

1. Personal Information

Full Name: **Sara L. Sawyer, Ph.D.**
 Lab website: <http://sawyerlab.colorado.edu/>

Education and Training

09/1992 - 05/1996 **B.S. Chemical Engineering**
 University of Kansas, Lawrence, KS
 09/1996 - 05/2003 **Ph.D. Genetics and Development**
 Cornell University, Ithaca, NY
 09/2003 - 12/2007 **Postdoctoral Research Fellow**
 Fred Hutchinson Cancer Research Center
 Seattle, WA, laboratory of Dr. Harmit Malik

Positions Held

Jan 2008 – Sept 2013 **Assistant Professor** of Molecular Biosciences
 Institute for Cellular and Molecular Biology
 University of Texas at Austin
 Sept 2013 – Jan 2014 **Associate Professor** of Molecular Biosciences
 Institute for Cellular and Molecular Biology
 University of Texas at Austin
 January 2014-present **Associate Professor** of Molecular, Cellular, and Developmental Biology
 BioFrontiers Institute
 University of Colorado Boulder

2. Honors and Awards**Research Awards**

2018 Richard Elliott award in Virology
 2014 2014 Omenn Prize for the best evolutionary medicine paper of the year
 2013 Burroughs Wellcome Fund Investigator in the Pathogenesis of Infectious Disease
 2011 Presidential Early Career Award for Scientists and Engineers (PECASE)
 2011 Kavli Fellow of the National Academy of Sciences
 2009 Alfred P. Sloan Fellow in Computational and Evolutionary Molecular Biology
 2008 NIH Health Disparities Loan Repayment Program – Renewal Award
 2007 1st Annual Andy Kaplan Prize in Retrovirology
 2006 Burroughs Wellcome Fund Career Award in the Biomedical Sciences
 2006 NIH Health Disparities Loan Repayment Program
 2005 NIH National Research Service Award (NRSA) post-doctoral fellowship
 2004 NIH Institutional Post-Doctoral Training Grant (Fred Hutchinson Cancer Center)
 2000 Graduate Research Award - Cornell Department of Molecular Biology and Genetics
 1997 NIH Institutional Pre-Doctoral Training Grant (Cornell University)

Teaching Awards

2013 UT Austin College of Natural Sciences Teaching Excellence Award
 2012 Named “Professor of Excellence” at UT Austin
 1999 Second Place, Sigma Xi Science Writing Competition
 1998 Third Place, Sigma Xi Science Writing Competition
 1997 Outstanding Teaching Assistant Prize - Cornell University

3. Support

National Institutes of Health (NIGMS, NIAID, NIDA)

Defense Threat Reduction Agency

Burroughs Wellcome Fund (CABS and PATH)

Alfred P. Sloan Foundation

amfAR: The Foundation for AIDS Research

4. Publications as of January 2018

Meyerson NR, Warren CJ, Vieira DASA, Diaz-Griffero F, Sawyer SL (2018) Species-specific vulnerability of RanBP2 shaped the evolution of SIV as it transmitted in African apes. **PLoS Pathogens** 14(3): e1006906.

Stabell AC, Meyerson NR, Gullberg RC, Gilchrist AR, Webb KJ, Old WM, Perera R, Sawyer SL. (2018) Dengue viruses cleave STING in humans but not in non-human primates, their presumed natural reservoir. **eLIFE**, e31919

Rowley P, Patterson K, Sandmeyer S, Sawyer SL. (2018) Control of Genetic Parasites Mediated Through Nucleoporin Evolution. **PLoS Genetics**, e1007325.

Zhang J, Zhao J, Li J, Xu S, He S, Zeng Y, Xie L, Xie N, Liu T, Lee K, Seo GJ, Chen L, Stabell AC, Sawyer SL, Jung J, Huang C, Feng P. (2018) Species-specific deamidation of cGAS facilitates herpes simplex virus lytic replication. **Cell Host and Microbe**. 24(2):234-248.e5

Meyerson NR, Zhou L, Guo YR, Zhou C, Tao YJ, Krug RM, Sawyer SL. (2017) TRIM25 is a restriction factor that specifically targets influenza virus ribonucleoproteins to block the onset of RNA chain elongation. **Cell Host and Microbe**, 22(5):627-638.e7

Nahabedian J, Sharma A, Kaczmarek ME, Wilkerson GK, Sawyer SL, Overbaugh J. (2017) Owl monkey CCR5 reveals synergism between CD4 and CCR5 in HIV-1 entry. **Virology**, 512:180-186.

Stabell AC, Hawkins J, Li M, Gao X, David M, Press WH, Sawyer SL (2016) Non-human Primate Schlafen11 Inhibits Production of Both Host and Viral Proteins. **PLoS Pathogens** 12(12): e1006066.

Rowley PA, Ho B, Bushong S, Johnson A, Sawyer SL (2016) XRN1 is a Species-Specific Virus Restriction Factor in Yeasts. **PLoS Pathogens**, 12(10):e1005890

White TE, Brandariz-Nuñez A, Han K, Sawyer SL, Kim B, Diaz-Griffero F (2016) Modulation of LINE-1 Retrotransposition by a Human SAMHD1 Polymorphism. **Virology Reports** 6: 53-60.

Lou DI, Kim ET, Meyerson NR, Pancholi NJ, Mohni KN, Weller SK, Weitzman MD, Sawyer SL (2016) An Intrinsically Disordered Region of the DNA Repair Protein, Nbs1, Constitutes a Block to Herpes Simplex Virus 1 Spillover into New Primate Hosts. **Cell Host and Microbe**, 20(2):178-88

Wilke CO and Sawyer SL (2016). At the mercy of viruses. **eLIFE**, 5, e16758.

Nepveu-Traversy M, Demogines A, Fricke T, Plourde MB, Riopel K, Veillette M, Diaz-Griffero F, Sawyer SL, Berthoux L (2016) A putative SUMO interacting motif in the B30.2/SPRY domain of rhesus macaque TRIM5 α important for NF- κ B/AP-1 signaling and HIV-1 restriction. **Heliyon**, e00056

Ng M,* Ndungo E,* Kaczmarek ME,* Herbert AS, Binger T, James R, Jangra RK, Hawkins JA, Gifford RJ, Biswas R, Demogines A, Kuehne AI, Yu M, Brummelkamp TR, Drosten C, Wang L, Kuhn JH, Müller MA, Dye JM*, Sawyer SL,* Chandran K.* (2015) Niemann-Pick C1 contributes to species-specific patterns of ebolavirus susceptibility in bats. **eLIFE**, 4:e11785.

Hussmann J, Patchett S, Johnson A, Sawyer SL, Press WH. (2015) Understanding biases in ribosome profiling experiments reveals signatures of translation dynamics in yeast. **PLoS Genetics**, 11(12):e1005732.

Kerr SA, Jackson EL, Lungu OI, Meyer AG, Demogines A, Ellington AD, Georgiou G, Wilke CO*, Sawyer SL* (2015) Computational and functional analysis of the virus-receptor interface reveals host range trade-offs in New World arenaviruses. **J of Virology**, 89(22):11643-53.

Meyerson NR, Sharma A, Wilkerson GK*, Overbaugh J*, Sawyer SL* (2015) Identification of owl monkey CD4 receptors broadly compatible with early-stage HIV-1 isolates, **J of Virology**, 89(16):8611-22.

McBee RM, Rozmiarek SA, Meyerson NR, Rowley PA, Sawyer SL (2015) The effect of species representation on the detection of positive selection in primate gene datasets. **Molecular Biology and Evolution**, in press.

- Lou DI, RM McBee, UQ Le, AC Stone, GK Wilkerson, A Demogines, SL Sawyer (2014) Rapid Evolution of BRCA1 and BRCA2 in Humans and Other Primates. ***BMC Evolutionary Biology***, 14:155.
- Peng L, A Borrell, A Demogines, H Liu, WH Tepp, S Zhang, EA Johnson, SL Sawyer, M Adler, M Dong (2014) Widespread sequence variations in VAMP1 across vertebrates suggest a potential selective pressure from botulinum neurotoxins. ***PLoS Pathogens***, 10(7):e1004177.
- White TE, A Brandariz-Nunes, JC Valle-Casuso, C Knowlton, B Kim, SL Sawyer, F Diaz-Griffero (2014) Effects of human SAMHD1 Polymorphisms on HIV-1 Susceptibility. ***Virology***, 460-461:34-44.
- Meyerson NR, Rowley PA, Swan CH, Le DT, Wilkerson GK, Sawyer SL (2014) Positive Selection of Primate Genes that Promote HIV-1 Replication. ***Virology***, 454-455: 291-298.
- Hussmann JA, Lou DI, Sawyer SL, Press WH (2014) Reply to Schmitt et al: Data Filtering Schemes for Avoiding Double-Counting in Circle Sequencing. ***Proc Natl Acad Sci USA***, 111(16):E1561.
- Meyer AG, Sawyer SL, Ellington, AD, Wilke CO. (2014) Analyzing machupo virus-receptor binding by molecular dynamics simulations. ***PeerJ***, 2:e266.
- Lou DI*, Hussmann JA*, McBee R, Acevedo A, Andino R, Press WH, Sawyer SL. (2013) Circle Sequencing: High Efficiency, Low Error-Rate Next-Generation DNA Sequencing. ***Proc Natl Acad Sci USA***, 110 (49): 19872-77.
- Malfavon-Borja R, Sawyer SL, Wu, L, Emerman M, Malik HS. (2013) An evolutionary screen highlights canonical and noncanonical candidate antiviral genes within the primate TRIM gene family. ***Genome Biology and Evolution*** 5(11): 2141-54.
- Demogines A, Abraham J, Choe H, Farzan M, Sawyer SL. (2013) Dual Host-Virus Arms Races Shape an Essential Housekeeping Protein. ***PLoS Biology*** 11(5): e1001571.
- Abrams AJ, Cannatella DC, Hillis DM, Sawyer SL. (2013) Recent Host-Shifts in Ranaviruses: Signatures of Positive Selection in the Viral Genome. ***Journal of General Virology*** 94 (Pt 9): 2082-93.
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- Voit RA, McMahan M, Sawyer SL, Porteus MH. (2013) Generation of an HIV Resistant T-Cell Line by Targeted "Stacking" of Restriction Factors. ***Molecular Therapy***, 21(4):786-95.
- Sawyer SL and Elde NC. (2012) A cross-species view on viruses. ***Current Opinion in Virology***, 2(5): 561–8.
- Demogines A, Farzan M, Sawyer SL. (2012) Evidence for ACE2-Utilizing Coronaviruses (CoVs) Related to Severe Acute Respiratory Syndrome CoV in Bats. ***Journal of Virology***, 86(11):6350-3.
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- Sawyer SL, Emerman M, Malik HS. (2007) Discordant evolution of the adjacent antiretroviral genes TRIM22 and TRIM5 in mammals. ***PLoS Pathogens***, 3(12): e197.
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Tye BK and Sawyer S. (2000) The hexameric eukaryotic MCM helicase: building symmetry from nonidentical parts. (Review Article) ***Journal of Biological Chemistry***, 275(45): 34833-6.

Homesley L, Lei M, Kawasaki Y, Sawyer S, Christensen T, Tye BK. (2000) Mcm10 and the MCM2-7 complex interact to initiate DNA synthesis and to release replication factors from origins. ***Genes & Development***, 14(8): 913-26.