

Scott Sherrill-Mix

Department of Microbiology, University of Pennsylvania
scott_cv@sherrillmix.com scott.sherrillmix.com
github.com/sherrillmix

EDUCATION

Postdoctoral researcher

AUG 2015–PRESENT

Advisors: Frederic Bushman & Beatrice Hahn
University of Pennsylvania

Ph.D. Genomics & Computational Biology

SEP 2009–AUG 2015

Latency, expression and splicing during infection with HIV

Advisor: Frederic Bushman
University of Pennsylvania

M.Sc. Biology

JAN 2004–AUG 2007

An analysis of migratory cues and potential tagging effects in the leatherback sea turtle

Advisors: Ransom Myers & Michael James
Dalhousie University

B.Sc. Biology

AUG 1998–AUG 2002

OCT 2001–AUG 2002 (Study abroad)

Florida State University
Hiroshima University

PUBLICATIONS

- C Chehoud, DJ Stieh, AG Bailey, AL Laughlin, SA Allen, KL McCotter, [SA Sherrill-Mix](#), TJ Hope & FD Bushman. 2017. **Associations of the vaginal microbiota with HIV infection, bacterial vaginosis and demographic factors.** *AIDS*
- SS Iyer*, F Bibollet-Ruche*, [S Sherrill-Mix](#)*, GH Learn, LJ Plenderleith, AG Smith, HJ Barbian, RM Russell, MV Gondim, CY Bahari, CM Shaw, Y Li et al. 2017. **Resistance to type 1 interferons is a major determinant of HIV-1 transmission fitness.** *Proceedings of the National Academy of Sciences* 114: E590–599
- K Gupta*, V Turkki*, [S Sherrill-Mix](#), Y Hwang, G Eilers, L Taylor, C McDanal, P Wang, D Temelkoff, RT Nolte, E Velthuisen, J Jeffrey, GD Van Duyne & FD Bushman. 2016. **Structural basis for inhibitor-induced aggregation of HIV integrase.** *PLoS Biology* 14:e1002584
- AP Lauder*, AM Roche*, [S Sherrill-Mix](#), A Bailey, AL Laughlin, K Bittinger, R Leite, MA Elovitz, S Parry & FD Bushman. 2016. **Comparison of placenta samples with contamination controls does not provide evidence for a distinct placenta microbiota.** *Microbiome* 4:29
- [S Sherrill-Mix](#), KE Ocwieja & FD Bushman. 2015. **Gene activity in primary T cells infected with HIV89.6: intron retention and induction of genomic repeats.** *Retrovirology* 12:79
- AL Bryson, Y Hwang, [S Sherrill-Mix](#), GD Wu, JD Lewis, L Black, TA Clark & FD Bushman. 2015. **Covalent modification of bacteriophage T4 DNA inhibits CRISPR-Cas9.** *mBio* 6:e00648
- BJ Kelly, R Gross, K Bittinger, [S Sherrill-Mix](#), JD Lewis, RG Collman, FD Bushman & H Li. 2015. **Power and sample-size estimation for microbiome studies using pairwise distances and PERMANOVA.** *Bioinformatics* 31:2461–2468
- KE Ocwieja, [S Sherrill-Mix](#), C Liu, J Song, H Bau & FD Bushman. 2015. **A reverse transcription loop-mediated isothermal amplification assay optimized to detect multiple HIV subtypes.** *PLoS One* 10:e0117852
- KE Ocwieja, AN Fernando, [S Sherrill-Mix](#), SA Sundararaman, RN Tennekoon, R Tippalagama, S Krishnananthasivam, G Premawansa, S Premawansa & AD De Silva. 2014. **Phylogeography and molecular epidemiology of an epidemic strain of dengue virus type 1 in Sri Lanka.** *The American Journal of Tropical Medicine and Hygiene* 91:225–234
- [S Sherrill-Mix](#), MK Lewinski, M Famiglietti, A Bosque, N Malani, KE Ocwieja, CC Berry, D Looney, L Shan, LM Agosto, MJ Pace, RF Siliciano et al. 2013. **HIV latency and integration site placement in five cell-based models.** *Retrovirology* 10:90

- SA Sundararaman, W Liu, BF Keele, GH Learn, K Bittinger, F Mouacha, S Ahuka-Mundeke, M Manske, S Sherrill-Mix, Y Li, JA Malenke, E Delaporte et al. 2013. **Plasmodium falciparum-like parasites infecting wild apes in southern Cameroon do not represent a recurrent source of human malaria.** *Proceedings of the National Academy of Sciences* 110:7020–7025
- KE Ocwieja, S Sherrill-Mix, R Mukherjee, R Custers-Allen, P David, M Brown, S Wang, DR Link, J Olson, K Travers, E Schadt & FD Bushman. 2012. **Dynamic regulation of HIV-1 mRNA populations analyzed by single-molecule enrichment and long-read sequencing.** *Nucleic Acids Research* 40: 10345–10355
- MG Berg, LN Singh, I Younis, Q Liu, AM Pinto, D Kaida, Z Zhang, S Cho, S Sherrill-Mix, L Wan & G Dreyfuss. 2012. **U1 snRNP determines mRNA length and regulates isoform expression.** *Cell* 150: 53–64
- S Dollive, GL Peterfreund, S Sherrill-Mix, K Bittinger, R Sinha, C Hoffmann, CS Nabel, DA Hill, D Artis, MA Bachman, RA Custers-Allen, S Grunberg et al. 2012. **A tool kit for quantifying eukaryotic rRNA gene sequences from human microbiome samples.** *Genome Biology* 13:1
- CB Wilen, J Wang, JC Tilton, JC Miller, KA Kim, EJ Rebar, SA Sherrill-Mix, SC Patro, AJ Secreto, AP Jordan, G Lee, J Kahn et al. 2011. **Engineering HIV-resistant human CD4+ T cells with CXCR4-specific zinc-finger nucleases.** *PLoS Pathogens* 7:e1002020
- R Mukherjee*, G Plesa*, S Sherrill-Mix, MW Richardson, JL Riley & FD Bushman. 2010. **HIV sequence variation associated with env antisense adoptive T-cell therapy in the hNSG mouse model.** *Molecular Therapy* 18:803–811
- GP Wang, SA Sherrill-Mix, KM Chang, C Quince & FD Bushman. 2010. **Hepatitis C virus transmission bottlenecks analyzed by deep sequencing.** *Journal of Virology* 84:6218–6228
- MA Hildebrandt, C Hoffmann, SA Sherrill-Mix, SA Keilbaugh, M Hamady, YY Chen, R Knight, RS Ahima, F Bushman & GD Wu. 2009. **High-fat diet determines the composition of the murine gut microbiome independently of obesity.** *Gastroenterology* 137:1716–1724
- SA Sherrill-Mix & MC James. 2008. **Evaluating potential tagging effects on leatherback sea turtles.** *Endangered Species Research* 4:187–193
- SA Sherrill-Mix, MC James & RA Myers. 2008. **Migration cues and timing in leatherback sea turtles.** *Behavioral Ecology* 19:231–236
- MC James, SA Sherrill-Mix & RA Myers. 2007. **Population characteristics and seasonal migrations of leatherback sea turtles at high latitudes.** *Marine Ecology Progress Series* 337:245–254
- X Zheng, SA Sherrill-Mix & Q Gao. 2007. **Perceptual shape-based natural image representation and retrieval.** *Proceedings of the IEEE International Conference on Semantic Computing* 2007:622–629
- MC James, SA Sherrill-Mix, K Martin & RA Myers. 2006. **Canadian waters provide critical foraging habitat for leatherback sea turtles.** *Biological Conservation* 133:347–357
- RA Myers, SA Boudreau, RD Kenney, MJ Moore, AA Rosenberg, SA Sherrill-Mix & B Worm. 2006. **Saving endangered whales at no cost.** *Current Biology* 17:R10–R11

EXPERIENCE

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|---------------------------|---|--|
| Consultant | Department of Fisheries and Oceans Canada
Independent contractor
Investigating loggerhead turtle mortalities through pop-up satellite archival tag data | NOV 2015–NOV 2016 |
| Programmer analyst | Philadelphia, Pennsylvania
Analyzing high-throughput sequencing and genomic data for diverse biomedical projects | University of Pennsylvania
JUN 2008–SEP 2009 |
| Consultant | Independent contractor
Modeling short-term and satellite-tracked leatherback telemetry and oceanographic data | Canadian Sea Turtle Network
JAN 2008–JUL 2010 |

Consultant Atlantic Loggerhead & Leatherback Stock Assessments
 Independent contractor FEB 2006–MAY 2008
 Assessing species distributions using telemetry data from 23 labs spanning 38,000 tracking-days

Teaching assistant Dalhousie University
 Halifax, Nova Scotia SEP 2004–MAY 2007
 Leading labs in Marine Diversity (1 semester), Biology (4 semesters) and Programming (2 semesters)

Field biologist International Pacific Halibut Commission
 Gulf of Alaska MAY 2003–SEP 2003
 Tagging, processing and measuring halibut and bycatch on a chartered vessel

Fishery observer Frank Orth and Associates & Data Contractors, Inc.
 California, Gulf of Alaska & Bering Sea SEP 2002–MAY 2003
 Estimating catch and collecting data and samples on commercial fishing vessels

Biological technician NMFS Panama City Laboratory
 Panama City, Florida MAY 2001–OCT 2001
 Sampling, dissecting and tagging coastal sharks and reef fishes

AWARDS

PENN-PORT teaching and diversity course 2016
 National Research Service Award in HIV Pathogenesis 2015–2016
 Patent pending: Composition, kits and methods to detect HIV virus 2015
 CROI Young Investigator Award 2013
 CROI Young Investigator Award 2012
 National Research Service Award in Computational Genomics 2011–2013
 Certificate in Living Marine Resource Ecology 2002
 Florida State University Summa Cum Laude 2002
 Phi Beta Kappa 2002
 Japan Student Services Organization Exchange Scholarship 2001–2002
 National Merit Scholar 1998–2002

CONFERENCES

Institute for Biomedical Informatics Annual Retreat 2014
 Presentation: Splicing changes and chimeras during HIV infection revealed by RNA-Seq

38th Cold Spring Harbor Meeting on Retroviruses 2014
 Poster: HIV and host cell RNA abundance analyzed by RNA-Seq

9th International R User Conference 2013
 Presentation: `glmnet` and latent HIV: twists in the hunt for a cure

20th Conference on Retroviruses and Opportunistic Infections 2013
 Presentation & Poster: HIV latency and integration site placement in five cell-based models

37th Cold Spring Harbor Meeting on Retroviruses 2012
 Poster: HIV and host mRNA analyzed by high throughput sequencing

19th Conference on Retroviruses and Opportunistic Infections 2012
 Poster: Single molecule enrichment and sequencing of HIV: Exon utilization and novel ORFs

27th Annual Symposium on Sea Turtle Conservation and Biology 2007
 Presentation: High latitude leatherback turtles: when do they migrate south?

IUCN Shark Specialist Group Red List Workshop 2004
 Assessments: *Scyliorhinus retifer*, *Scyliorhinus meadi*, *Somniosus microcephalus* & *Isistius plutodus*

5th Mote International Symposium in Fisheries Ecology 2004
 Poster: When does catch-per-unit-effort reflect abundance?