positive Universal TNBC Biomarkers. 1<sup>st</sup> Annual Utah Cancer Research Symposium. Salt Lake City, UT. May, 2024.
2. ➤ Rapiere-Sharman N<sup>+</sup>, Kim S<sup>+</sup>, Mudrow M<sup>+</sup>, Told MT<sup>+</sup>, Cope L<sup>+</sup>, O'Neill KL, **Pickett BE.** Transcriptomic immuno-oncology investigation of B-cell lymphomas using a novel comparative workflow. American Society for Microbiology Intermountain Branch Annual Meeting. Provo, UT. April, 2024.
3. ➤ Clancy J<sup>+</sup>, Hoffmann C<sup>+</sup>, **Pickett BE.** *Prediction of Human Transcriptional Biomarkers for Severe Infection with SARS-CoV-2.* American Society for Virology annual meeting. Madison, WI. July 16-20, 2022.
4. ➤ Gray M<sup>+</sup>, Ahlborn G, **Pickett BE.** *Quantifying the Effects of Potential Small Molecule CHIKV Therapeutics in Human Macrophage Cells.* American Society for Virology annual meeting. Madison, WI. July 16-20, 2022.

5. ➤ Gray M<sup>†</sup>, Ahlborn G, **Pickett BE**. *Quantifying the Effects of Potential CHIKV Therapeutics in Human Macrophage Cells*. American Society for Microbiology Intermountain Branch Annual Meeting. Ogden, UT (virtual). December, 2021.
6. ➤ Moreno C<sup>+</sup>, Whitley K<sup>+</sup>, Freitas C, **Pickett BE**, Weber KS. *CD5 signaling inhibits the transcription of metabolic enzymes and metabolite transporters at the transcriptomic level*. Autumn Immunology Conference 49th Annual Meeting. Chicago, IL. November, 2021.
7. ➤ Rapiere-Sharman NL<sup>+</sup>, **Pickett BE**. *A Transcriptomic Meta-Analysis of B-cell Lymphomas*. 2<sup>nd</sup> International Webinar on Cancer Research and Oncology Aug 2021.
8. ➤ Gray M<sup>†</sup>, Guerrero-Arguero I<sup>+</sup>, Solis Leal A<sup>+</sup>, Robison RA, Berges BA, **Pickett BE**. *Chikungunya Virus Time Course Infection of Human Macrophages*. American Society for Virology. July, 2021.
9. ➤ Jackson CA<sup>†</sup>, Scott TM<sup>†</sup>, Howell J<sup>†</sup>, Tan GS, Lowen A, **Pickett BE**. *A single-cell bioinformatics analysis of the host transcriptional response to infection consisting of natural combinations of influenza A virus gene segments*. American Society for Virology. July, 2021.
10. ➤ Scott TM<sup>†</sup>, Jensen S<sup>†</sup>, **Pickett BE**. *A signaling pathway-driven bioinformatics pipeline for predicting therapeutics against emerging infectious diseases*. American Society for Virology. Virtual Meeting. July, 2021.
11. ➤ Gray M<sup>†</sup>, Guerrero-Arguero I<sup>+</sup>, Solis Leal A<sup>+</sup>, Robison RA, Berges BA, **Pickett BE**. *Chikungunya Virus Time Course Infection of Human Macrophages*. World Society for Virology Annual Conference (virtual). June, 2021.
12. ➤ Gifford K<sup>†</sup>, **Pickett BE**. *A Cell Under Siege: the Mechanisms of Streptococcus Pneumoniae Infection*. BYU College of Physical and Mathematical Sciences - Student Research Conference. Provo, UT. February 2021.
13. ➤ Scott TM<sup>†</sup>, Jensen S<sup>†</sup>, **Pickett BE**. *A Signaling Pathway-Driven Bioinformatics Pipeline for Predicting Therapeutics against Emerging Infectious Diseases*. American Society for Microbiology Intermountain Branch Meeting. December, 2020
14. ➤ Gray M<sup>†</sup>, **Pickett BE**. *Chikungunya Virus Time Course Infection of Human Macrophages*. American Society for Microbiology Intermountain Branch Meeting. December, 2020.
15. ➤ Grose, JH, Downey JL<sup>†</sup>, Griffin BT<sup>†</sup>, Jensen AR<sup>†</sup>, Ludwig A<sup>†</sup>, Spencer JB<sup>†</sup>, Scott TM<sup>†</sup>, Vander Werff KS<sup>†</sup>, **Pickett BE**, Breakwell DP. *Comparative Genomic Analysis of Microbacterium foliorum Cluster EE phages*. Intermountain Branch American Society for Microbiology. Ogden, UT. December, 2020.
16. ➤ Ferrarini MG, Lal A, Rebollo R, Gruber A, Guarracino A, Martinez-Gonzalez I, Floyd T, Siqueira de Oliveira D, Pusa T, **Pickett BE**, Aguiar-Pulido V. *Genome-wide Bioinformatic Analyses Predict Key Host and Viral Factors in SARS-CoV-2 Pathogenesis*. Cold Spring Harbor Laboratory COVID/SARS CoV2 Rapid Research Reports #3. Cold Spring Harbor, NY (Virtual). August 25-26, 2020.
17. ➤ Gifford K<sup>†</sup>, **Pickett BE**. *Understanding the Mechanisms of Streptococcus Pneumoniae Infection*. BYU College of Physical and Mathematical Sciences - Student Research Conference. Provo, UT. February 29, 2020.
18. **Pickett BE**. *Identification and Validation of Diagnostic Peptides to Differentiate Serum Antibody Patterns Between Zika and Other Mosquito-Borne Viruses*. 37<sup>th</sup>

- Annual American Society for Virology meeting. College Park, Maryland. July 14-18, 2018.
19. **Pickett BE**. *Deep-sequencing Analysis of coding-complete Zika virus genomes*. 36<sup>th</sup> Annual American Society for Virology meeting. Madison, Wisconsin. June 24-28, 2017.
  20. **Pickett BE**. *Peptide array technology: an opportunity for standardization*. 19<sup>th</sup> Genomic Standards Consortium meeting. Brisbane, Queensland, Australia. May 15-17, 2017 .
  21. **Pickett BE**, Zhang Y, Scheuermann R. *ViPR Resource Workshop*. 37<sup>th</sup> Annual International Herpesvirus Workshop. Calgary, Alberta, Canada. August 4-9, 2012.
  22. **Pickett BE**, Schmidt D, Camacho D, Comach G, Bosch I, Lefkowitz EJ. *Analysis of Dengue Type 3 Sequences from Two Venezuelan Outbreaks*. 29<sup>th</sup> American Society for Virology Annual Meeting. Bozeman, Montana. July 17-21, 2010.
  23. **Pickett BE**, Lefkowitz EJ. *Separating HCV genotype 1a into 2 clades and implications for drug resistance*. University of Alabama at Birmingham Virology Discussion Group. Birmingham, Alabama. November 7, 2008.
  24. **Pickett BE**, Lefkowitz EJ. *CovarView—A program for visual display of genome-wide covariance analyses*. 7<sup>th</sup> Cold Spring Harbor Laboratory/Wellcome Trust conference on Genome Informatics. Cold Spring Harbor, New York. November 1-5, 2007.
  25. **Pickett BE**, Breakwell DP. *Antibiotic Resistance Gene Cassettes Associated With Integrons in Escherichia coli*. 53<sup>rd</sup> Annual meeting of the American Society for Microbiology regional meeting. Weber State University, Ogden, Utah. March 12<sup>th</sup>, 2005.

➤ Since starting at BYU; †BYU undergraduate student; +BYU graduate student

### Poster Presentations:

1. ➤ Kim S<sup>†</sup>, Rapier-Sharman N<sup>+</sup>, Told MT<sup>†</sup>, O'Neill KL, **Pickett BE**. Comparative transcriptomic analysis reveals novel insights into targetable B-cell lymphoma mechanisms. American Association for Cancer Research Annual Meeting. San Diego, CA. April, 2024.
2. ➤ Rapier-Sharman N<sup>+</sup>, Kim S<sup>†</sup>, Mudrow M<sup>†</sup>, Told MT<sup>†</sup>, Cope L<sup>+</sup>, O'Neill KL, **Pickett BE**. Transcriptomic immuno-oncology investigation of B-cell lymphomas using a novel comparative workflow. American Association for Cancer Research Annual Meeting. San Diego, CA. April, 2024.
3. ➤ Henstrom H<sup>†</sup>, Rapier-Sharman N<sup>+</sup>, Sheffield SW<sup>†</sup>, Hinatsu BR<sup>†</sup>, Armond T<sup>†</sup>, Gibson TM<sup>†</sup>, Mudrow M<sup>†</sup>, Sheffield P, Tittensor J, **Pickett BE**. Lifestyle Modification Class Principles applied to Breast Cancer recovery patients. American Society for Microbiology Intermountain Branch Annual Meeting. Provo, UT. April, 2024.
4. ➤ Mudrow M<sup>†</sup>, Rapier-Sharman N<sup>+</sup>, Kim S<sup>†</sup>, Told MT<sup>†</sup>, Poole BD, **Pickett BE**. Transcriptomic Analysis of SLE and Healthy B-Cell RNA-Sequencing Data Reveals Novel Differentially Expressed Genes and Biomarkers. American Society for Microbiology Intermountain Branch Annual Meeting. Provo, UT. April, 2024.
5. ➤ Kim S<sup>†</sup>, Rapier-Sharman N<sup>+</sup>, Mudrow M<sup>†</sup>, Told M<sup>†</sup>, Cope L<sup>+</sup>, **Pickett BE**. Comparative transcriptomic analysis reveals novel insights into targetable B-cell

- lymphoma mechanisms. American Society for Microbiology Intermountain Branch Annual Meeting. Provo, UT. April, 2024.
6. ➤Gibson TM<sup>†</sup>, **Pickett BE**. Transcriptomic Meta-Analysis Identifies Upregulated Clotting and Fibrinolysis Pathways in Colorectal Cancer Tumors Containing Hereditary PMS2 Mismatch Repair Deficiency. American Society for Microbiology Intermountain Branch Annual Meeting. Provo, UT. April, 2024.
  7. ➤Rapier-Sharman N<sup>+</sup>, Kim S<sup>†</sup>, Mudrow M<sup>†</sup>, Told MT<sup>†</sup>, Cope L<sup>+</sup>, O'Neill KL, **Pickett BE**. Transcriptomic immuno-oncology investigation of B-cell lymphomas using a novel comparative workflow. American Society for Microbiology Intermountain Branch Annual Meeting. Provo, UT. April, 2024.
  8. ➤Gwilliam JD<sup>†</sup>, Bogh AB<sup>†</sup>, Mourik P<sup>†</sup>, Moffat RE<sup>†</sup>, Domike MD<sup>†</sup>, Larson AR<sup>†</sup>, Higgins G<sup>†</sup>, Scott JD<sup>†</sup>, Van Oostendorp B<sup>†</sup>, Harrell CC<sup>†</sup>, Johnson AM<sup>†</sup>, Olsen NA<sup>†</sup>, Danielson P<sup>†</sup>, Wilhite T<sup>†</sup>, Schachterle JK, Avery S, Breakwell DP, **Pickett BE**. Three Novel Siphoviruses from Mycobacteriophage Subcluster B1 and Their Genomes. American Society for Microbiology Intermountain Branch Annual Meeting. Provo, UT. April, 2024.
  9. ➤Olsen NA<sup>†</sup>, Van Oostendorp B<sup>†</sup>, Harrell CC<sup>†</sup>, Johnson AM<sup>†</sup>, Danielson P<sup>†</sup>, Wilhite T<sup>†</sup>, Schachterle JK, Avery S, Breakwell DP, **Pickett BE**. The Big Phat Audacious Phage Project. American Society for Microbiology Intermountain Branch Annual Meeting. Provo, UT. April, 2024.
  10. ➤Hassell RE<sup>†</sup>, Leary BS<sup>†</sup>, Aggabao SM<sup>†</sup>, Bautista SI<sup>†</sup>, Olsen NA<sup>†</sup>, Van Oostendorp B<sup>†</sup>, Harrell CC<sup>†</sup>, Johnson AM<sup>†</sup>, Danielson P<sup>†</sup>, Wilhite T<sup>†</sup>, Schachterle JK, Avery S, Breakwell DP, **Pickett BE**. Three E Cluster Phages Containing Novel Putative Proteins. American Society for Microbiology Intermountain Branch Annual Meeting. Provo, UT. April, 2024.
  11. ➤Ridd RT<sup>†</sup>, Fisher TG<sup>†</sup>, East MJ<sup>†</sup>, Cannon JR<sup>†</sup>, Amsbury DC<sup>†</sup>, Olsen NA<sup>†</sup>, Van Oostendorp B<sup>†</sup>, Harrell CC<sup>†</sup>, Johnson AM<sup>†</sup>, Danielson P<sup>†</sup>, Wilhite T<sup>†</sup>, Schachterle JK, Avery S, Breakwell DP, **Pickett BE**. Lilbunny - A Siphovirus Isolated from Compost Containing Rabbit Manure. American Society for Microbiology Intermountain Branch Annual Meeting. Provo, UT. April, 2024.
  12. ➤Walbom EW<sup>†</sup>, Danielson PC<sup>†</sup>, Pearson L<sup>†</sup>, Bautista SIG<sup>†</sup>, Hwang H<sup>†</sup>, Olsen NA<sup>†</sup>, Van Oostendorp B<sup>†</sup>, Harrell CC<sup>†</sup>, Johnson AM<sup>†</sup>, Danielson P<sup>†</sup>, Wilhite T<sup>†</sup>, Schachterle JK, Avery S, Breakwell DP, **Pickett BE**. Three Novel F1 Subcluster Mycobacteriophages. American Society for Microbiology Intermountain Branch Annual Meeting. Provo, UT. April, 2024.
  13. ➤Payne ST<sup>†</sup>, Daines SB<sup>†</sup>, Brink CB<sup>†</sup>, Chamberlain HH<sup>†</sup>, Jackson MN<sup>†</sup>, Longhurst JS<sup>†</sup>, Scott JD<sup>†</sup>, Gwilliam JD<sup>†</sup>, Higgins G<sup>†</sup>, Domike MD<sup>†</sup>, Moffat RE<sup>†</sup>, Larson AR<sup>†</sup>, Olsen NA<sup>†</sup>, Van Oostendorp B<sup>†</sup>, Harrell CC<sup>†</sup>, Johnson AM<sup>†</sup>, Danielson P<sup>†</sup>, Wilhite T<sup>†</sup>, Schachterle JK, Avery S, Breakwell DP, **Pickett BE**. Comparative Genomics of Four Novel A1 Subcluster Mycobacterium Phages. American Society for Microbiology Intermountain Branch Annual Meeting. Provo, UT. April, 2024.
  14. ➤Komer M<sup>†</sup>, **Pickett BE**. *Identifying relevant mechanisms, drugs, and biomarkers from B-cell Acute Lymphoblastic 39 Leukemia Transcriptomic Data*. 2023 Life Sciences CURA Conference. Provo, UT. Oct, 2023.

15. ➤Collado Silva A<sup>†</sup>, Holbrook W<sup>†</sup>, Green C<sup>†</sup>, Breakwell DP, **Pickett BE**, Grose JH. *Isolation and Genomic Summary of Bacillus megaterium phage Brahmus*. 2023 HHMI SEA Symposium. Provo, UT. April, 2023.
16. ➤Holbrook W<sup>†</sup>, Larson E<sup>†</sup>, Mickelson J<sup>†</sup>, Matheson D<sup>†</sup>, Green C<sup>†</sup>, Breakwell DP, **Pickett BE**, Grose JH. *The Broad Host Range of Bacillus megaterium phages 614, 617, 619, 633 and 634*. 2023 HHMI SEA Symposium. Provo, UT. April, 2023.
17. ➤Ganiaris C<sup>†</sup>, Davies T<sup>†</sup>, Green C<sup>†</sup>, Breakwell DP, **Pickett BE**, Grose JH. *Isolation and Genomic Analysis of Bacillus megaterium Phage Lukas*. 2023 HHMI SEA Symposium. Provo, UT. April, 2023.
18. ➤Power A<sup>†</sup>, Naylor F<sup>†</sup>, Cavalcante G<sup>†</sup>, Townsend H<sup>†</sup>, Cabezas M<sup>†</sup>, Johnson A<sup>†</sup>, Wilhite T<sup>†</sup>, Harrell JR<sup>†</sup>, Harrell CC<sup>†</sup>, Pang DT<sup>†</sup>, Grose JH, Breakwell DP, **Pickett BE**. *A Comparative Genomic Analysis of the Microbacterium foliorum bacteriophage EG cluster*. American Society for Microbiology, Intermountain Branch Annual Meeting. Provo, UT. April, 2023.
19. ➤Cherry AC<sup>†</sup>, Menendez SL<sup>†</sup>, Huang CF<sup>†</sup>, Nelson PL<sup>†</sup>, Johnson AM<sup>†</sup>, Wilhite TJ<sup>†</sup>, Harrell JR<sup>†</sup>, Harrell CC<sup>†</sup>, Pang DT<sup>†</sup>, Grose JH, Breakwell DP, **Pickett BE**. *Two Novel Genes in the Genome of Microbacterium foliorum phage Parsicarious*. American Society for Microbiology, Intermountain Branch Annual Meeting. Provo, UT. April, 2023.
20. ➤Van Oostendorp B<sup>†</sup>, Elison B<sup>†</sup>, Johnson A<sup>†</sup>, Harrell CC<sup>†</sup>, Harrell JR<sup>†</sup>, Roylance L<sup>†</sup>, Rawlins J<sup>†</sup>, Campbell C<sup>†</sup>, Wilhite TJ<sup>†</sup>, Pang DT<sup>†</sup>, Breakwell DP, Grose JH, **Pickett BE**. *Bacteriophage Parsicarious: Isolation, Characterization, and Genome Annotation*. American Society for Microbiology, Intermountain Branch Annual Meeting. Provo, UT. April, 2023.
21. ➤Olsen NA<sup>†</sup>, Harris JA<sup>†</sup>, Call AB<sup>†</sup>, McCain SA<sup>†</sup>, Wilhite TJ<sup>†</sup>, Harrell JR<sup>†</sup>, Harrell CC<sup>†</sup>, Pang DT<sup>†</sup>, Johnson AM<sup>†</sup>, Grose JH, Breakwell DP, **Pickett BE**. *The Third Wheel Tail: The Tail Assembly Chaperone Protein of Microbacterium Bacteriophages in the EG Cluster*. American Society for Microbiology, Intermountain Branch Annual Meeting. Provo, UT. April, 2023.
22. ➤Dobbs Spendlove M<sup>†</sup>, **Pickett BE**. *A Transcriptomic Analysis of Triple Negative Breast Cancer Revealing Alternative Drug Therapeutics*. HBLI 2023 College of Life Sciences Undergraduate Poster Competition. Provo, UT. March, 2023.
23. ➤Johnson I<sup>†</sup>, **Pickett BE**. *Meta-analysis of HIV-infected CD4+ T cells Reveals New Genes Associated with the Disease*. American Society for Microbiology, Intermountain Branch Annual Meeting. Boise, ID. February, 2023.
24. ➤Stone BC<sup>†</sup>, Decker C<sup>†</sup>, **Pickett BE**. *Reconstruction of a Complete Phylogenetic Tree for Phage Families*. American Society for Microbiology, Intermountain Branch Annual Meeting. Boise, ID. February, 2023.
25. ➤Wynn S<sup>†</sup>, **Pickett BE**. *Differential Gene Expression, Modulated Cellular Pathways, and Predicted Therapeutic Targets for RSV Infection*. American Society for Microbiology, Intermountain Branch Annual Meeting. Boise, ID. February, 2023.
26. ➤Rapier-Sharman N<sup>†</sup>, **Pickett BE**. *Comparison of plasma RNA Isolation Using a Spinning Disk vs Traditional Method*. American Society for Microbiology, Intermountain Branch Annual Meeting. Boise, ID. February, 2023.

27. ➤Dobbs Spendlove M<sup>†</sup>, **Pickett BE**. *A Transcriptomic Analysis of Triple Negative Breast Cancer Revealing Alternative Drug Therapeutics*. American Society for Microbiology, Intermountain Branch Annual Meeting. Boise, ID. February, 2023.
28. ➤Dobbs Spendlove M<sup>†</sup>, **Pickett BE**. *A Transcriptomic Analysis of Triple Negative Breast Cancer Revealing Alternative Drug Therapeutics*. Utah Conference on Undergraduate Research Annual Meeting. Salt Lake City, UT. February, 2023.
29. ➤Birchall J<sup>†</sup>, **Pickett BE**. *Biomarker discovery in triple negative breast cancer using RNA-sequencing Analysis*. Utah Conference on Undergraduate Research Annual Meeting. Salt Lake City, UT. February, 2023.
30. ➤Hutchinson M<sup>†</sup>, Rapiere-Sharman N<sup>+</sup>, Pitt WG, **Pickett BE**. *Spinning Disk as a Novel Method for Isolation of Plasma Prior to Cell-free Ribonucleic Acid (cfRNA) Extraction and Utilization*. Utah Conference on Undergraduate Research Annual Meeting. Salt Lake City, UT. February, 2023.
31. ➤Moreno C<sup>+</sup>, **Pickett BE**, Weber KS. *Using machine learning to discover cancer biomarkers for immunotherapy development*. Autumn Immunology Conference 50th Annual Meeting. Chicago, IL. November, 2022.
32. ➤Decker C<sup>†</sup>, **Pickett BE**. *Mutation in Hemagglutinin Antigenic Sites in Influenza A pH1N1 Viruses from 2015–2019 in the United States Mountain West, Europe, and the Northern Hemisphere*. BYU College Undergraduate Research Awards Annual Presentation. November, 2022. (3<sup>rd</sup> Prize)
33. ➤Clancy J<sup>†</sup>, Hoffmann C<sup>†</sup>, **Pickett BE**. *Prediction of Human Transcriptional Biomarkers for Severe Infection with SARS-CoV-2*. American Society for Virology annual meeting. Madison, WI. July 16-20, 2022.
34. ➤Gray M<sup>†</sup>, Ahlborn G, **Pickett BE**. *Quantifying the Effects of Potential Small Molecule CHIKV Therapeutics in Human Macrophage Cells*. American Society for Virology annual meeting. Madison, WI. July 16-20, 2022.
35. ➤Gray M<sup>†</sup>, Ahlborn G, **Pickett BE**. *Quantifying the Effects of Potential Small Molecule CHIKV Therapeutics in Human Macrophage Cells*. HBLL 2022 College of Life Sciences Undergraduate Poster Competition. March, 2022. (1<sup>st</sup> Prize)
36. ➤Scott TM<sup>†</sup>, Solis-Leal A<sup>+</sup>, Lopez JB<sup>†</sup>, Robison RA, Berges BK, **Pickett BE**. *Analysis of differential host cell response to infection with Washington and New York strains of SARS-CoV-2*. BYU College Undergraduate Research Awards Annual Presentation. November, 2021.
37. ➤Gray M<sup>†</sup>, Guerrero-Arguero I<sup>+</sup>, Solis Leal A<sup>+</sup>, Robison RA, Berges BA, **Pickett BE**. *Chikungunya Virus Time Course Infection of Human Macrophages*. BYU College Undergraduate Research Awards Annual Presentation. November, 2021.
38. ➤Velazquez EJ<sup>+</sup>, Bellini DM<sup>†</sup>, Skabelund RA<sup>†</sup>, Humpherys TB<sup>†</sup>, Skidmore JR<sup>†</sup>, **Pickett BE**, Piccolo SR, O'Neill KL. *Bioinformatic analysis of the tumor biomarker thymidine kinase 1: Elucidating its cancer gene network and membrane expression across all cancers*. American Association for Cancer Research Annual Meeting. April, 2021.
39. ➤Howell J<sup>†</sup>, Jackson C<sup>†</sup>, Scott TM<sup>†</sup>, Lowen AC, Tan GS, **Pickett BE**. *A Single-Cell Bioinformatics Analysis of the Host Transcriptional Response to Infection Consisting of Natural Combinations of Influenza A Virus Gene Segments*. BYU College of Life Sciences Virtual Poster Competition. Provo, UT. March, 2021.

40. ➤ Gray M<sup>†</sup>, Guerrero-Arguero I<sup>+</sup>, Solis Leal A<sup>+</sup>, Robison RA, Berges BA, **Pickett BE**. *Chikungunya Virus Time Course Infection of Human Macrophages*. BYU College of Life Sciences Virtual Poster Competition. Provo, UT. March, 2021.
41. ➤ Downey JL<sup>†</sup>, Griffin BT<sup>†</sup>, Jensen AR<sup>†</sup>, Ludwig A<sup>†</sup>, Spencer JB<sup>†</sup>, Scott TM<sup>†</sup>, Vander Werff KS<sup>†</sup>, **Pickett BE**, Grose JH, Breakwell DP. *Comparative Genomic Analysis of Microbacterium foliorum Cluster EE Phages*. American Society for Microbiology Intermountain Branch Meeting. December, 2020.
42. ➤ Miller A<sup>+</sup>, Knowles A<sup>†</sup>, Hill JT, **Pickett BE**, Nielsen BL. *Gene Expression Changes in Plants Inoculated with Halophilic Bacteria and Grown in Salty Soil*. American Society for Microbiology Intermountain Branch Meeting. December, 2020.
43. ➤ Ferrarini MG, Lal A, Rebollo R, Gruber A, Guarracino A, Martinez-Gonzalez I, Floyd T, Siqueira de Oliveira D, Pusa T, **Pickett BE**, Aguiar-Pulido V. *Comprehensive analysis of human SARS-CoV-2 infection and host-virus interaction*. International Society of Computational Biology Annual Meeting (Virtual). July 13-16, 2020.
44. ➤ Parham L, **Pickett BE**, Tan GS, Lorenzana I. *Sequencing of a Zika virus isolate from the amniotic fluid of a fetus with microcephaly during an outbreak in Honduras-2016*. American Society for Tropical Medicine and Hygiene annual meeting. National Harbor, MD. November 20-24, 2019.
45. Viedma Martinez MP, **Pickett BE**. *Placenta and Microglia Cells Immune Response After Zika Virus Infection*. American Society for Virology annual meeting. College Park, MD. July 14-18, 2018.
46. **Pickett BE**, Willis CD. *Oral Microbiome: Potential Mechanisms and Drug Targets for Differential Host Response During Infection with Pathogenic and Commensal Bacteria*. Molecular Medicine Tri Conference. San Francisco, CA. March 6-9, 2016.
47. **Pickett BE**. *Functional Analysis of Infection with Middle East Respiratory Syndrome Coronavirus (MERS\_CoV) and a Possible Therapeutic Target*. Molecular Medicine Tri Conference. San Francisco, CA. February 16-18, 2015.
48. Aevermann BD, Greer DS, **Pickett BE**, Kumar S, Zhang Y, Quesenberry B, Zhou L, Gu Z, Zaremba S, Klem EB, and Scheuermann RH. *Exploration and Comparison of Host Factor Responses to Viral Infection in the Influenza Research Database (IRD)* Centers of Excellence for Influenza Research and Surveillance (CEIRS) annual meeting. Memphis, TN. July 8-10, 2013.
49. Zhang Y, **Pickett BE**, Greer DS, Aevermann BD, Stewart L, Zhou L, Kumar S, Zaremba S, Gu Z, Sun G, Larsen C, Jen W, Klem EB, Scheuermann RH. *Virus Pathogen Resource (ViPR): Bioinformatics Database and Analysis Resource for Human Virus Pathogen Research*. ASM Biodefense and Emerging Diseases Research Meeting. Washington, D.C. February 25-27, 2013.
50. Zhang Y, **Pickett BE**, Sadat E, Squires RB, Noronha J, Kumar S, Zaremba S, Gu Z, Zhou L, Larsen C, Jen W, Klem EB, Scheuermann RH. *Integrated Bioinformatics Data and Analysis Tools for Herpesviridae Viruses in the Virus Pathogen Resource (ViPR)*. 37<sup>th</sup> Annual International Herpesvirus Workshop. Calgary, Alberta, Canada. August 4-9, 2012.
51. **Pickett BE**, Sadat E, Zhang Y, Hunt V, Noronha JM, Squires RB, Law L, Katze M, Klem EB, Scheuermann RH. *Integration of Host Factor Data into the Virus Pathogen Database and Analysis Resource (ViPR) and the Influenza Research Database (IRD)*.

- 2012 American Society for Virology Annual Meeting. Madison, WI, USA. July 21-25, 2012.
52. **Pickett BE**, Sadat E, Zhang Y, Noronha J, Squires RB, Hunt V, Liu M, Zhou L, Larson C, Dietrich J, Klem EB, Scheuermann RH. *ViPR: An Open Comprehensive Bioinformatics Database and Analysis Resource for the Virology Research Community*. 2011 International Union of Microbiological Societies (International Congress of Virology). Sapporo, Japan. September 11-17, 2011.
  53. **Pickett BE**, Noronha J, Squires RB, Hunt V, Liu M, Zhou L, Larson C, Dietrich J, Klem EB, Scheuermann RH. *Genomic sequence analysis tools and a genotype-phenotype association platform in the virus pathogen resource*. 30<sup>th</sup> American Society for Virology Annual Meeting. Minneapolis, Minnesota. July 16-20, 2011.
  54. Joslin S, Pybus C, Brautigham C, **Pickett BE**, Noronha J, Scheuermann R, Ahmed A, Erlich G, Hansen E. *Involvement of the MesR response regulator in Moraxella catarrhalis biofilm formation*. Annual Hemophilus-Moraxella Meeting. Curacao. June 2011.
  55. **Pickett BE**, Ponraj P, Hunt V, Liu M, Zhou L, Kumar S, Dietrich J, Zaremba S, Larson C, Klem EB, Scheuermann RH. *Tool for Identifying Sequence Variations that Correlate with Virus Phenotypic Characteristics*. 9th Annual ASM Biodefense and Emerging Diseases Research Meeting. Washington D.C. February 6-9, 2011.
  56. Ponraj P, **Pickett BE**, Squires RB, Noronha JM, Hunt V, McClellan EA, Zhou L, Kumar S, Liu Z, Su H, Dietrich J, Zaremba S, Larsen C, Klem EB, and Scheuermann RH. *Virus Pathogen Resource (ViPR): Applications for Studying Virus Variation and Host-Virus Interactions*. 29<sup>th</sup> American Society for Virology Annual Meeting. Bozeman, Montana. July 17-21, 2010.
  57. **Pickett BE**, Lefkowitz EJ. *West Nile virus: analysis of covariance and recombination*. 28<sup>th</sup> Annual American Society for Virology meeting. Vancouver, Canada. July 11-15, 2009.
  58. **Pickett BE**, Striker RT, Lefkowitz EJ. *Evidence for separation of HCV Genotype 1, Subtype A into Two Distinct Clades*. 15<sup>th</sup> International Symposium on Hepatitis C Virus & Related Viruses. San Antonio TX. Oct 5-9, 2008.
  59. SS Drysdale, L Tazi, **BE Pickett**, SB Dahlquist, KA Crandall, DP Breakwell, and AR Harker. 2005. *Microbial Diversity in the Great Salt Lake, Utah*. 105<sup>th</sup> American Society for Microbiology General Meeting. Atlanta, GA. June 5-9, 2005.

➤ Since starting at BYU; †BYU undergraduate student; †BYU graduate student

### Intellectual Property:

1. ➤ U.S. Patent Application: "IMMUNE IMBALANCE TRANSCRIPTOMICS ALGORITHM FOR COMPARISON OF SHARED AND OPPOSITE MECHANISMS OF CANCER AND AUTOIMMUNE DISEASE". Serial No.: 63/631,158. Submission date: April 8, 2024.
2. ➤ U.S. Patent Application: "PRIORITIZING AND REPURPOSING DISEASE-SPECIFIC DRUG TARGETS (AND THERAPEUTICS) USING SIGNALING PATHWAY PROFILES AND PUBLICLY AVAILABLE TARGET ATTRIBUTES". Serial No.: 63/612,170. Submission date: Dec 19, 2023.
3. ➤ U.S. Patent Application: "3D PRINTING FOR SELECTIVE CAPTURE OF NUCLEIC ACID BIOMARKERS WITH SUBSEQUENT FLUORESCENCE

- LABELING AND DETECTION”. Serial No.: 63/542,126. Submission date: October 3, 2023.
4. ➤ U.S. Patent Application: “UNIVERSAL AND SUBTYPE-SPECIFIC TRANSCRIPTIONAL BIOMARKERS FOR THE IDENTIFICATION AND/OR DIAGNOSIS OF TRIPLE-NEGATIVE BREAST CANCER (TNBC)”. Serial No.: 63/539,656. Submission date: September 21, 2023.
  5. U.S. Patent Application: “COMPOSITIONS AND METHODS FOR THE DETECTION OF ANTI-VIRAL ANTIBODIES”. Serial No.: 16/033,117. Submission date: July 11, 2018.

➤ Since starting at BYU

### Peer-Reviewed Publications:

1. ➤ Rapier-Sharman N<sup>+</sup>, Spendlove MD†, Poulsen JB†, Appel AE<sup>+</sup>, Wiscovitch-Russo R<sup>+</sup>, Vashee S, Gonzalez-Juarbe N, **Pickett BE**. *Secondary Transcriptomic Analysis of Triple-Negative Breast Cancer Reveals Reliable Universal and Subtype-Specific Mechanistic Markers*. *Cancers* (Basel). 2024 Oct 2;16(19):3379. doi: 10.3390/cancers16193379. PMID: 39409999. [Impact Factor: 4.5; Contributions: Conceptualization, Methodology, Analysis, Writing, Software, Supervision].
2. ➤ Rapier-Sharman N<sup>+</sup>, Kim S†, Mudrow M†, Told MT†, Fischer L†, Fawson L†, Parry J, Poole BD, O'Neill KL, Piccolo SR, **Pickett BE**. *Comparison of B-Cell Lupus and Lymphoma Using a Novel Immune Imbalance Transcriptomics Algorithm Reveals Potential Therapeutic Targets*. *Genes* (Basel). 2024 Sep 17;15(9):1215. doi: 10.3390/genes15091215. PMID: 39336806; PMCID: PMC11431704. [Impact Factor: 2.8; Contributions: Methodology, Analysis, Writing, Supervision].
3. ➤ Olson MA<sup>+</sup>, Cullimore C†, Hutchison WD†, Grimsrud A, Nobrega D, De Buck J, Barkema HW, Wilson E, **Pickett BE**, Erickson DL. *Genes associated with fitness and disease severity in the pan-genome of mastitis-associated Escherichia coli*. *Front Microbiol*. 2024 Aug 29;15:1452007. doi: 10.3389/fmicb.2024.1452007. PMID: 39268542; PMCID: PMC11390585. [Impact Factor: 4.0; Contributions: Methodology, Analysis, Writing].
4. Quaye A<sup>+</sup>, **Pickett BE**, Griffiths JS, Berges BK, Poole BD. Characterizing the splice map of Turkey Hemorrhagic Enteritis Virus. *Virology*. 2024 Aug 6;21(1):175. doi: 10.1186/s12985-024-02449-0. PMID: 39107824; PMCID: PMC11304566. [Impact Factor: 4.0; Contributions: Methodology, Analysis, Writing, Supervision].
5. ➤ Gibson TM†, Spendlove MD†, Rapier-Sharman N<sup>+</sup>, **Pickett BE**. *Transcriptomic Meta-Analysis Identifies Upregulated Clotting and Fibrinolysis Pathways in Colorectal Cancer Tumors Containing Hereditary PMS2 Mismatch Repair Deficiency*. *MicroPubl Biol*. 2024 Apr 28;2024. doi: 10.17912/micropub.biology.001159. [Impact Factor: 0.8; Contributions: Conceptualization, Methodology, Analysis, Writing, Supervision].
6. ➤ Sutherland L†, Lang J†, Gonzalez-Juarbe N, **Pickett BE**. *Secondary Analysis of Human Bulk RNA-Seq Dataset Suggests Potential Mechanisms for Letrozole Resistance in Estrogen-Positive (ER+) Breast Cancer*. *Curr Issues Mol Biol*. 2024 Jul 6;46(7):7114-7133. doi: 10.3390/cimb46070424. PMID: 39057065. [Impact Factor: 2.8; Contributions: Conceptualization, Methodology, Analysis, Writing, Supervision].

7. ➤ Radke J, Ochoa-Repáraz J, Nixon J, Acharya S, Bridgewater H, Burger J, Cheever A+, Darby R, Doyle W, Gaur A+, Githuku E, Goodman R, Haynie T+, Hedelius H, Hill K, Iqbal M+, Laabi S, Moreno C+, Moss M+, Parveen N+, Rapier-Sharman N+, Sadeghi S, Saleh S, Schumacher S, Sharp M+, Souza N, Thapa S, Aggabao A†, Amsbury D†, Bautista SI†, Bogh A†, Bohn A†, Brink C†, Bryner BS, Cannon J†, Carrington S, Chamberlain H†, Cherry A†, Cole M, Corrales E, Cullimore C†, Daines S†, Danielson P†, Domike M†, East M†, Ellis B, Evans T†, Fears Z†, Fellars P†, Fisher T†, Floyd B, Gibson T†, Gueller M†, Gupta H, Gwilliam J†, Hansen M, Hardy J†, Harrell C†, Hassell R†, Hendricks W†, Hendrix C†, Henstrom H†, Hernandez Sanguino K†, Higgins G†, Hwang H†, Jackson M†, Jensen C, Johnson A†, Kang C†, Kim S†, LaFollette A, Larsen P, Larson A†, Leary B†, Longhurst J†, Mann M†, Martinez I, Matthews B, McStraw C†, Mireill N, Moffat R†, Mourik P†, Mudrow M†, Odell M†, Oler B†, Olsen N†, Paymard N†, Payne ST†, Pearson L†, Peter J†, Peterson T, Puentes Navarro D, Radke K†, Richardson J†, Ridd R†, Rowe A, Schmanski R, Scott J†, Scott S†, Simpkins M†, Sisk M, Smith T, Smith B, Sy J†, Trejo G, Van Oostendorp B†, Walbom E†, Whetten R, Zollinger D, Braunstein M, Breakwell DP, Chakraborty A, Crook M, Culumber M, Hatch W, Jimenez Jr. VM, Nematollahi WP, Olson M, Poritz M, Ririe S, Schachterle J, Wiltbank L, Kelson T, **Pickett BE**. *A Summary of the Main Themes and Findings Presented at the ASM Intermountain Branch Meeting (2024)*. *mSphere*. 2024 Jul 9:e0048124. doi: 10.1128/msphere.00481-24. Epub ahead of print. PMID: 38980067. [Impact Factor: 4.8; Contributions: Analysis, Writing, Supervision]
8. ➤ Kirkham MN†, Cooper C†, Broberg E+, Robertson P†, Clarke D†, **Pickett BE**, Bikman B, Reynolds PR, Arroyo JA. *Different Lengths of Gestational Exposure to Secondhand Smoke or e-Cigarette Vapor Induce the Development of Placental Disease Symptoms*. *Cells*. 2024 Jun 9;13(12):1009. doi: 10.3390/cells13121009. PMID: 38920640. [Impact Factor 6.0; Contributions: Analysis, Writing]
9. ➤ Curtis KL+, Chang A+, Van Slooten R†, Cooper C+, Kirkham M†, Armond T†, deBernardi Z†, **Pickett BE**, Arroyo JA, and Reynolds PR. 2024. *Availability of receptors for advanced glycation end-products (RAGE) influences differential transcriptome expression in lungs from mice exposed to chronic secondhand smoke (SHS)*. *Int J Mol Sci*. 2024 Apr 30;25(9):4940. doi: 10.3390/ijms25094940. PMID: 38732159; PMCID: PMC11084232. [Impact Factor 5.6; Contributions: Methodology, Analysis, Writing, Supervision]
10. ➤ Nitz AA+, Johnson DL+, Lupiyaningdyah P+, Meinzer MA+, Ramsey JS+, Rovinson CM+, Valencia Amores CS+, **Pickett BE**. *Secondary analysis of Staphylococcus aureus whole genomes reveals diverse antimicrobial resistance profiles*. *MicroPubl Biol*. 2024 Apr 28;2024. doi: 10.17912/micropub.biology.000903. PMID: 38741934; PMCID: PMC11089388. [Impact Factor: 0.8; Contributions: Conceptualization, Methodology, Analysis, Writing, Supervision]
11. ➤ Brugger SW+, Grose JH, Decker CH†, **Pickett BE**, Davis MF. *Genomic Analyses of Major SARS-CoV-2 Variants Predicting Multiple Regions of Pathogenic and Transmissible Importance*. *Viruses*. 2024 Feb 10;16(2):276. doi: 10.3390/v16020276. PMID: 38400051; PMCID: PMC10891864. [Impact Factor: 4.7; Contributions: Software, Writing, Supervision]

12. ➤Bitter EE<sup>+</sup>, Skidmore J<sup>†</sup>, Allen CI<sup>†</sup>, Erickson RI<sup>†</sup>, Morris RM<sup>†</sup>, Mortimer T, Meade A, Garlick R, Phares T, Townsend M, **Pickett BE**, O'Neill KL. *TK1 expression influences pathogenicity by cell cycle progression, cellular migration, and cellular survival in HCC1806 Breast Cancer Cells.* PLoS One. 2023 Nov 30;18(11):e0293128. doi: 10.1371/journal.pone.0293128. eCollection 2023. PMID: 38033034; PMCID: PMC10688958. [Impact Factor: 3.7; Contributions: Analysis, Software, Writing]
13. ➤Hyde JR<sup>†</sup>, Armond T<sup>†</sup>, Herring JA, Hope S, Grose JH, Breakwell DP, **Pickett BE**. *Diversity and Conservation of Genome Architecture of Phages infecting the Alphaproteobacteria.* Microbiol Spectr. 2023 Nov 22:e0282723. doi: 10.1128/spectrum.02827-23. PMID: 37991376; PMCID: PMC10783043. [Impact Factor: 3.7; Contributions: Methodology, Software, Analysis, Curation, Writing, Supervision]
14. ➤Rapier-Sharman N<sup>+</sup>, Hutchinson MLL<sup>†</sup>, Moreno CM<sup>+</sup>, Quaye A<sup>+</sup>, Poole, BD, Weber KS, Pitt WG, **Pickett BE** (2023). *A Novel Application of Spinning Disk Technology to Collect Plasma from Whole Blood Prior to Quantifying Plasma RNA.* microPublication Biology. doi: 10.17912/micropub.biology.001007. PMID: 38021167; PMCID: PMC10656623. [Impact Factor: 0.8; Contributions: Conceptualization, Methodology, Writing, Supervision]
15. ➤Hittson H, McAleer L, Saucedo L, Mahler L, Andino G, Zorba A, Walden S, **Pickett BE**, Poole BD, Abel EL. *Association between Religious Beliefs and HPV Vaccination Attitudes among College Students.* Vaccines. 2023 Oct 21. doi: 10.3390/vaccines11101623. PMID: 37897025; PMCID: PMC10611068. [Impact Factor: 7.8; Contributions: Software, Analysis, Writing]
16. ➤Nielsen JB<sup>+</sup>, Holladay JD<sup>†</sup>, Burningham AJ<sup>†</sup>, Rapier-Sharman N<sup>+</sup>, Ramsey JS<sup>+</sup>, Skaggs TB<sup>+</sup>, Nordin GP, **Pickett BE**, Woolley AT. *Monolithic affinity columns in 3D printed microfluidics for chikungunya RNA detection.* Anal Bioanal Chem. 2023 Oct 6. doi: 10.1007/s00216-023-04971-6. PMID: 37801120; PMCID: PMC10840819. [Impact Factor: 4.3; Contributions: Software, Analysis, Data Curation, Writing]
17. ➤Dobbs Spendlove M<sup>†</sup>, Gibson T<sup>†</sup>, McCain S<sup>†</sup>, Stone BC<sup>†</sup>, Gill T, **Pickett BE**. *Pathway2Targets: an open-source pathway-based approach to repurpose therapeutic drugs and prioritize human targets.* PeerJ. 2023 Sep 29;11:e16088. doi: 10.7717/peerj.16088. PMID: 37790614; PMCID: PMC10544355. [Impact Factor: 2.7; Contributions: Conceptualization, Methodology, Software, Validation, Analysis, Data Curation, Writing, Supervision]
18. ➤Warren ME<sup>+</sup>, **Pickett BE**, Adams BJ, Villalva C<sup>†</sup>, Applegate A, Robison RA. *Comparative sequence analysis elucidates the evolutionary patterns of Yersinia pestis in New Mexico over thirty-two years.* PeerJ. 2023 Sep 26;11:e16007. doi: 10.7717/peerj.16007. PMID: 37780382; PMCID: PMC10541020. [Impact Factor: 2.7; Contributions: Methodology, Software, Analysis, Writing, Supervision]
19. ➤Clancy J<sup>†</sup>, Hoffmann CS<sup>†</sup>, **Pickett BE**. *Transcriptomics secondary analysis of severe human infection with SARS-CoV-2 identifies gene expression changes and predicts three transcriptional biomarkers in leukocytes.* Computational Structural Biotechnology Journal 2023;21:1403-1413. doi: 10.1016/j.csbj.2023.02.003. PubMed PMID: 36785617; PMCID: PMC9908618. [Impact Factor: 6.0; Contributions: Conceptualization, Methodology, Software, Analysis, Writing, Visualization, Supervision]

20. ➤Rapier-Sharman N<sup>+</sup>, Clancy J<sup>†</sup>, **Pickett BE**. *Joint Secondary Transcriptomic Analysis of Non-Hodgkin's B-Cell Lymphomas Predicts Reliance on Pathways Associated with the Extracellular Matrix and Robust Diagnostic Biomarkers*. Journal of Bioinformatics and Systems Biology 5 (2022): 119-135. DOI:10.26502/jbsb.5107040. PMID: 36873459; PMCID: PMC9980876. [Impact Factor: 4.2; Contributions: Conceptualization, Methodology, Software, Writing, Supervision]
21. ➤Gifford K<sup>†</sup>, & **Pickett BE** (2022). Comparative meta-analysis of host transcriptional response during Streptococcus pneumoniae carriage or infection. *Microbial Pathogenesis*, 105816. <https://doi.org/10.1016/j.micpath.2022.105816>. PubMed PMID: 36209971. [Impact Factor: 3.7; Contributions: Conceptualization, Methodology, Software, Writing, Supervision]
22. ➤Scott TM<sup>†</sup>, Solis-Leal A<sup>+</sup>, Lopez JB<sup>†</sup>, Robison RA, Berges BK, **Pickett BE** (2022). *Comparison of Intracellular Transcriptional Response of NHBE Cells to Infection with SARS-CoV-2 Washington and New York Strains*. Front. Cell. Infect. Microbiol., 20. <https://doi.org/10.3389/fcimb.2022.1009328>. PubMed PMID: 36033592; PMCID: PMC9403368. [Impact Factor: 5.7; Contributions: Conceptualization, Methodology, Software, Analysis, Writing, Supervision]
23. ➤Specht I, Sani K, Loftness BC, Hoffmann C<sup>†</sup>, Gionet G, Bronson A, Marshall J, Decker C<sup>†</sup>, Bailey L<sup>†</sup>, Siyanbade T, Kemball M, **Pickett BE**, Hanage WP, Brown T, Sabeti PC, Colubri A (2022). *Analyzing the impact of a real-life outbreak simulator on pandemic mitigation: An epidemiological modeling study*. Patterns. 2022 August; 3(8). doi: <https://doi.org/10.1016/j.patter.2022.100572>. PubMed PMID: 36204651; PMCID: PMC9530606. [Impact Factor: 6.5; Contributions: Analysis, Writing]
24. ➤Decker CH<sup>†</sup>, Rapier-Sharman N<sup>+</sup>, **Pickett BE** (2022). *Mutation in Hemagglutinin Antigenic Sites in Influenza A pH1N1 Viruses from 2015–2019 in the United States Mountain West, Europe, and the Northern Hemisphere*. Genes (Basel). 2022 May 19;13(5). doi: 10.3390/genes13050909. PMID: 35627294; PMCID: PMC9141826. [Impact Factor: 4.1; Contributions: Conceptualization, Methodology, Software, Writing, Visualization, Supervision]
25. ➤Moreno C<sup>+</sup>, Bybee E<sup>†</sup>, Tellez Freitas CM, **Pickett BE**, Weber KS (2022). *Meta-Analysis of Two Human RNA-seq Datasets to Determine Periodontitis Diagnostic Biomarkers and Drug Target Candidates*. Int J Mol Sci. 2022 May 17;23(10). doi: 10.3390/ijms23105580. PMID: 35628390; PMCID: PMC9145972. [Impact Factor: 5.6; Contributions: Methodology, Software, Analysis, Writing, Supervision]
26. ➤Ball AL<sup>+</sup>, Augenstein ED<sup>†</sup>, Wienclaw TM<sup>†</sup>, Richmond BC<sup>†</sup>, Freestone CA<sup>†</sup>, Lewis JM<sup>†</sup>, Thompson JS<sup>†</sup>, **Pickett BE**, Berges BK (2022). *Characterization of Staphylococcus aureus biofilms via crystal violet binding and biochemical composition assays of isolates from hospitals, raw meat, and biofilm-associated gene mutants*. Microbial Pathogenesis, 105554. <https://doi.org/10.1016/j.micpath.2022.105554>. PMID: 35526677. [Impact Factor: 3.7; Contributions: Software, Methodology, Analysis]
27. ➤Krapohl J<sup>+</sup> and **Pickett BE** (2022). *SnakeWRAP: a Snakemake workflow to facilitate automated processing of metagenomic data through the metaWRAP pipeline*. F1000Research 2022, 11:265 <https://doi.org/10.12688/f1000research.108835.2>.

- PMID: 37469625; PMCID: PMC10352622. [Impact Factor: 3.2; Contributions: Conceptualization, Software, Writing, Supervision]
28. ➤ **Pickett BE**, Connor R, Berhanu-Denka T, Bhalla S, Brover V, Chambers MJ, Chaudhary K, Cisse OH, Dillman A, Elmassry MM, Feldgarden M, Holloway E, Huang X, Klimke W, Mendes CI, Norred SE, Parkinson J, Sevilla S, Solache MG, Surujon D, Torian U, Zalunin V, Busby B (2022). *Lessons learned in virulence factor identification and data management from a hackathon on microbial virulence*. *F1000Research* 2022, 11:160. <https://doi.org/10.12688/f1000research.26452.1>. [Impact Factor: 3.2; Contributions: Methodology, Software, Writing, Visualization]
  29. ➤ Gray M<sup>†</sup>, Guerrero-Arguero I<sup>+</sup>, Solis Leal A<sup>+</sup>, Robison RA, Berges BK, **Pickett BE** (2022). *Chikungunya virus time course infection of human macrophages reveals intracellular signaling pathways relevant to repurposed therapeutics*. *PeerJ* 2022 Mar 21;10:e13090. <https://doi.org/10.7717/peerj.13090>. PMID: 35341048; PMCID: PMC8944338. [Impact Factor: 2.7; Contributions: Conceptualization, Methodology, Software, Analysis, Writing, Visualization, Supervision]
  30. ➤ Whitley KV<sup>+</sup>, Freitas C, Moreno C<sup>+</sup>, Haynie C<sup>+</sup>, Bennett J<sup>†</sup>, Hancock JC<sup>†</sup>, Cox TD<sup>†</sup>, **Pickett BE**, Weber KS (2022). *CD5 Deficiency Alters Helper T Cell Metabolic Function and Shifts the Systemic Metabolome*. *Biomedicines*. 10(3), 704. <https://doi.org/10.3390/biomedicines10030704>. PMID: 35327505; PMCID: PMC8945004. [Impact Factor: 4.7; Contributions: Methodology, Software, Analysis, Writing, Supervision]
  31. ➤ Afzal A, Shariff MA, Perez-Gutierrez V, Khalid A, Pili C, Pillai A, Venugopal U, Kasubhai M, Kanna B, Poole BD, **Pickett BE**, Redd DS<sup>+</sup>, Menon V. *Impact of Local and Demographic Factors on Early COVID-19 Vaccine Hesitancy among Health Care Workers in New York City Public Hospitals*. *Vaccines* (Basel). 2022 Feb 10;10(2). doi: 10.3390/vaccines10020273. PMID: 35214729; PMCID: PMC8879070. [Impact Factor: 7.8; Contributions: Methodology, Software, Analysis, Writing]
  32. ➤ Martin A<sup>+</sup>, Babbitt A<sup>†</sup>, Pickens AG<sup>†</sup>, **Pickett BE**, Hill JT, Suli A. *Single-Cell RNA Sequencing Characterizes the Molecular Heterogeneity of the Larval Zebrafish Optic Tectum*. *Front Mol Neurosci*. 2022;15:818007. doi: 10.3389/fnmol.2022.818007. eCollection 2022. PMID: 35221915; PMCID: PMC8869500. [Impact Factor: 4.8; Contributions: Software, Writing, Supervision]
  33. ➤ Guerrero-Arguero I<sup>+</sup>, Tellez-Freitas CM, Weber KS, Berges BK, Robison RA, **Pickett BE**. *Alphaviruses: Host pathogenesis, immune response, and vaccine & treatment updates*. *J Gen Virol*. 2021 Aug;102(8). DOI: 10.1099/jgv.0.001644. PMID: 34435944. [Impact Factor: 3.8; Contributions: Analysis, Writing, Supervision]
  34. ➤ Rapiere-Sharman N<sup>+</sup>, Krapohl J<sup>+</sup>, Beausoleil EJ<sup>†</sup>, Gifford KTL<sup>†</sup>, Hinatsu BR<sup>†</sup>, Hoffmann CS<sup>†</sup>, Komer M<sup>†</sup>, Scott TM<sup>†</sup>, **Pickett BE**. *Preprocessing of Public RNA-Sequencing Datasets to Facilitate Downstream Analyses of Human Diseases*. *Data*. 2021; 6(7):75. DOI: 10.3390/data6070075. [Impact Factor: 2.6; Contributions: Conceptualization, Methodology, Software, Writing, Supervision]
  35. ➤ Martinez Viedma MDP, Panossian S, Gifford K<sup>†</sup>, Garcia K, Figueroa I, Parham L, de Moraes L, Nunes Gomes L, Garcia-Salum T, Perret C, Weiskopf D, Tan GS, Augusto Silva A, Boaventura V, Ruiz-Palacios GM, Sette A, De Silva AD, Medina RA, Lorenzana I, Akrami KM, Khouri R, Olson D, **Pickett BE**. *Evaluation of ELISA-*

- Based Multiplex Peptides for the Detection of Human Serum Antibodies Induced by Zika Virus Infection across Various Countries.* Viruses. 2021 Jul 8;13(7):1319. DOI: 10.3390/v13071319. PMID: 34372525; PMCID: PMC8310037. [Impact Factor: 4.7; Contributions: Conceptualization, Methodology, Software, Validation, Analysis, Writing, Visualization, Supervision, Funding Acquisition, Project Administration]
36. ➤ Scott TM<sup>†</sup>, Jensen S<sup>†</sup>, **Pickett BE**. *A signaling pathway-driven bioinformatics pipeline for predicting therapeutics against emerging infectious diseases.* F1000Research 2021, 10:330. DOI: 10.12688/f1000research.52412.2. PMID: 34868553; PMCID: PMC8607308. [Impact Factor: 3.2; Contributions: Conceptualization, Methodology, Software, Writing, Visualization, Supervision]
37. ➤ Ferrarini MG, Lal A, Rebollo R, Gruber AJ, Guarracino A, Gonzalez IM, Floyd T, de Oliveira DS, Shanklin J<sup>†</sup>, Beausoleil E<sup>†</sup>, Pusa T, **Pickett BE\***, Aguiar-Pulido V. *Genome-wide bioinformatic analyses predict key host and viral factors in SARS-CoV-2 pathogenesis.* Commun Biol. 2021 May 17;4(1):590. DOI: 10.1038/s42003-021-02095-0. PMID: 34002013; PMCID: PMC8128904. [Impact Factor: 5.9; Contributions: Conceptualization, Methodology, Software, Validation, Analysis, Writing, Visualization, Supervision, Project Administration]
38. ➤ Phipps KL, Ganti K, Carnaccini S, Manandhar M, Jacobs NT, **Pickett BE**, Tan GS, Ferreri LM, Perez DR, Lowen AC. *Collective interactions augment influenza A virus replication in a host-dependent manner.* Nat Microbiol. 2020 Jul. DOI: 10.1038/s41564-020-0749-2. PMID: 32632248; PMCID: PMC7484227. [Impact Factor: 28.3; Contributions: Methodology, Software, Analysis, Writing]
39. ➤ Kaul D, Rathnasinghe R, Ferres M, Tan GS, Barrera A, **Pickett BE**, Methe B, Das SR, Budnik I, Halpin RA, Wentworth D, Schmolke M, Mena I, Albrecht R, Singh I, Nelson KE, Garcia-Sastre A, Dupont C, Medina R. *Microbiome disturbance and resilience dynamics of the upper respiratory tract in response to influenza A virus infection in analog hosts.* Nat Commun. 2020 May;11(1):2537. DOI: 10.1038/s41467-020-16429-9. PMID: 32546784; PMCID: PMC7298031. [Impact Factor: 16.6; Contributions: Writing, Supervision]
40. ➤ Viedma MPM, Kose N, Parham L, Balmaseda A, Kuan G, Lorenzana I, Harris E, Crowe JE, **Pickett BE**. *Peptide Arrays Incubated with Three Collections of Human Sera from Patients Infected with Mosquito-Borne Viruses.* F1000Res. 28 Feb 2020, 8:1875. DOI: 10.12688/f1000research.20981.3. PMID: 32201571; PMCID: PMC7065662. [Impact Factor: 2.7; Contributions: Conceptualization, Methodology, Software, Analysis, Investigation, Curation, Writing, Visualization, Supervision, Project Administration, Funding Acquisition]
41. Bialosuknia SM, Tan Y, Zink SD, Koetzner CA, Maffei JG, Halpin RA, Muller E, Novatny M, Shilts M, Fedorova NB, Amedeo P, Das SR, **Pickett B**, Kramer LD, Ciota AT. *Evolutionary dynamics and molecular epidemiology of West Nile virus in New York State: 1999-2015.* Virus Evol. 2019 Jul;5(2):vez020. DOI: 10.1093/ve/vez020. PMID: 31341640; PMCID: PMC6642743.
42. Viedma Martinez MP, Puri V, Oldfield LM, Shabman RS, Tan GS, **Pickett BE**. *Optimization of qRT-PCR assay for Zika virus detection in human serum and urine.* Virus Research 2019 Feb 10; 263:173-178. DOI: 10.1016/j.virusres.2019.01.013. PMID: 30742853; PMCID: PMC6561482.

43. Viedma Martinez MP, **Pickett BE**. *Characterizing the Different Effects of Zika Virus Infection in Placenta and Microglia Cells*. Viruses 2018, 10(11), 649. DOI: 10.3390/v10110649. PMID: 30453684; PMCID: PMC6266000.
44. Moser LA, Boylan BT, Moreira FR, Myers LJ, Svenson EL, Fedorova NB, **Pickett BE**, Bernard KA. *Growth and adaptation of Zika virus in mammalian and mosquito cells*. PLoS Negl Trop Dis. 2018 Nov 12;12(11):e0006880. DOI: 10.1371/journal.pntd.0006880. PMID: 30418969; PMCID: PMC6258428.
45. Shrivastava S, Puri V, Dilley KA, Ngouajio E, Shifflett J, Oldfield L, Fedorova N, Hu L, Williams T, Durbin A, Amedeo P, Rashid S, Shabman RS, **Pickett BE**. *Whole genome sequencing, variant analysis, phylogenetics, deep sequencing, and development of diagnostic assays for Zika virus strains*. Nature Sci Rep. 2018 Oct 26;8(1):15843. DOI: 10.1038/s41598-018-34147-7. PMID: 30367096; PMCID: PMC6203802.
46. Tan Y\*, **Pickett BE\***, Shrivastava S, Gresh L, Balmaseda A, Amedeo P, Hu L, Puri V, Fedorova NB, Halpin RA, LaPointe MP, Cone MR, Larson LH, Kramer LD, Ciota AT, Gordon A, Shabman RS, Das SR, Harris E. *Differing epidemiological dynamics of Chikungunya virus in the Americas during 2014-2015 epidemic*. PLoS Neglected Tropical Diseases. 2018 Jul 30; 12(7):e0006670. DOI: 10.1371/journal.pntd.0006670. PMID: 30059496; PMCID: PMC6085065.
47. Oldfield LM, Fedorova N, Puri V, Shrivastava S, Amedeo P, Durbin A, Rocchi I, Williams T, Shabman RS, Tan GS, Balmaseda A, Kuan G, Saborio S, Gordon A, Harris E, **Pickett BE**. *Sequences of Zika Virus Genomes from a Pediatric Cohort in Nicaragua*. Genome Announc. 2018 Jun 14;6(24). pii: e00498-18. DOI: 10.1128/genomeA.00498-18. PMID: 29903816; PMCID: PMC6003747.
48. Nyaga MM, Tan Y, Seheri ML, Halpin RA, Akopov A, Stucker KM, Fedorova NB, Shrivastava S, Duncan Steele A, Mwenda JM, **Pickett BE**, Das SR, Jeffery Mphahlele M. *Whole-genome sequencing and analyses identify high genetic heterogeneity and diversity of rotavirus genotype P[6] strains circulating in Africa*. Infect Genet Evol. 2018 May 18. pii: S1567-1348(18)30286-7. DOI: 10.1016/j.meegid.2018.05.013. PMID: 29782933; PMCID: PMC6364979.
49. Ibrahim B, Arkhipova K, Andeweg AC, Posada-Céspedes S, Enault F, Gruber A, Koonin EV, Kupczok A, Lemey P, McHardy AC, McMahan DP, **Pickett BE**, Robertson DL, Scheuermann RH, Zhernakova A, Zwart MP, Schönhuth A, Dutilh BE, Marz M. *Bioinformatics Meets Virology: The European Virus Bioinformatics Center's Second Annual Meeting*. Viruses. 2018 May 14;10(5). pii: E256. DOI: 10.3390/v10050256. PMID: 29757994; PMCID: PMC5977249.
50. Moser LA, Oldfield LM, Fedorova N, Puri V, Shrivastava S, Amedeo P, Isom R, Hu L, Durbin A, Rocchi I, Williams T, Tan GS, Shabman RS, Bernard KA, **Pickett BE**. *Whole-Genome Sequences of Zika Virus FLR Strains after Passage in Vero or C6/36 Cells*. Genome Announc. 2018 Jan 25;6(4). pii: e01528-17. DOI: 10.1128/genomeA.01528-17. PMID: 29371358; PMCID: PMC5786684.
51. Shrivastava S, Puri V, Fedorova N, Amedeo P, Stockwell TB, Shabman RS, Rashid S, **Pickett BE**. *Identification of Dezidougou virus in a DAK AR 41524 Zika virus stock*. Genome Announcements. 2017 Jul 27;5(30). pii: e00605-17. DOI: 10.1128/genomeA.00605-17. PMID: 28751385; PMCID: PMC5532823.

52. Lee AJ, Bhattacharya R, Scheuermann RH, **Pickett BE**. *Identification of Diagnostic Peptide Regions that Distinguish Zika Virus from Related Mosquito-Borne Flaviviruses*. PLoS One 2017 May 31;12(5):e0178199. DOI: 10.1371/journal.pone.0178199. PMID: 28562637; PMCID: PMC5451039.
53. Zhang Y, Aevermann BD, Anderson TK, Burke DF, Dauphin G, Gu Z, He S, Kumar S, Larsen CN, Lee AJ, Li X, Macken C, Mahaffey C, **Pickett BE**, Reardon B, Smith T, Stewart L, Suloway C, Sun G, Tong L, Vincent AL, Walters B, Zaremba S, Zhao H, Zhou L, Zmasek C, Klem EB, Scheuermann RH. *Influenza Research Database: An integrated bioinformatics resource for influenza virus research*. Nucleic Acids Res. 2017 Jan 4. DOI: 10.1093/nar/gkw857. PMID: 27679478; PMCID: PMC5210613.
54. Miller MA, Schwartz T, **Pickett BE**, He S, Klem EB, Scheuermann RH, Passarotti M, Kaufman S, O'Leary MA. *A RESTful API for Access to Phylogenetic Tools via the CIPRES Science Gateway*. Evol Bioinform Online. 2015 Mar 16;11:43-8. DOI: 10.4137/EBO.S21501. PMID: 25861210; PMCID: PMC4362911.
55. Lee AJ, Das SR, Wang W, Fitzgerald T, **Pickett BE**, Aevermann BD, Topham DJ, Falsey AR, Scheuermann RH. *Diversifying Selection Analysis Predicts Antigenic Evolution of 2009 Pandemic H1N1 Influenza A Virus in Humans*. J Virol. 2015 May;89(10):5427-40. DOI: 10.1128/JVI.03636-14. PMID: 25741011; PMCID: PMC4442545.
56. Squires RB, **Pickett BE**, Das S, Scheuermann RH. *Toward a method for tracking virus evolutionary trajectory applied to the pandemic H1N1 2009 influenza virus*. Infect Genet Evol. 2014 Dec;28:351-7. DOI: 10.1016/j.meegid.2014.07.015. PMID: 25064525; PMCID: PMC4257861.
57. Dugan VG, Emrich SJ, Giraldo-Calderón GI, Harb OS, Newman RM, **Pickett BE**, Schriml LM, Stockwell TB, Stoeckert CJ Jr, Sullivan DE, Singh I, Ward DV, Yao A, Zheng J, Barrett T, Birren B, Brinkac L, Bruno VM, Caler E, Chapman S, Collins FH, Cuomo CA, Di Francesco V, Durkin S, Eppinger M, Feldgarden M, Fraser C, Fricke WF, Giovanni M, Henn MR, Hine E, Hotopp JD, Karsch-Mizrachi I, Kissinger JC, Lee EM, Mathur P, Mongodin EF, Murphy CI, Myers G, Neafsey DE, Nelson KE, Nierman WC, Puzak J, Rasko D, Roos DS, Sadzewicz L, Silva JC, Sobral B, Squires RB, Stevens RL, Tallon L, Tettelin H, Wentworth D, White O, Will R, Wortman J, Zhang Y, Scheuermann RH. *Standardized metadata for human pathogen/vector genomic sequences*. PLoS One. 2014 Jun 17;9(6). DOI: 10.1371/journal.pone.0099979. PMID: 24936976; PMCID: PMC4061050.
58. Aevermann BD, **Pickett BE**, Kumar S, Klem EB, Agnihothram S, Askovich PS, Bankhead A 3rd, Bolles M, Carter V, Chang J, Clauss TR, Dash P, Diercks AH, Einfeld AJ, Ellis A, Fan S, Ferris MT, Gralinski LE, Green RR, Gritsenko MA, Hatta M, Heegel RA, Jacobs JM, Jeng S, Josset L, Kaiser SM, Kelly S, Law GL, Li C, Li J, Long C, Luna ML, Matzke M, McDermott J, Menachery V, Metz TO, Mitchell H, Monroe ME, Navarro G, Neumann G, Podyminogin RL, Purvine SO, Rosenberger CM, Sanders CJ, Schepmoes AA, Shukla AK, Sims A, Sova P, Tam VC, Tchitchek N, Thomas PG, Tilton SC, Totura A, Wang J, Webb-Robertson BJ, Wen J, Weiss JM, Yang F, Yount B, Zhang Q, McWeeney S, Smith RD, Waters KM, Kawaoka Y, Baric R, Aderem A, Katze MG, Scheuermann RH. *A comprehensive collection of systems biology data characterizing the host response to viral infection*. Nature Scientific Data.

- 2014 Oct 14;1. DOI: 10.1038/sdata.2014.33. PMID: 25977790; PMCID: PMC4410982.
59. **Pickett BE**, Liu M, Sadat EL, Squires RB, Noronha JM, He S, Jen W, Zaremba S, Gu Z, Zhou L, Larsen CN, Bosch I, Gehrke L, McGee M, Klem EB, Scheuermann RH. *Metadata-driven Comparative Analysis Tool for Sequences (meta-CATS): an Automated Process for Identifying Significant Sequence Variations that Correlate with Virus Attributes*. *Virology*. 2013 41(1), 45-51. PMID: 24210098; PMCID: PMC5040469.
60. **Pickett BE**, Greer DS, Zhang Y, Stewart L, Zhou L, Sun G, Gu Z, Kumar S, Zaremba S, Larsen CN, Jen W, Klem EB, Scheuermann RH. *Virus pathogen database and analysis resource (ViPR): a comprehensive bioinformatics database and analysis resource for the coronavirus research community*. *Viruses*. 2012 Nov 19;4(11):3209-26. DOI: 10.1016/j.virol.2013.08.021. PMID: 23202522; PMCID: PMC3509690.
61. Noronha JM, Liu M, Squires RB, **Pickett BE**, Hale BG, Air GM, Galloway SE, Takimoto T, Schmolke M, Hunt V, Klem E, García-Sastre A, McGee M, Scheuermann RH. *Influenza virus sequence feature variant type analysis: evidence of a role for NSI in influenza virus host range restriction*. *J Virol*. 2012 May;86(10):5857-66. doi: 10.1128/JVI.06901-11. Epub 2012 Mar 7. PMID: 22398283; PMCID: PMC3347290.
62. Squires RB, Noronha J, Hunt V, García-Sastre A, Macken C, Baumgarth N, Suarez D, **Pickett BE**, Zhang Y, Larsen CN, Ramsey A, Zhou L, Zaremba S, Kumar S, Deitrich J, Klem E, Scheuermann RH. *Influenza Research Database: an integrated bioinformatics resource for influenza research and surveillance*. *Influenza Other Respi Viruses*. 2012 Jan 20. DOI: 10.1111/j.1750-2659.2011.00331.x. PMID: 22260278; PMCID: PMC3345175.
63. **Pickett BE**, Sadat EL, Zhang Y, Noronha JM, Squires RB, Hunt V, Liu M, Kumar S, Zaremba S, Gu Z, Zhou L, Larson CN, Dietrich J, Klem EB, Scheuermann RH. *ViPR: An Open Bioinformatics Database and Analysis Resource for Virology Research*. *Nucleic Acids Res*. 2012 Jan;40(Database issue):D593-8. DOI: 10.1093/nar/gkr859. PMID: 22006842; PMCID: PMC3245011.
64. Schmidt DJ\*, **Pickett BE\***, Camacho D, Comach G, Khaja K, Henn M, Lennon N, Rizzolo K, Vasconcelos P, Nogueira M, Mondini A, Muñoz-Jordán J, de Bosch N, Becerra AA, Harris E, Lefkowitz EJ, Gehrke L, Bosch I. *A phylogenetic analysis using full-length viral genomes of South American dengue serotype 3 in consecutive Venezuelan outbreaks reveals a novel NS5 mutation*. *Infect Genet Evol*. 2011 Dec;11(8):2011-9. DOI: 10.1016/j.meegid.2011.09.010. PMID: 21964598; PMCID: PMC3565618.
65. White GS, **Pickett BE**, Lefkowitz EJ, Johnson AG, Ottendorfer C, Stark LM, Unnasch T. *Phylogenetic analysis of eastern equine encephalitis virus isolates from Florida*. *Am J Trop Med Hyg*. 2011 May;84(5):709-17. DOI: 10.4269/ajtmh.2011.10-0267. PMID: 21540379; PMCID: PMC3083737.
66. **Pickett BE**, Striker RT, Lefkowitz EJ. *Evidence for separation of HCV Subtype 1A into Two Distinct Clades*. *J. Viral Hepat*. 2011 Sep;18(9):608-18. DOI: 10.1111/j.1365-2893.2010.01342.x. PMID: 20565573; PMCID: PMC2964416.
67. **Pickett BE**, Lefkowitz EJ. *Recombination in West Nile Virus: minimal contribution to genomic diversity*. *Virology*. 2009 Oct 12;6(1):165. DOI: 10.1186/1743-422X-6-165. PMID: 19821990; PMCID: PMC2763871.

➤ Since starting at BYU; †BYU undergraduate student; †BYU graduate student

### **Ongoing Funding Support**

Role: Principal Investigator

Title: A Novel Biorational Approach to Curing Honey Bees of Public Enemy Number One

Dates: September 2023 – April 2025

Sponsor: National Science Foundation

Amount: \$133,550

### **Completed Funding Support:**

Role: Principal Investigator

Title: Computational analysis of human transcriptomic data to predict host drug targets that reverse disease phenotypes.

Dates: November 2019 – November 2022

Sponsor: BYU-College of Life Sciences, new faculty startup funding

Amount: \$60,000

Role: Principal Investigator

Title: Predicting Influenza Vaccine Strains

Dates: Dec 1, 2012-Nov 30, 2016

Sponsor: Synthetic Genomics Vaccines, Inc.

Amount: \$746,061

Role: Principal Investigator

Title: Influenza Curation Project

Dates: 01/15/2017 - 02/28/2017

Sponsor: Private funding

Amount: \$28,669

Role: Investigator

Title: Development of a Universal Rhinovirus Vaccine

Dates: 06/01/14-11/01/17

Sponsor: GlaxoSmithKline

Amount: \$2,683,500

Role: Principal Investigator

Title: Implementation of an Influenza HA Sequence to Structure to Function Computational Workflow

Dates: 08/28/2017 – 12/31/2017

Sponsor: Sanofi Pasteur

Amount: \$137,107

Role: Principal Investigator

Title: A Protein-Based Method to Distinguish Seroprevalence in Humans for Multiple Mosquito-Borne Flaviviruses

Dates: Oct 1, 2016 - Dec 31, 2018

Sponsor: United States Agency for International Development  
Amount: \$450,670

Role: Co-Investigator  
Title: Bioinformatics Resource Centers for Infectious Disease – Viral  
Dates: 07/01/14-06/30/19  
Sponsor: National Institute of Allergy and Infectious Diseases  
Amount: \$7,302,405

Role: Co-Project Director  
Title: The J. Craig Venter Institute Genome Center for Infectious Diseases  
Dates: 04/01/14-03/31/19  
Sponsor: National Institute of Allergy and Infectious Diseases  
Amount: \$28,288,353