

COLM ATKINS

Phone: xxx.xxx.xxxx
atkinsc@gmail.com, cpa53@rutgers.edu

EDUCATION

- PhD** University of Alabama at Birmingham, Biochemistry & Molecular Genetics 2014
- BA** University of Maryland, College Park, English Language & Literature 2007
- BS** University of Maryland, College Park, Cell Biology & Molecular Genetics 2007

RESEARCH POSITIONS

- **RUTGERS UNIVERSITY**
 - February 2019 – Present
 - Research Associate, Cell Biology & Neuroscience, Brian Daniels Lab
 - As a staff scientist in the Daniels Lab, I support all aspects of our research and administrative program. Our research centers on the activation and modulation of necroptotic pathways, mediated by RIPK1/3 and MLKL, in the central nervous system. We utilize fundamental virology and molecular biological techniques, using both infectious and sterile models of neurological injury, to probe cell death, in both primary cell culture and mouse models.

- **UNIVERSITY OF TEXAS MEDICAL BRANCH**
 - November 2014 - January 2019
 - Department of Pathology, Post-Doctoral Fellow, Alex Freiberg Lab
 - Our lab studies host/virus interactions in diverse pathogens, primarily focusing on the Henipa virus complex of bat reservoir viruses responsible for periodic spillover events. Using cell lines derived from several bat species, we are working to characterize the response of a natural host to henipavirus infection. This model will allow the study of the evolutionary history and potential of the henipaviruses and the development of novel assays and reagents for the study of emerging viruses of bats.

- **SOUTHERN RESEARCH INSTITUTE**
 - April 2014 - October 2014
 - Biochemistry and Molecular Biology, Drug Discovery Division, Post-Doctoral Researcher, James Noah Lab
 - Our research focused on the discovery and development of new antiviral targets and therapies against a diverse range of human viral pathogens, including Influenza, Venezuelan Equine Encephalitis, Respiratory Syncytial virus, Herpes Simplex virus 1 and 2, Vaccinia virus, Severe Acute Respiratory Syndrome Coronavirus, Middle Eastern Respiratory Syndrome Coronavirus, West Nile virus, and Chikungunya virus. Most recently, we identified novel host kinases as potential therapeutic targets for influenza virus using global profiling methods. I also have used low to medium throughput screening and to characterize the mechanism of action of novel antiviral compounds. Overall, my research goal is to further understand the effects of host kinases and host kinase inhibitors on a wide variety of viral pathogens, aiming to identify conserved targets for anti-viral development.

- **UNIVERSITY OF ALABAMA AT BIRMINGHAM**

- July 2007 – April 2014
- Department of Biochemistry & Molecular Genetics, Doctoral Student, James Noah Lab
- Our lab studied the regulation of host kinases during viral infection. My project utilized a novel kinome probe that biochemically labeled peptide fragments associated with kinases active during influenza viral replication. siRNA knockdowns were used to further assess the impact of these kinases during replication. These experiments identified a significant number of kinases dysregulated during influenza infection that had not been previously described. A subset, when knocked down by siRNA, drastically reduced the replication of influenza virus. Thus, we identified novel host enzymes associated with the replication of a viral pathogen and validated these as potential targets for future anti-viral development.

MENTORSHIP

- **UTMB (incl. BSL-3 Training):**

- **Graduate Students:** Corri Levine, Stephanie Foster, Kendra Johnson, Emma Mantlo, Christopher Read, Sarah van Tol, Nathan Bopp, Stephen Hallam, Jacob Nelson, Rachel Sattler.
- **Postdoctoral Fellows:** Birte Kalveram, Preeti Bharaj.
- **Faculty:** Ricardo Rajsbaum

- **Rutgers Mentorship:**

- **Undergraduate Students:** Aisha Patel, Srija Indukuri, Winnie Wong, Medha Krishnagari, Po-Lun Kung, Hahram Kim
- **Graduate Students:** Nydia Chang, Kimberly Newton, Tsui-Wen Chou

PUBLICATIONS

- **VAMP8 contributes to TRIM6-mediated type-I interferon antiviral response during West Nile virus infection.** Van Tol S*, Atkins C*, Bharaj P, Johnson KN, Hage A, Freiberg AN, Rajsbaum R. Journal of Virology [Accepted 2019]
- **Human neural stem cell-derived neuron/astrocyte co-cultures respond to La Crosse virus infection with proinflammatory cytokines and chemokines.** Dawes BE, Gao J, Atkins C, Nelson JT, Johnson K, Wu P, Freiberg AN. J Neuroinflammation. 2018 Nov 15;15(1):315.
- **Natural History and Pathogenesis of Wild-Type Marburg Virus Infection in STAT2 Knockout Hamsters.** Atkins C, Miao J, Kalveram B, Juelich T, Smith JK, Perez D, Zhang L, Westover JLB, Van Wettere AJ, Gowen BB, Wang Z, Freiberg AN. J Infect Dis. 2018 Nov 22;218(suppl_5):S438-S447.
- **Experimental Infection of Syrian Hamsters With Aerosolized Nipah Virus.** Escaffre O, Hill T, Ikegami T, Juelich TL, Smith JK, Zhang L, Perez DE, Atkins C, Park A, Lawrence WS, Sivasubramani SK, Peel JE, Peterson JW, Lee B, Freiberg AN. J Infect Dis. 2018 Oct 5;218(10):1602-1610.
- **Recent advances in the development of antiviral therapeutics for Rift Valley fever virus infection.** Atkins C, Freiberg AN. Future Virol. 2017 Nov;12(11):651-665.
- **The Host E3-Ubiquitin Ligase TRIM6 Ubiquitinates the Ebola Virus VP35 Protein and Promotes Virus Replication.** Bharaj P, Atkins C, Luthra P, Giraldo MI, Dawes BE, Miorin L, Johnson JR, Krogan NJ, Basler CF, Freiberg AN, Rajsbaum R. J Virol. 2017 Aug 24;91(18).

- **Contribution of Human Lung Parenchyma and Leukocyte Influx to Oxidative Stress and Immune System-Mediated Pathology following Nipah Virus Infection.** Escaffre O, Saito TB, Juelich TL, Ikegami T, Smith JK, Perez DD, **Atkins C**, Levine CB, Huante MB, Nusbaum RJ, Endsley JJ, Freiberg AN, Rockx B.J Virol. 2017 Jul 12;91(15).
- **Benzimidazole analogs inhibit respiratory syncytial virus G protein function.** Evans CW, **Atkins C**, Pathak A, Gilbert BE, Noah JW. Antiviral Screening. 2015 Sep;121:31-8.
- **Global Human Kinase Screening Identifies Therapeutic Host Targets Against Influenza.** **Atkins C**, Evans CW, Noah JW. Journal of Biomolecular Screening. 2014 Jan 24;19(6):936-946.
- **Screening methods for influenza antiviral drug discovery.** **Atkins, C.**, Evans, C.W., White, E.L., Noah, J.W. 2012. Expert Opin Drug Discov. 2012 May;7(5):429-38. PMID: 22435452.
- **Genetic variability and taxonomic status of the Nihoa and Laysan Millerbirds.** Fleischer, R. C., Slikas, B., Beadell, J., **Atkins, C.**, McIntosh, C. E. & Conant, S. Condor 2007. 109: 954-962.
- **Immunological change in a parasite-impooverished environment: divergent signals from four island taxa.** Beadell, J., **Atkins, C.**, Cashion, E., Jonker, M. & Fleischer, R.C. PLOS One 2: e896. 2007.

* Authors Contributed Equally

PRESENTATIONS AND INVITED LECTURES

- July 2018 Animal & Comparative Biomedical Sciences, University of Arizona, Tuscon, AZ, **Natural History and Pathogenesis of Wild-Type Marburg Virus Infection in STAT2 Knockout Hamsters.**
- June 2017 Emerging & Reemerging Viruses. Pentagon City, VA. **High Throughput Kinase Inhibitor Screening of a Diverse Viral Library Reveals Conserved Antiviral Pathways.**
- June 2017 Keystone Symposium Neuroinflammation. Keystone, CO. **Rift Valley Fever Virus Infection in Human Neuronal Cells.**
- December 2016 Keystone Symposium Viral Hemorrhagic Fevers, Santa Fe, NM. **Rift Valley Fever Virus Infection in Human Neuronal Cells.**
- June 2016 American Society for Virology, Blacksburg, VA. **Rift Valley Fever Virus Infection and Induction of Cellular Responses in Human Astrocytes.**
- June 2012 American Society of Virology. Madison, WI. **Human Kinase Activity Profiling during Influenza Virus Infection.**
- June 2011 American Society of Virology, Minneapolis, MN. **Global Kinase Activity Profiling and Comparison in Season and Avian Influenza Virus Infections.**

PROFESSIONAL AFFILIATIONS

- 2009-Present **American Society for Virology**

FUNDING

- **2018 McLaughlin Foundation Postdoctoral Travel Grant**
- **2016 American Society for Virology Postdoctoral Travel Grant**
- **2007-2009 Howard Hughes Medical Institute Med-into-Grad Fellow**

PROFESSIONAL SERVICE

- **2016-2018 President, UTMB Postdoctoral Association**
- **2015-2016 Vice Chair, UTMB Postdoctoral Association**
- **2009-2012 Senator, UAB Graduate Student Association**
- **2010-2012 Secretary, UAB Graduate Student Association**
- **2009-2012 Graduate Representative, Lister Hill Library User Centered Design**
- **2010-2011 Graduate Representative, Biochemistry/Structural Biology Admissions**