

# Bradford K. Berges, Ph.D.

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## OBJECTIVE

A career in research of pathogenesis/immunology of human viruses in animal models

## PROFESSIONAL APPOINTMENTS

Professor, Brigham Young University, Department of Microbiology and Molecular Biology (2008-present)  
Adjunct Professor, Roseman University of Health Sciences (2021-present)

## EDUCATION

*University of Pennsylvania* (1999-2005)

Ph.D. in Cell and Molecular Biology.

Dissertation: Gene Therapy of the Mucopolysaccharidosis VII Mouse Brain with a Herpes Simplex Virus Type 1 vector.

*Brigham Young University* (1993-94, 1996-99)

B.S. in Microbiology.

## RESEARCH EXPERIENCE

*Professor* (Sept 2022-present), *Associate Professor* (September 2016-Aug 2022),  
*Assistant Professor* (July 2008-Aug 2016).

Brigham Young University, Department of Microbiology and Molecular Biology

We are using a humanized mouse model to study pathogenesis of human viruses, including HIV-1, the herpesviruses HHV-6A and KSHV, and arboviruses (Chikungunya). We also are interested in finding new ways to control methicillin-resistant *Staphylococcus aureus* (MRSA), including studies of how biofilms form and what roles biofilms have in antibiotic resistance gene sharing.

*Postdoctoral Fellow* (Jan. 2006-June 2008)

Colorado State University

Mentor: Dr. Ramesh Akkina. Development of new humanized mouse models for Human Immunodeficiency Virus (HIV) and Dengue virus infections and analysis of the subsequent human adaptive immune response. Development of a humanized mouse model to study antibody-dependent enhancement of dengue virus infection, dengue hemorrhagic fever, and dengue shock syndrome. Analysis of dengue virus cellular tropism in humanized mice. Establishment of a new model of HIV-1 mucosal transmission. Investigation of new anti-HIV gene therapies using lentiviral vectors.

*Ph.D. Student*

University of Pennsylvania (Sept. 1999-Dec. 2005)

Mentor: Dr. Nigel Fraser. Development of herpes simplex virus type 1 (HSV-1) as a vector for gene therapy of the brain using murine mucopolysaccharidosis type VII as a model disease. Made new recombinant viral vectors for investigation of the distribution of viral latency and transgene expression in the mouse brain as a function of various

inoculation sites. Measured brain transduction at the levels of viral genome maintenance, transgene transcription, and enzyme expression. Published the first example of correction of an inherited disorder via HSV-mediated gene therapy.

## PUBLICATIONS

- Lucy C. Bowden, Sidney T. Sithole, Emilia C. Walton, Jun Han Chen, Jason J. Sorensen, Anton E. Bowden, Brian D. Jensen, **Bradford K. Berges**. Copper-coated carbon-infiltrated carbon nanotube surfaces effectively inhibit *Staphylococcus aureus* and *Pseudomonas aeruginosa* biofilm formation. *Applied and Environmental Microbiology* (2025) e01053-25.
- Lucy C. Bowden, Sidney T. Sithole, Anton E. Bowden, Brian D. Jensen, **Bradford K. Berges**. Carbon-infiltrated carbon nanotube topography reduces the growth of *Staphylococcus aureus* biofilms. *Nanomaterials* (2025) 15(7) 510.
- Abraham Quaye, Brett E. Pickett, Joel S. Griffiths, **Bradford K. Berges**, Brian D. Poole. Turkey B cell Transcriptome Profile During Turkey Hemorrhagic Enteritis Virus (THEV) Infection Highlights Upregulated Apoptosis and Breakdown Pathways That May Mediate Immunosuppression. *Viruses* (2025) 17, 299.
- Antonio Solis-Leal, Dalton C. Karlinsey, Sidney T. Sithole, J. Brandon Lopez, Amanda Carlson, Vicente Planelles, Brian D. Poole, and **Bradford K. Berges**. The HIV-1 Vpr R77Q Mutant Induces Apoptosis, G<sub>2</sub> Cell Cycle Arrest and Lower Production of Pro-inflammatory Cytokines in Human CD4<sup>+</sup> T Cells. *Viruses* (2024) 16, 1642.
- Quaye, Abraham, Pickett, Brett E., Griffiths, Joel S., **Berges, Bradford K.** and Poole, Brian D. Characterizing the splice map of Turkey Hemorrhagic Enteritis Virus. ***Virology Journal*** (2024) 21(1):175.
- Bowden, Lucy C., Finlinson, Jenny, Jones, Brooklyn, and **Berges, Bradford K.** Beyond the double helix: the multifaceted landscape of extracellular DNA in *Staphylococcus aureus* biofilms. ***Frontiers in Cellular and Infection Microbiology*** (2024) 5:14:1400648.
- Bowden, Lucy C., Evans, Jocelyn G.W., Miller, Katelyn M., Bowden, Anton E., Jensen, Brian D., Hope, S. and **Berges, Bradford K.** Carbon-infiltrated carbon nanotubes inhibit the development of *Staphylococcus aureus* biofilms. ***Scientific Reports*** (2023) 13:19398.
- Scott, Tiana M., Solis-Leal, Antonio, Lopez, J. Brandon, Robison, Richard A., **Berges, Bradford K.**, and Pickett, Brett E. Comparison of Intracellular Transcriptional Response of NHBE Cells to Infection with SARS-CoV-2 Washington and New York Strains. ***Frontiers in Cellular and Infection Microbiology*** (2022) 12:1009328.
- Ball, Ashley L., Augenstein, Emilee D., Wienclaw, T.M., Richmond, Bradley C., Freestone, Courtney A., Lewis, Jessica M., Thompson, Jared S., Pickett, Brett E., and **Berges, Bradford K.** 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*** (2022) 167:105554.
- Gray M., Guerrero-Arguero I., Solis-Leal A., Robison R.A., **Berges, Bradford K.**, Pickett B.E. Chikungunya virus time course infection of human macrophages reveals intracellular signaling pathways relevant to repurposed therapeutics. ***PeerJ*** (2022) 10:e13090.
- Laura J. Westhoff, Savannah J. Hughes, Erin Gill, Trent Walker, Abraham Quaye, **Bradford K. Berges**, and Brian D. Poole. Il-18 Overproduction Associated with NLRP1 Single Nucleotide Polymorphisms Linked to Risk for Vitiligo. ***International Journal of Clinical and Experimental Dermatology*** (2021) 6(2): 01.

- Guerrero-Arguero, Israel, Tellez-Freitas, Claudia M., Weber, K. Scott, **Berges, Bradford K.**, Robison, A. Richard and Pickett, Brett E. Alphavirus Pathogenesis, Immune Responses, and Vaccine and Treatment Updates. **Journal of General Virology** (2021) 102(8): 001644.
- Vijayalakshmi Nandakumar, Tracie Profaizer, Bucky K. Lozier, Marc G. Elgort, Erin T. Larragoite, Antonio Solis Leal, J Brandon Lopez, Elizabeth S.C.P Williams, **Bradford K. Berges**, Vicente Planelles, Jenna Rychert, Patricia R. Slev, Julio C. Delgado. Evaluation of a Surrogate ELISA- Based SARS-CoV-2 cPass™ Neutralization Antibody Detection Assay and Correlation with IgG Commercial Serology Assays. **Archives of Pathology and Laboratory Medicine**; (2021) 145(10): 1212-1220.
- Wubin He, Xiaoxu Huang, **Bradford K. Berges**, Yue Wang, Ni An, Rongjian Su, Yanyan Lu. Artesunate regulates Neurite outgrowth inhibitor protein B receptor (NgBR) to overcome resistance to sorafenib in hepatocellular carcinoma cells. **Frontiers in Pharmacology** 12 (2021): 615889.
- Benjamin H. Ogilvie, Antonio Solis-Leal, J. Brandon Lopez, Brian D. Poole, Richard A. Robison, and **Bradford K. Berges**. Alcohol-free hand sanitizer and other quaternary ammonium disinfectants quickly and effectively inactivate SARS-CoV-2. **Journal of Hospital Infection** 108 (2021): 142-145.
- Pogue, K., Jensen, J. Stancil, C., Ferguson, D., Hughes, S., Mello, E., Burgess, R., **Berges, B.K.**, Quaye, A., and Poole, Brian D. Influences on attitudes regarding potential COVID-19 vaccination in the United States. **Vaccines** (Basel) 2020; 8(4): 582.
- Wienclaw, Trevor M. and **Berges, Bradford K.** The relationship between methicillin resistance and biofilm composition in *Staphylococcus aureus*. **American Journal of Biomedical Science & Research** 2020; 10(1): 11-15.
- Edwin J. Velazquez, Taylor D. Brindley, Gajendra Shrestha, Eliza E. Bitter, Jordan D. Cress, Michelle H. Townsend, **Bradford K. Berges**, Richard A. Robison, K. Scott Weber and Kim L. O'Neill†. Novel Monoclonal Antibodies Against Thymidine Kinase 1 and Their Potential Use for The Immunotargeting of Lung, Breast and Colon Cancer Cells. **Cancer Cell International**. 2020 20:127.
- Israel Guerrero-Arguero, Taalin Rasmussen Høj, E. Shannon Tass, **Bradford K. Berges**, Richard Robison†. A Comparison of Chikungunya Virus Infection, Progression, and Cytokine Profiles in Human U937 and Murine RAW Monocyte Derived Macrophages. **PLoS One** 2020 15(3):e0230328.
- Hair, Bryan B., Conley, Matthew E., Wienclaw, Trevor M., Conley, Mark J., Heaton, Matthew J., and **Berges, Bradford K.** Synergistic Activity of Silver Nanoparticles and Vancomycin Against a Spectrum of *Staphylococcus aureus* Biofilm Types. **J Bacteriol Mycol** 2018 5(9): 1089.
- Haskell, Kyler J., Schriever, Samuel R., Fonoimoana, Kenisi D., Haws, Benjamin, Hair, Bryan B., Wienclaw, Trevor M., Holmstead, Joseph G., Barboza, Andrew B., Berges, Erik T., Heaton, Matthew J., and **Berges, Bradford K.** Antibiotic resistance is significantly lower in *Staphylococcus aureus* isolated from antibiotic-free raw meat as compared to conventional raw meat. **PLoS ONE** 2018 13(12):e0206712.
- Fullwood, R. Amy, Low, Gregory M., Chase, Emily P., Grasley, Meagan, Beal, Soren S., McCrary, Ian M., Daniels, Christian W., Ingersoll, Kayleigh, **Berges, Bradford K.** The Kaposi's sarcoma-associated herpesvirus viral interleukin 6 gene affects metastasis and expression of B cell markers in a murine xenograft model. **PLoS ONE** 2018 13(9):e0204947.
- Solis-Leal, A., and **Berges, Bradford K.** Advances in nucleases used for genome editing. **JSM Biochemistry and Molecular Biology** 2016 3(2): 1017.

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- Cornaby, C., Tanner, A., Stutz, E., Poole, B.D., and **Berges, B.K.** Piracy on the Molecular Level: Human Herpesvirus Manipulates Cellular Chemotaxis. **Journal of General Virology** 2016 97(3):543-60.
- Jensen, Kyle C., Hair, Bryan B., Wienclaw, Trevor M., Murdock, Mark H., Hatch, Jacob B., Trent, Aaron T., White, Tyler D., Haskell, Kyler J., and **Berges, Bradford K.** Isolation and Host Range of Bacteriophage with Lytic Activity against Methicillin-Resistant *Staphylococcus aureus* and Potential use as a Fomite Decontaminant. **PLoS One**, 2015 10(7): e0131714.
- Tanner, Anne, Hallam, Steven J., Nielsen, Stanton J., Cuadra, German I., and **Berges, Bradford K.** Development of Human B Cells and Antibodies Following Human Hematopoietic Stem Cell Transplantation to Rag2<sup>-/-</sup>γc<sup>-/-</sup> mice. **Transpl Immunol**, 2015 32:144-150.
- Horvat, B., **Berges, B.K.**, and Lusso, P. Recent Developments in Animal Models for Human Herpesvirus 6A and 6B. **Curr Opin Virology**, 2014. 9:97-103.
- **Berges, B.K.** and Tanner, A. Modeling of human herpesvirus infections in humanized mice. **J Gen Virol**, 2014. 95(Pt 10): 2106-17.
- Anne Tanner, Stephen E. Taylor, Wittnee Decottignies, and **Bradford K. Berges.** Humanized mice as a model to study hematopoietic stem cell transplantation. **Stem Cells Dev**, 2014. 23(1):76-82.
- Anne Tanner, Stephanie A. Carlson, Masatoshi Nukui, Eain A. Murphy, and **Bradford K. Berges.** Human herpesvirus 6A infection and immunopathogenesis in humanized Rag2<sup>-/-</sup>γc<sup>-/-</sup> Mice. **J Virol**, 2013. 87(22):12020-8. \*Spotlighted article.
- Sanchez, F.M., Cuadra, G.I., Nielsen, S.J., Tanner, A., and **Berges, B.K.** Production and characterization of humanized Rag2<sup>-/-</sup>γc<sup>-/-</sup> mice. **Methods Mol Biol**, 2013. 1031:19-26.
- Sanchez, F.M., and **Berges, B.K.** Characterization of HIV-1 infection in the humanized Rag2<sup>-/-</sup>γc<sup>-/-</sup> mouse model. **Methods Mol Biol**, 2013. 1031:215-22.
- **Berges, B.K.**, and Rowan, M.R. “The utility of the new generation of humanized mice to study HIV-1 infection: transmission, prevention, pathogenesis, and treatment”. **Retrovirology**, 2011; 8:65. \*Designated as a Highly Accessed article by BioMed Central.
- Akkina R., **Berges, B.K.**, Palmer, Brent E., Remling L., Neff, Charles P., Kuruvilla, J., Connick, E., Folkvord, J., Gagliardi, K., Kassu, A., and Akkina, S.R. “Rag1<sup>-/-</sup>γc<sup>-/-</sup> mice support multilineage human hematopoiesis and are susceptible to HIV-1 infection via systemic and vaginal routes”. **PLoS One**, 2011. 6(6):e20169.
- **Berges, B.K.**, Akkina, S.R., Remling, L., and Akkina, R. “Humanized Rag2<sup>-/-</sup>γc<sup>-/-</sup> (RAG-hu) mice can sustain long-term chronic HIV-1 infection lasting more than a year.” **Virol**, 2010. 397(1):100-3.
- **Berges, B.K.**, Akkina, S.R., Folkvord, J.M., Connick, E., and Akkina, R. “Mucosal transmission of R5 and X4 tropic HIV-1 via vaginal and rectal routes in humanized Rag2<sup>-/-</sup>γc<sup>-/-</sup> (RAG-hu) mice.” **Virol** 2008 Apr;373(2):342-51.
- **Berges, B.K.**, Wolfe, J.H. and Fraser, N.W. “Transduction of brain by herpes simplex virus vectors.” **Mol Ther** 2007 Jan;15(4):20-29.
- **Berges, B.K.**, Wheat, W.H., Palmer, B.E., Connick, E. and Akkina, R. “HIV-1 infection and CD4 T cell depletion in the humanized Rag2<sup>-/-</sup>γc<sup>-/-</sup> mouse (RAG-hu) model.” **Retrovirology** 2006 Nov;3:76. \*Designated as a Highly Accessed article by BioMed Central.
- **Berges, B.K.**, Yellayi, S., Karolewski, B.A., Miselis, R.R., Wolfe, J.H., and Fraser, N.W. “Widespread correction of lysosomal storage in the mucopolysaccharidosis type VII

mouse brain with a herpes simplex type 1 vector expressing beta-glucuronidase.” **Mol Ther** 2006 May;13(5):859-69.

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## ABSTRACTS

- Walton, Emilia and Berges, Bradford. Further characterization of the antimicrobial effects of copper-coated CICNT on *S. aureus* biofilms. Utah Conference on Undergraduate Research, 2026.
- Barnes, Sydnee and Berges, Bradford. Effect of Oxygen Availability on Horizontal Gene Transfer in MRSA Biofilms. Utah Conference on Undergraduate Research, 2026.
- Mason, Linnea, Sithole, Sidney and Berges, Bradford. *In Silico* Studies of HIV-1 Vpr R77Q Mutant’s Structure and Stability. Utah Conference on Undergraduate Research, 2026.
- Cramer, Owen, Finlinson, Jenny, Bowden, Lucy, and Berges, Bradford. Optimizing Carbon Nanotube Diameter and Copper Coating to Inhibit *Pseudomonas aeruginosa* Biofilm Growth. BYU College of Life Sciences Research Conference, 2025.
- Sithole, Sidney, Ramsey, Joshua, Ogilvie, Miriam, Pickett, Brett, Poole, Brian and Berges, Bradford. Mechanistic insights into HIV-1 Vpr R77Q-induced apoptosis. BYU College of Life Sciences Research Conference, 2025.
- Lucy Bowden, Sidney Sithole, Emilia Gregory, Jenny Finlinson, and Brad Berges. Copper-coated carbon nanotube surfaces prevent *S. aureus* and *P. aeruginosa* biofilm growth. SOARS Research Symposium, 2025.
- Sidney Sithole and Bradford Berges. The role of Bcl-2 in HIV-1 vpr R77Q-induced apoptosis. American Society for Microbiology Intermountain Branch Meeting, April 2025.
- Spencer Payne and Bradford Berges. The role of IFI16 in HIV-induced apoptosis. American Society for Microbiology Intermountain Branch Meeting, April 2025.
- Owen Cramer, Jenny Finlinson, Lucy C. Bowden, and Bradford Berges. Optimizing Carbon Nanotube Diameter and Copper Coating to Inhibit *Pseudomonas aeruginosa* Biofilm Growth. BYU College of Life Sciences Undergraduate Poster Competition, 2025.
- Emilia Gregory, Lucy Bowden, Bradford Berges. Mechanism of Copper-Coated CICNT Inhibition of *Staphylococcus aureus* Biofilm Formation. BYU College of Life Sciences Undergraduate Poster Competition, 2025.
- Sidney T. Sithole, Joshua Ramsey, Miriam Ogilvie, Brett E. Pickett, Brian D. Poole and Bradford K. Berges. The role of Bcl-2 in HIV-1 vpr R77Q-induced apoptosis. American Society for Virology 2025.
- Owen Cramer, Jenny Finlinson, Lucy C. Bowden, and Bradford K. Berges. Optimizing Carbon Nanotube Diameter and Copper Coating to Inhibit *Pseudomonas aeruginosa* Biofilm Growth. UCUR 2025.
- Emilia Gregory, Lucy C. Bowden, and Bradford K. Berges. Horizontal Gene Transformation in MRSA Leading to Antibiotic Resistance. UCUR 2025.
- Sydnee Barnes, Lucy C. Bowden, and Bradford K. Berges. The impact of different types of growth media on competency of *S. aureus* in biofilms. UCUR 2025.
- Lucy C. Bowden, Anton E. Bowden, Brian D. Jensen, Bradford K. Berges. Thin Film Copper-coated Carbon-infiltrated Carbon Nanotubes Effectively Kill Methicillin-resistant *Staphylococcus Aureus*. Orthopedic research society annual meeting, 2025.

- Owen Cramer, Jenny Finlinson, and Brad Berges. Adjusted Carbon-infiltrated carbon nanotube surfaces affect *Pseudomonas aeruginosa* biofilms. BYU College of Life Sciences Research Conference, 2024.
- Spencer Payne and Brad Berges. Procedural Improvements for Natural *Staphylococcus aureus*. BYU College of Life Sciences Research Conference, 2024.
- Amanda Carlson and Brad Berges. Extracellular Vpr in the R77Q Mutation of Vpr in HIV. BYU College of Life Sciences Research Conference, 2024.
- Megan Knight and Brad Berges. Solving the HIV Enigma: Investigating Mutant Long-Term Non-Progressor Vpr Strains. BYU College of Life Sciences Research Conference, 2024.
- Jenny Finlinson, Lucy C. Bowden, and Bradford K. Berges. Carbon-Infiltrated Carbon Nanotube Surfaces Affect *Pseudomonas aeruginosa* Biofilm. Development SOARS Research Symposium, 2024.
- Lucy C. Bowden, Jocelyn G. W. Evans, Katelyn M. Miller, Anton E. Bowden, Brian D. Jensen, Sandra Hope, and Bradford K. Berges. Bacterial Biofilm Resistance of Carbon-Infiltrated Carbon Nanotubes. ASME 2024 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference, 2024.
- Lucy C. Bowden, Michelle Arias, Brooklyn Jones, Anton E. Bowden, Brian D. Jensen, and Bradford K. Berges. Carbon-Infiltrated Carbon Nanotube Topography Inhibits *Staphylococcus aureus* Biofilm Growth. ASM Microbe, 2024.
- Carlson, Amanda, Lopez, J. Brandon, and Berges, Brad Cell Death, Inflammation, and Extracellular Vpr in the R77Q Mutation of Vpr in HIV-1. BYU College of Life Sciences Poster Competition, 2024.
- Jones, Brooklyn, and Berges, Brad. CICNT surfaces block *Staphylococcus aureus* biofilm formation on implanted devices in mice BYU College of Life Sciences Poster Competition, 2024.
- Finlinson, Jenny, and Berges, Brad. Carbon-infiltrated carbon nanotube surfaces affect *Pseudomonas aeruginosa* biofilm development BYU College of Life Sciences Poster Competition, 2024.
- Knight, Megan, and Berges, Brad. Solving the HIV Enigma: Investigating Mutant Long-Term Non-Progressor Vpr Strands. BYU College of Life Sciences Poster Competition, 2024.
- Julia Gilpin, Lucy Bowden, Sela Harris, Elisa McRae, Jenny Bean, Brooklyn Jones, and Brad Berges. Natural transformation in *Staphylococcus aureus* biofilms. UCUR 2024
- Brooklyn Jones and Berges, Bradford. Horizontal gene transfer in *Staphylococcus aureus*. UCUR 2024
- Carlson, Amanda, Lopez, J. Brandon, and Berges, Bradford. Cell Death, Inflammation, and Extracellular Vpr in the R77Q Mutation of Vpr in HIV-1. UCUR 2024
- Brooklyn Jones and Berges, Bradford. Horizontal gene transfer in *Staphylococcus aureus*. BYU Life Sciences CURA conference, 2023
- Elisa McRae and Berges, Bradford. A nasal model of horizontal gene transfer in *Staphylococcus aureus*. BYU Life Sciences CURA conference, 2023
- Carlson, Amanda and Berges, Bradford. Impact of various mutations on secretion of HIV-1 Vpr protein. BYU Life Sciences CURA conference, 2023
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- Wagley, Madison, Knight, Megan and Berges, Bradford. Analysis of the impact of HIV-1 Vpr polymorphisms on gene expression in human T cell lines. American Society for Microbiology Intermountain Branch Meeting, April 2023.

- Owens, Shannon and Berges, Bradford. Virulence of Enveloped vs. Non-Enveloped in a Dried Environment. American Society for Microbiology Intermountain Branch Meeting, April 2023.
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- Quaye, Abraham, Berges, Bradford, Poole, Brian. New insights into the Turkey Hemorrhagic Enteritis Virus transcriptome. American Society for Virology, 2023
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- Elisa McRae and Berges, Bradford. A nasal model of horizontal gene transfer in *Staphylococcus aureus*. BYU Life Sciences poster competition, 2023
- Brooklyn Jones, Bradford K. Berges. Horizontal gene transfer in *Staphylococcus aureus*. UCUR 2023
- Jocelyn Wells, Lucy Bowden, Bradford K. Berges. Investigation of the utility of various detergents to disrupt *Staphylococcus aureus* biofilms. UCUR 2023
- Dario Villacreses, Bradford Berges. Cause of Increased Apoptotic Cell Death by Infection with HIV-1 Vpr Mutation R77Q. UCUR 2023
- Julia Gilpin, Bradford Berges. Antibiotic-Resistant Horizontal Gene Transfer in *Staphylococcus aureus* biofilms. UCUR 2023
- Amanda Carlson, Bradford Berges. Varying Mechanisms of Apoptosis Caused by Vpr Polymorphisms in HIV-1. UCUR 2023
- Emilee Augenstein, Ashley Ball, Bradford K. Berges. Exploration of horizontal gene transfer via natural transformation in MRSA biofilms. BYU CURA conference, 2022.
- Austin Wright, Bradford K. Berges. The Effect of DNase on Horizontal Gene Transfer in Biofilms. BYU CURA conference, 2022.
- Brandon Lopez, Bradford K. Berges. Identifying cellular death pathway caused by mutations in HIV-1 Vpr. BYU CURA conference, 2022.
- Ball, Ashley L., Hirschi, Blake, Pickett, Brad E., Wright, Austin A., Emilee Augenstein, Thompson, Jared S., Telford, Mady S., Brooklyn Jones, McKay Berges, Shane Mann, McKay Meinzer, \*Berges, Bradford K. *Staphylococcus Aureus* Readily Shares Antibiotic Resistance Genes Via Transformation In Co-cultured Biofilms. ASM Microbe, June 2022.
- Wright, Austin and Berges, Bradford. DNase treatment of *S. aureus* biofilms prevents horizontal gene transfer. BYU CURA Research Conference, 2022.
- Augenstein, Emilee and Berges, Bradford. Does DNA content correlate with biofilm strength in *S. aureus*? BYU CURA Research Conference, 2022.
- Magaoay, Daniel and Berges, Bradford. One step closer to better HIV treatment: CRISPR and Humanized Mice. BYU CURA Research Conference, 2022.
- Lopez, J. Brandon, Berges, Bradford. Identifying cellular death pathway caused by mutations in HIV-1 Vpr. BYU CURA Research Conference, 2022.
- Jones, Brooklyn; Ball, Ashley; Augenstein, Emilee, Thompson, Jared, Wright, Austin, and Berges, Bradford. Extracellular DNA enhances transfer of antibiotic resistance in *Staphylococcus aureus* biofilms. American Society for Microbiology Intermountain Branch Meeting, April 2022.
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- Magaoay, Daniel M. and Berges, Bradford K. One step closer to better HIV treatment: CRISPR and Humanized Mice. Utah Conference on Undergraduate Research, 2022.
- Fairholm, Jacob, Lopez, J. Brandon, Berges, Bradford. Vpr R36W and R77Q Mutations Alter HIV-1 Replication and Cytotoxicity in T Lymphocytes. American Society for Microbiology Intermountain Branch Meeting, December 2021.
- Thompson, Jared, Ball, Ashley, Augenstein, Emilee, Richmond, Bradley, Freestone, Courtney, and Berges, Bradford. Extracellular DNA Correlates With Transfer of Antibiotic Resistance in *Staphylococcus aureus* Biofilms. American Society for Microbiology Intermountain Branch Meeting, December 2021.
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- Gray, Madison, Guerrero-Arguero, Israel, Solis-Leal, Antonio, Robison, Richard, Berges, Bradford, and Pickett, Brett. Chikungunya Virus Time Course Infection of Human Macrophages. BYU CURA Research Conference, 2021.
- Madison Gray, Israel Guerrero, Antonio Solis Leal, Richard Robison, Brad Berges, Brett Pickett. Chikungunya Virus Time Course Infection of Human Macrophages. American Society for Virology Conference, July 2021.
- J. Brandon Lopez, Antonio Solis-Leal, Dalton Karlinsey, and Bradford K. Berges. Vpr R36W and R77Q mutations alter HIV-1 replication and cytotoxicity in T Lymphocytes. American Society for Virology Conference, July 2021.
- Madison Gray, Israel Guerrero, Antonio Solis Leal, Richard Robison, Brad Berges, Brett Pickett. Chikungunya Virus Time Course Infection of Human Macrophages. BYU College of Life Sciences poster competition, 2021.
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- Daniel Magaoay and Bradford K. Berges. One step closer to better HIV treatment: CRISPR and Humanized Mice. BYU CURA Research Conference, 2021.
- Emilee Augenstein and Bradford K. Berges. Does DNA content correlate with biofilm strength in *S. aureus*? BYU CURA Research Conference, 2021.
- Antonio Solis-Leal, Dalton Karlinsey, Brandon Lopez, and Bradford K. Berges. HIV vpr mutants (R36W and R77Q) and its effect in progression to AIDS. American Society of Microbiology Tri-Branch Meeting, December 2020.
- Israel Guerrero, Crystal Villalva, Bradford K. Berges, and Richard A. Robison. A Rag2<sup>-/-</sup>γc<sup>-/-</sup> mouse model to study Chikungunya virus pathogenesis. American Society of Microbiology Tri-Branch Meeting, December 2020.
- Bradley Richmond, Courtney Freestone, Emilee Christensen, and Bradford K. Berges. The Influence of *Staphylococcus Aureus* Biofilm-associated Gene Mutations on Biofilm Composition. American Society of Microbiology Tri-Branch Meeting, 2020.

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- Antonio Solis-Leal, Dalton Karlinsey, Brandon Lopez, and Bradford K. Berges. The role of the HIV-1 R36W and R77Q vpr mutations in AIDS progression. American Society for Virology, 2020.
- Brad Pickett and Berges, Bradford K. Does *Staph aureus* use biofilms to promote antibiotic resistance? BYU CURA Research Conference, 2020.
- Mark Conley and Berges, Bradford K. Exploring the Ability of 4 Novel Phages in Reducing and Inhibiting MRSA Biofilms. BYU CURA Research Conference, 2020.
- Aileen MacLachlan and Berges, Bradford K. Phage and Vancomycin Biofilm Reduction. BYU CURA Research Conference, 2020.
- Jared Thompson and Bradford K. Berges. Antibiotic Resistance in *Staphylococcus aureus*: Effects of Biofilm Synthesis in Gene Transfer. Utah Conference on Undergraduate Research, 2020.
- Mark Conley and Bradford K. Berges. Exploring the Ability of 6 Novel Phages in Reducing and Inhibiting MRSA Biofilms. Utah Conference on Undergraduate Research, 2020.
- Elisa McRae and Bradford K. Berges. Using CRISPR and gRNA to Alter the HIV Genome. Utah Conference on Undergraduate Research, 2020.
- Bradley Richmond and Bradford K. Berges. The Influence of *Staphylococcus Aureus* Biofilm-associated Gene Mutations on Biofilm Composition. Utah Conference on Undergraduate Research, 2020.
- Brandon Lopez and Bradford K. Berges. Effects of specific mutations on HIV-1 vpr and subsequent AIDS pathogenesis. Utah Conference on Undergraduate Research, 2020.
- Blake Hirschi, Brad Pickett, Dr. Bradford Berges. Different compositions of *Staphylococcus Aureus* Biofilms Facilitate Antibiotic Resistance Gene Transfer at Different Rates. American Society of Microbiology Branch Meeting, 2019.
- Hirschi, B., Barboza, A., Holmstead, J., and Berges, B.K. Antibiotic resistance is lower in *Staphylococcus aureus* isolated from antibiotic-free raw meat as compared to conventional raw meat. Utah Conference on Undergraduate Research, 2019.
- Ball, A., and Berges, Bradford K. Genes Involved in the Formation of *Staphylococcus aureus* Biofilms. Utah Conference on Undergraduate Research, 2019.
- Holmstead, J. and Berges, Bradford K. Identifying mechanisms of icADBC operon regulation leading to altered biofilm formation in Methicillin-resistant *S. aureus*. Utah Conference on Undergraduate Research, 2019.
- McCrary, I. and Berges, Bradford K. Effect of Phage Treatment on the Biofilm of *Staphylococcus epidermidis* on Silastic Catheter Material. Utah Conference on Undergraduate Research, 2019.
- Dalton Karlinsey, and Berges, Bradford K. Testing the effect of Viral Protein R (Vpr) on the progression of the HIV-1 to AIDS. BYU College of Life Sciences poster competition, 2019.
- Dalton Karlinsey, and Berges, Bradford K. Testing the effect of Viral Protein R (Vpr) on the progression of the HIV-1 to AIDS. American Society of Microbiology Branch Meeting, 2019.
- Dalton Karlinsey, and Berges, Bradford K. Testing the effect of Viral Protein R (Vpr) on the progression of the HIV-1 to AIDS. BYU CURA Research Conference, 2019.
- Ian McCrary, and Berges, Bradford K. Effect of Phage Treatment on the Biofilm of *Staphylococcus aureus* on Silastic Catheter Material. BYU CURA Research Conference, 2019.

- Mark Conley, and Berges, Bradford K. Exploring the Ability of 12 Novel Phages in Breaking Down MRSA Biofilms. BYU CURA Research Conference, 2019.
- Grasley, M., and Berges, Bradford K. The Kaposi's sarcoma-associated herpesvirus viral interleukin 6 gene affects metastasis and expression of B cell markers in a murine xenograft model. Utah Conference on Undergraduate Research, 2019.
- Conley, M., and Berges, B.K. Exploring the ability of 12 Novel Phages in breaking down MRSA Biofilms. Utah Conference on Undergraduate Research, 2019.
- Solís-Leal, A., Karlinsey, D.C., Berges, B.K. Testing the effect of Viral Protein R (Vpr) on the progression of the HIV-1 to AIDS. American Society of Microbiology Tri-Branch Meeting, 2018.
- M. Grasley, A.E. Wallace, and B. K. Berges. Kaposi's Sarcoma Associated Herpesvirus and Its Dependency on Latency-Associated Nuclear Antigen to Maintain Episome Persistence. American Society of Microbiology Tri-Branch Meeting, 2018.
- Grasley, Meagan, Wallace, Addie, and Berges, Bradford K. Adult T-cell leukemia development in Rag2-/- $\gamma$ c-/- humanized mice. American Society of Microbiology Tri-Branch Meeting, 2018.
- Spencer Bagley, Bradford Berges. Sequencing and Annotation of 12 Bacteriophage Genomes To Aid In Discovering a Treatment For Methicillin-Resistant *Staphylococcus aureus*. Utah Conference on Undergraduate Research, 2017.
- Matthew Smith, Kayleigh Ingersoll, and Bradford K. Berges. Modeling a Leukemia-Causing Virus: Developing a Humanized Mouse Model for Human T-Lymphotropic Virus Type 1 (HTLV-1). American Society of Microbiology Intermountain Branch Meeting, 2017.
- Conley, M. and Berges, B.K. Eradication of *Staph aureus* biofilms with silver nanoparticles. American Society of Microbiology Intermountain Branch Meeting, 2017.
- Daniels, C.W., Fullwood A., and Berges, B.K. The Role of KSHV Viral Interleukin-6 in Cancer Development. American Society of Microbiology Intermountain Branch Meeting, 2017.
- Samuel Schriever, Kenisi Monomania, Kyler Haskell, Benjamin Haws, Erik Berges, Bradford Berges. Comparison of Antibiotic Resistance Profiles in *Staphylococcus aureus* in Organic and Traditionally Grown Poultry. American Society of Microbiology Intermountain Branch Meeting, 2017.
- I. Guerrero; T. Rasmussen Høj; B. Berges; R. Robison. Effects and Differences Between Human and Mouse Cell Lines During Chikungunya Infection. American Society of Microbiology Intermountain Branch Meeting, 2017.
- Christian Daniels, Amy Fullwood, Bradford Berges. Role of KSHV viral Interleukin-6 in Cancer Development. Utah Conference on Undergraduate Research, 2017.
- Haws, Benjamin, Schriever, Samuel R., Berges, Erik T., and Berges, Bradford K.. Assessment of the Impact of Antibiotic Use in Livestock on *Staphylococcus aureus* Prevalence and Antimicrobial Resistance. Utah Conference on Undergraduate Research, 2017.
- Smith, Matthew, Ingersoll, Kayleigh, and Berges, Bradford. Development of a humanized mouse model to study HTLV-1 infection and ATLL cancer. Utah Conference on Undergraduate Research, 2017.
- Conley, Matthew E., Hair, Bryan B., Bradford Berges. The Synergistic and Bactericidal Effects of Vancomycin, Bacteriophage, and Silver Nanoparticles against MRSA Biofilms. Utah Conference on Undergraduate Research, 2017.
- Frequency and Characterization of *Staphylococcus aureus* and MRSA in raw meat samples in the Utah County Area. Haskell, Kyler J., Schriever, Samuel R., Wienclaw, Trevor M., and Berges, Bradford K. Utah Conference on Undergraduate Research, 2016.

- Matthew Smith, Kayleigh Ingersoll, and Bradford K. Berges. Modeling a Leukemia-Causing Virus: Developing a Humanized Mouse Model for Human T-Lymphotropic Virus Type 1 (HTLV-1) American Society of Microbiology Intermountain Branch Meeting, 2017.
- Conley, M. and Berges, B.K. Eradication of *Staph aureus* biofilms with silver nanoparticles. American Society of Microbiology Intermountain Branch Meeting, 2017.
- Daniels, C.W., Fullwood A., and Berges, B.K. The Role of KSHV Viral Interleukin-6 in Cancer Development. American Society of Microbiology Intermountain Branch Meeting, 2017.
- Samuel Schriever, Kenisi Monomania, Kyler Haskell, Benjamin Haws, Erik Berges, Bradford Berges. Comparison of Antibiotic Resistance Profiles in *Staphylococcus aureus* in Organic and Traditionally Grown Poultry. American Society of Microbiology Intermountain Branch Meeting, 2017.
- I. Guerrero; T. Rasmussen Høj; B. Berges; R. Robison. Effects and Differences Between Human and Mouse Cell Lines During Chikungunya Infection. American Society of Microbiology Intermountain Branch Meeting, 2017.
- Christian Daniels, Amy Fullwood Bradford Berges. Role of KSHV viral Interleukin-6 in Cancer Development. Utah Conference on Undergraduate Research, 2017.
- Haws, Benjamin, Schriever, Samuel R., Berges, Erik T., and Berges, Bradford K.. Assessment of the Impact of Antibiotic Use in Livestock on *Staphylococcus aureus* Prevalence and Antimicrobial Resistance. Utah Conference on Undergraduate Research, 2017.
- Smith, Matthew, Ingersoll, Kayleigh, and Berges, Bradford. Development of a humanized mouse model to study HTLV-1 infection and ATLL cancer. Utah Conference on Undergraduate Research, 2017.
- Conley, Matthew E., Hair, Bryan B., Bradford Berges. The Synergistic and Bactericidal Effects of Vancomycin, Bacteriophage, and Silver Nanoparticles against MRSA Biofilms. Utah Conference on Undergraduate Research, 2017.
- Christian Daniels, Bradford Berges. Hamsters Expected to Produce Better Immune System than Mice LDS Life Science Symposium, 2016.
- Daniels, Christian and Berges, Bradford K. . Hamsters Expected to Produce Better Immune System than Mice. American Society of Microbiology Intermountain Branch Meeting, 2016.
- Haskell, Kyler J., Schriever, Samuel R., Wienclaw, Trevor M., Hair, Bryan, Haws, Benjamin and Berges, Bradford K. Frequency and Characterization of *Staphylococcus aureus* and MRSA in raw meat samples in the Utah County Area. American Society of Microbiology Intermountain Branch Meeting, 2016.
- Haskell, Kyler J., Schriever, Samuel R., Wienclaw, Trevor M., and Berges, Bradford K. Frequency and Characterization of *Staphylococcus aureus* and MRSA in raw meat samples in the Utah County Area. Utah Conference on Undergraduate Research, 2016.
- Daniels, Christian and Berges, Bradford K. Hamsters Expected to Produce a Better Immune System than Mice. Utah Conference on Undergraduate Research, 2016.
- Hair, Bryan B., Rasmussen, Taalin S., Wienclaw, Trevor M., Deus, Lisa M., and Berges, Bradford K. The Synergistic and Bactericidal Effects of Vancomycin, Bacteriophage, and Silver Nanoparticles against MRSA Biofilms. Utah Conference on Undergraduate Research, 2016.
- Jensen, K.C., Wienclaw, T.M., Hatch, J.B., White, T.D., Hair, B.B., Trent, A.T., Haskell, K.J., Berges, B.K. Characterization of Novel Bacteriophage with Lytic Activity Against

MRSA and Utility for Decontamination of Fomites Associated with Nosocomial Transmission. American Society for Microbiology, 2015.

- Haskell, Kyler J., Wienclaw, T.M., Jensen, K.C., Murdock, M.H., Hatch, J.B., White, T.D., Hair, B.B, Trent, A.T., Berges, B.K. Isolation and Characterization of Novel Lytic Phage to Treat Methicillin-Resistant *Staphylococcus Aureus*. American Society of Microbiology Intermountain Branch Meeting, 2015.
- White, T.D., Jensen, K.C., Wienclaw, T.M., Hatch, J.B., Hair, B.B, Trent, A.T., and Berges, B.K. Isolation and Characterization of Novel Lytic Phage to Treat Methicillin-Resistant *Staphylococcus Aureus*. Utah Conference on Undergraduate Research, 2015.
- Trevor M. Wienclaw, Kyle C. Jensen, Jacob B. Hatch, Tyler D. White, Bryan B. Hair, and Bradford K. Berges. Isolation and characterization of novel bacteriophage as a control of Methicillin Resistant *Staphylococcus Aureus*. Autumn Immunology Conference, 2014.
- Anne Tanner, Stephanie A. Carlson, Wittnee Decottignies, Steven J. Hallam, Hillary J. Willyerd, Masatoshi Nukui, Eain A. Murphy, and Bradford K. Berges. Human herpesvirus 6A infection of humanized mice and effects on human T cell populations. American Society for Virology, 2014.
- Kyle C. Jensen, Mark H. Murdock, Jacob B. Hatch, Tyler D. White, and Bradford K. Berges. Isolation and characterization of novel bacteriophage as a control of Methicillin Resistant *Staphylococcus Aureus*. American Society of Microbiology Intermountain Branch Meeting, 2014.
- Steven J. Hallam, German I. Cuadra, Stanton J. Nielsen, and Bradford K. Berges. Immune Development in Humanized Mice as characterized by B cell maturation and antibody production. American Society of Microbiology Intermountain Branch Meeting, 2014.
- Anne Tanner, Stephanie A. Carlson, Wittnee Decottignies, Stephen E. Taylor, and Bradford K. Berges. Humanized mice as a novel model to study human herpesvirus 6 tropism and infection. 8<sup>th</sup> International Conference on HHV-6 & 7, 2013.
- Stanton J. Nielsen, German I. Cuadra, and Bradford K. Berges. Human B Cell Development and Antibody Responses in Humanized Mice. Autumn Immunology Conference, 2012.
- German I. Cuadra, Stanton J. Nielsen, and Bradford K. Berges. Humanized mice as a model to study the development of human B cells and antibody responses. American Society of Microbiology Intermountain Branch Meeting, 2012.
- Bradford K. Berges, Anne Tanner, and Stephanie A. Carlson. Humanized mice as a novel model to study human herpesvirus 6 tropism and infection. American Society for Virology, 2012.
- Freddy S. Tumbaco, J. Nicholas Francis, Michael S. Kay, and Bradford K. Berges. Humanized mice as a preclinical model for testing a novel HIV-1 fusion inhibitor. International Conference and Exhibition on Virology, 2011.
- Freddy S. Tumbaco, Jamie D. Gardiner, Joel R. Gardner, German R. Cuadra, and Bradford K. Berges. Infection of humanized Rag2<sup>-/-</sup>gc<sup>-/-</sup> mice with Kaposi's Sarcoma-Associated Herpesvirus for studies of AIDS-associated lymphomas. American Society for Virology, 2011.
- Bradford K. Berges, Tyler S. Slater, Michael B. Hatch, Sterling G. Adams, Paulo M. Tello, and Christopher P. Koontz. Analysis of human antibody responses to Dengue virus type 2 following experimental infection of humanized Rag2<sup>-/-</sup>gc<sup>-/-</sup> mice. American Society for Virology, 2011.
- German I. Cuadra and Bradford K. Berges. "Humanized Mice as a Model to study Human Gammaherpesvirus Transmission". American Society of Microbiology Intermountain Branch Meeting, 2011.

- Stephanie A. Carlson and Bradford K. Berges. “Humanized Mice as a Model of HHV-6 Infection”. American Society of Microbiology Intermountain Branch Meeting, 2011.
- Tyler Slater, Sterling G. Adams, and Bradford K. Berges. “A Novel ELISA Test to Detect Human Anti-Dengue Antibodies”. American Society of Microbiology Intermountain Branch Meeting, 2011.
- Berges, B.K., Sanchez, F., Rowan, M., and Carlson, S. ”Susceptibility of humanized mice to KSHV infection for studies of AIDS-associated lymphomagenesis.” 13th International Workshop on Kaposi’s Sarcoma Associated-Herpesvirus (KSHV) and Related Agents, 2010.
- Berges, B.K., Sanchez, F. ”Development of humanized mice to study AIDS-associated lymphomagenesis by gammaherpesviruses.” International Herpesvirus Workshop, 2010.
- Berges, B.K., Sanchez, F., Rowan, M. ”Human cytokine expression profile following Dengue virus infection of humanized Rag2<sup>-/-</sup>-gamma chain <sup>-/-</sup> mice.” American Society for Virology, 2009.
- Remling, L., Berges, B.K., and Akkina, R. ”Life-long chronic HIV-1 infection and persistent CD4 T cell depletion in a humanized Rag2<sup>-/-</sup>γc<sup>-/-</sup> (RAG-hu) mouse model.” Keystone Symposium on Molecular and Cellular Determinants of HIV Pathogenesis, 2009.
- Akkina, R., Berges, B. K., Akkina, S. R., Folkvord, J. M., and Connick, E. “Vaginal and rectal mucosal transmission of R5 and X4-tropic HIV-1 in humanized Rag2<sup>-/-</sup>γc<sup>-/-</sup> (RAG-hu) mice.” Keystone Symposium on Molecular and Cellular Determinants of HIV Pathogenesis, 2008.
- Berges, B. K., Akkina, S. R., Folkvord, J. M., Connick, E., and Akkina, R. “Vaginal and rectal mucosal transmission of R5 and X4-tropic HIV-1 in humanized Rag2<sup>-/-</sup>γc<sup>-/-</sup> (RAG-hu) mice.” Palm Springs Symposium on HIV/AIDS, 2008.
- Akkina, R., Berges, B., Akkina, S., Folkvord, J., and Connick, E. “A new humanized mouse model for testing HIV/AIDS therapies and microbicides.” International Conference on Drug Design and Discovery, 2008.
- Berges, Bradford K., Palmer, Brent E., Connick, E. and Akkina, R. “A novel humanized mouse model (RAG-hu) with chronic HIV-1 infection and helper T cell loss.” International AIDS Society, 2007.
- Berges, Bradford K., Christine, Paul J., Remling, Leila K., and Akkina, R. “Long-term lentiviral vector-mediated gene marking of the human hematopoietic system in humanized Rag<sup>-/-</sup>γc<sup>-/-</sup> (RAG-hu) mice and applications for HIV-1 gene therapy.” Annual Meeting of The American Society of Gene Therapy, 2007.
- Berges, Bradford K., Wheat, William H., Palmer, Brent E., Connick, E. and Akkina, R. “Chronic HIV-1 infection and CD4 T cell depletion in the humanized Rag<sup>-/-</sup>γc<sup>-/-</sup> (RAG-hu) mouse model.” Palm Springs Symposium on HIV/AIDS, 2007.
- Berges, Bradford K., Wheat, William H., Palmer, Brent E., Connick, E. and Akkina, R. “HIV-1 infection and CD4 T cell depletion in the humanized Rag<sup>-/-</sup>γc<sup>-/-</sup> (RAG-hu) mouse model.” Keystone Symposium on Molecular and Cellular Determinants of HIV Pathogenesis, 2007.
- Berges, Bradford K., Wheat, William H., Palmer, Brent E., Connick, E. and Akkina, R. “HIV-1 infection and CD4 T cell depletion in humanized Rag2<sup>-/-</sup>γc<sup>-/-</sup> mice.” International Meeting of The Institute of Human Virology, 2006.
- Berges, Bradford K., Gupta, A., John H., and Fraser, Nigel W. “Quantitation of Long-Term Gene Expression from the HSV-1 Latency-Associated Promoter in the Mouse Brain Following Intracranial Injection.” Annual Meeting of The American Society of Gene Therapy, 2005.
- Berges, Bradford K., Yellayi, S., Wolfe, John H., and Fraser, Nigel W. “Widespread Distribution of Beta-glucuronidase in the Mouse Brain is Achieved after a Single

Inoculation with a Neuroattenuated HSV Vector: distribution differs with inoculation site.” Annual Meeting of The American Society of Gene Therapy, 2004.

•Berges, Bradford K., Wolfe, John H., and Fraser, Nigel W. “Vectors based on HSV-1 strain 1716 are able to transduce brain regions other than the injection site via synaptic connections.” International Herpesvirus Symposium, 2003.

•Berges, Bradford K., Wolfe, John H., and Fraser, Nigel W. “A model system for gene therapy of murine mucopolysaccharidosis VII in the CNS using an HSV-1 vector.” Annual Meeting of The American Society of Gene Therapy, 2002.

## AWARDS AND HONORS

2025	Spiritually Strengthening Faculty Aware (Brigham Young University)
2022	Co-author on Paper of the Year in <i>Vaccines</i>
2022	Outstanding Teacher, College of Life Sciences (Brigham Young University)
2021	Skaggs Distinguished Mentoring Fellowship (Brigham Young University)
2013	Spotlighted article ( <i>Journal of Virology</i> publication)
2011	Highly Accessed article designation by BioMed Central ( <i>Retrovirology</i> publication)
2006	Highly Accessed article designation by BioMed Central ( <i>Retrovirology</i> publication)
2006–2008	NIH Postdoctoral Fellow (Colorado State University)
2001-2004	NIH Institutional Training Grant Fellow (University of Pennsylvania).

## PROFESSIONAL AFFILIATIONS

The American Society of Gene Therapy  
The American Society for Virology

## FUNDING

BYU College of Life Sciences Technology Transfer Grant.

Role: PI

Awarded (\$18,770)

Renewal of: Production of large-scale viral antigens. Funded by Ross Southern Labs.  
2025

Role: PI

Awarded (\$45,000)

BYU Widtsoe Grant award, 2024. Determining the mechanism and safety profile of a novel, highly effective antimicrobial surface.

Role: PI

Awarded (\$25,210)

Renewal of: Production of large-scale viral antigens. Funded by Ross Southern Labs.  
2024

Role: PI

Awarded (\$80,326)

Renewal of: Production of large-scale viral antigens. Funded by Ross Southern Labs.  
2023

Role: PI

Awarded (\$93,820)

BYU College of Life Sciences Turkey Vaccine Award 2022

Role: PI

Awarded (\$6,000)

BYU College of Life Sciences CEMENT award. 2022

Role: PI

Awarded (\$5,000)

Production of large-scale viral antigens. Funded by Ross Southern Labs. 2022

Role: PI

Awarded (\$93,820)

Testing of quaternary ammonium compound formulations for cytotoxicity on human cell types. Funded by AP Goldshield, LLC. 2021.

Role: PI

Awarded (\$4,275)

Skaggs Distinguished Mentoring Fellowship, 2021

Role: PI

Awarded (\$20,000)

BYU Widtsoe Grant award, 2019. Do biofilms promote antibiotic resistance in *Staphylococcus aureus*?

Role: PI

Awarded (\$25,000)

BYU College of Life Sciences Turkey Vaccine Award 2018

Role: PI

Awarded (\$10,000)

BYU College of Life Sciences Technology Transfer Award 2017

Role: PI

Awarded (\$10,000)

BYU College of Life Sciences Turkey Vaccine Award 2016. Impact of antibiotic use in poultry on prevalence of *Staphylococcus aureus* and associated antibiotic resistance in raw poultry meat products

Role: PI

Awarded (\$10,000)

Screening of *K. pinnata* extracts and synthetic derivatives for anti-herpesvirus compounds, June 2016. Funded by KP Biosciences

Role: PI

Awarded (\$7,500)

BYU Mentoring Environment Grant, October 2015: Frequency of Pathogenic *Staphylococcus Aureus* in Commercial Meat Samples and Examination of new ways to Eliminate *Staphylococcus Aureus* Biofilms

Role: PI

Awarded (\$20,000)

BYU Turkey Vaccine Study Award, October 2014: Development of phage therapy to protect poultry from *Staphylococcus aureus* infections

Role: PI

Awarded (\$15,000)

BYU Mentoring Environment Grant, October 2014: Discovery and characterization of novel bacteriophage as a way to control Methicillin-Resistant *Staphylococcus Aureus*

Role: PI

Awarded (\$20,000)

Developmental Center for AIDS Research Pilot Award, November 2013: Are humanized mice a viable model to study hiv-1 evolutionary dynamics?

Role: co-PI

Awarded (\$50,000)

BYU Mentoring Environment Grant, October 2013: Analysis of the kinetics and recombinatorial mechanisms of HIV-1 evolution in vivo in humanized mice

Role: PI

Awarded (\$20,000)

Renewal of BYU Technology Transfer Grant, December 2012. Use of humanized mice to develop novel human monoclonal antibodies against Dengue virus

Role: PI

Awarded (\$26,673)

BYU Mentoring Environment Grant, October 2011. The role of the KSHV LANA protein in development of persistent infections in vivo

Role: PI

Awarded (\$20,000)

HHV6 Foundation Pilot Proposal Grant, September 2011. Development of Humanized Rag2<sup>-/-</sup>γc<sup>-/-</sup> Mice as a Model of HHV-6A Infection

Role: PI

Awarded (\$27,500)

BYU Graduate Mentoring Award, April 2011.

Role: Mentor

Awarded (\$4,000)

USTAR sub-contract via Dr. Michael Kay (University of Utah) to study humanized mice as a model to analyze the efficacy of D-peptide inhibitors of HIV-1 entry

Role: co-PI

Awarded (\$15,000)

BYU Technology Transfer Grant, September 2010. Use of humanized mice to develop novel human monoclonal antibodies against Dengue virus

Role: PI

Awarded (\$31,725)

BYU Mentoring Environment Grant, October 2009. Development of humanized mice to study Kaposi's Sarcoma Herpesvirus infections and pathogenesis

Role: PI

Awarded (\$20,000)

BYU Graduate Mentoring Award, January 2009.

Role: Mentor

Awarded (\$5,000)

**RESIDENCY STATUS**

U.S. Citizen

**REFERENCES**

Available upon request