

Peter Skidmore

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Education

2021 - Present	Arizona State University	Tempe, AZ
<i>Doctor of Philosophy in Biomedical Informatics</i>		
2016 - 2020	Arizona State University	Tempe, AZ
<i>Bachelor of Science in Microbiology (Medical Microbiology)</i>		

Research Experience

May 2022 - Present	Arizona State University	Tempe, AZ
<i>Graduate Researcher, Advisor: Michael Kruer, M.D.</i>		
• Investigated the use of drug repurposing approaches for treating KMT2B related neurodevelopmental conditions • Investigated genetic causes of cerebral palsy through whole exome sequencing • Developed bioinformatics pipelines for processing and filtering variants from whole exome sequencing data		
August 2021 - August 2022	Arizona State University	Tempe, AZ
<i>Graduate Researcher, Advisor: Matthew Scotch, Ph.D.</i>		
• Curated and annotated SARS-CoV-2 articles for natural language processing based metadata enrichment of sequences deposited in GISAID and GenBank • Investigated viruses circulating in wastewater samples from the Tempe, AZ area		
June 2020 - July 2021	Arizona State University	Tempe, AZ
<i>Assistant Bioinformatics Analyst, Advisor: Efrem Lim, Ph.D.</i>		
• Designed pipeline for and assembled consensus genomes of SARS-CoV-2 virus samples using tiled amplicon sequencing and performed variant calling to assist in COVID-19 pandemic response • Analyzed breast milk bacterial microbiome in Kenyan women pre and post antiretroviral therapy over time • Investigated the effects of andrographolide treatment on the fecal bacterial microbiome of mice affected by Gulf War illness		
March 2019 - June 2020	Arizona State University	Tempe, AZ
<i>Undergraduate Lab Researcher, Advisor: Efrem Lim, Ph.D.</i>		
• Bacterial microbiome analysis of microplastics effect on the gut microbiome of mice • Read and contig based analysis of vaginal virome of women with HPV		

Publications

14. Maroni MJ, Barton M, Lynch K, Deshwar AR, Campbell PD, Millard J, Lee R, Cohen A, Ahmad R, Paranjapye A, Faundes V, Repetto GM, McKenna C, Shillington AL, Phornphutkul C, Hove HB, Mancini GMS, Schot R, Barakat TS, Richmond CM, Lauzon J, Ibrahim AIE, Nava C, Héron D, Van Aalst MMA, Atemin S, Sleptsova M, Aleksandrova I, Todorova A, Watkins DL, Kozenko MA, Natera de Benito D, Ortez C, Estevez-Arias B, Lecoquierre F, Cassinari K, Guerrot AM, Levy J, Latypova X, Verloes A, Innes AM, Yang XR, Banka S, Vill K, Jacob M, Kruer M, **Skidmore P**, Galaz-Montoya CI, Bakhtiari S, Mester JL, Granato M, Armache KJ, Costain G, Korb E. Loss of DOT1L disrupts neuronal transcription and leads to a neurodevelopmental disorder. *Brain*. 2025 Jun 11;awaf212. doi:10.1093/brain/awaf212
13. Kruer MC, **Skidmore PT**, Edwards B, Heim J, Kelbert J, Evans N, King A, Cornejo P, Ponce F, Vanatta L, Pagnozzi AM, Zhao N. Combined Dietary Restriction and Chelation Therapy Reduces Manganese Burden in SLC39A14-Associated Manganism. *Movement Disorders*. 2025 Oct 24;mds.70085. doi:10.1002/mds.70085
12. Bisarad P, Wang YC, **Skidmore PT**, Galaz-Montoya CI, Lewis SA, Alhaddad B, Kong N, Julian D, Magee H, Kruer TN, Xie Y, Zheng W, Li B, Rajabpour FV, Liu J, Revanur A, Bakur K, Firouzabadi SG, Sharbatkhori S, Tafakhori A, Taghiabadi E, Nezaminargabad E, Vosoogh S, Jamshidi J, Arefnia S, Hosseini SA, Khajehmirzaei A, Jamali F, Ahmadifard A, Khodadadi H, Daneshmand P, Bohlega S, Maddirevula S, Nadeef SS, Hashem MO, Salih MA, Mohamed IN, Sticht H, Morias SP, Damásio J, Santos M, Loureiro JL, Rodrigues R, Stevanin G, Benkirane M, Dauriat B, Head N, Baptista J, Shahhosseini S, Mohammad F, Zhao H, Padilla Lopez S, Alkuraya F, Bakhtiari S, Kruer MC, Jin SC, Darvish H. Recessive genomic and phenotypic variation in consanguineous families with cerebral palsy [Internet]. *Neurology*; 2025 [cited 2025 Dec 3]. Available from: <http://medrxiv.org/lookup/doi/10.1101/2025.11.04.25339178> doi:10.1101/2025.11.04.25339178
11. Nosrati MSS, Doustmohammadi A, Severino M, Romano F, Zafari M, Nemati AH, Velmans C, Netzer C, Breuer J, Broekaert IJ, Joachim A, Almasri N, Kruer MC, **Skidmore P**, Bisarad P, Hoque J, Bakhtiari S, Torella A, Nigro V, Buffelli F, Fulcheri E, Müller A, Zara F, Capra V, Scala M. Novel KIF26A variants associated with pediatric intestinal pseudo-obstruction (PIPO) and brain developmental defects. *Clinical Genetics*. 2025 Jan;107(1):83–90. doi:10.1111/cge.14621
10. Faleye TOC, **Skidmore P**, Elyaderani A, Adhikari S, Kaiser N, Smith A, et al. Adenovirus 41 diversity in Arizona (USA) using wastewater-based epidemiology, long-range PCR, and pathogen sequencing between October 2019 and March 2020. *Epidemiol Infect*. 2024;152:e142. doi:10.1017/S095026882400133X
9. Faleye TOC, **Skidmore P**, Elyaderani A, Adhikari S, Kaiser N, Smith A, et al. Exploring Canine Picornavirus Diversity in the USA Using Wastewater Surveillance: From High-Throughput Genomic Sequencing to Immuno-Informatics and Capsid Structure Modeling. *Viruses*. 2024 Jul 24;16(8):1188. doi:10.3390/v16081188

8. Faleye TOC, Elyaderani A, **Skidmore P**, Adhikari S, Smith A, Kaiser N, et al. Surveillance of rhinovirus diversity among a university community identifies multiple types from all three species including an unassigned rhinovirus A genotype. *Influenza Other Respir Viruses*. 2022 Sep 28;17(1):e13057. doi:10.1111/irv.13057
7. Faleye TOC, **Skidmore P**, Elyaderani A, Adhikari S, Kaiser N, Smith A, et al. Impact of sample clarification by size exclusion on virus detection and diversity in wastewater-based epidemiology [Internet]. *Epidemiology*; 2022 [cited 2026 Feb 27]. Available from: <http://medrxiv.org/lookup/doi/10.1101/2022.09.25.22280344> doi:10.1101/2022.09.25.22280344
6. Smith A, Kaiser N, Yanez A, Perleberg T, Elyaderani A, **Skidmore P**, et al. Genome Sequence of a Microvirus Recovered from Wastewater in Arizona, USA, in October 2020, Encodes a Previously Undescribed DNA-Binding Protein. *Microbiology Resource Announcements*. 2022 Aug 31;11(10):e00337-22. doi:10.1128/mra.00337-22
5. Falaye TOC, **Skidmore PT**, Elyaderani A, Smith A, Kaiser N, Adhikari S, Yanez A, Perleberg T, Driver EM, Halden RU, Varsani A, Scotch M. Canine picornaviruses detected in wastewater in Arizona, USA 2019 and 2021. *Infection, Genetics and Evolution*. 2022 Jun 14;103:105315. doi: 10.1016/j.meegid.2022.105315.
4. Maqsood R, **Skidmore PT**, Holland LA, Au JL, Khan AK, Wu LI, Ma N, Begnel ER, Chohan BH, Adhiambo J, John-Stewart G, Kiarie J, Kinuthia J, Chung MH, Richardson BA, Slyker J, Lehman DA, Lim ES. Dynamic Changes in Breast Milk Microbiome in the Early Postpartum Period of Kenyan Women Living with HIV Are Influenced by Antibiotics but Not Antiretrovirals. *Microbiology Spectrum*. 2022 Apr 27;10(2):e0208021. doi: 10.1128/spectrum.02080-21.
3. Kaelin EA*, **Skidmore PT***, Laniewski P, Holland LA, Chase DM, Herbst-Kralovetz MM, Lim ES. Cervicovaginal DNA virome alterations are associated with genital inflammation and microbiota composition. *mSystems*. 2022 Apr 26;7(2):e0006422. doi: 10.1128/msystems.00064-22.
[*Co-first authors, accepted 03/09/2022]
2. **Skidmore PT**, Kaelin EA, Holland LA, Maqsood R, Wu LI, Mellor NJ, Blain JM, Harris V, LaBaer J, Murugan V, Lim ES. Genomic Sequencing of SARS-CoV-2 E484K Variant B.1.243.1, Arizona, USA. *Emerging Infectious Diseases*. 2021 Oct;27(10):2718-2720. doi: 10.3201/eid2710.211189.
1. Saha P, **Skidmore PT**, Holland LA, Mondal A, Bose D, Seth RK, Sullivan K, Janulewicz PA, Horner R, Klimas N, Nagarkatti M, Nagarkatti P, Lim ES, Chatterjee S. Andrographolide Attenuates Gut-Brain-Axis Associated Pathology in Gulf War Illness by Modulating Bacteriome-Virome Associated Inflammation and Microglia-Neuron Proinflammatory Crosstalk. *Brain Sciences*. 2021 Jul 9;11(7):905. doi: 10.3390/brainsci11070905.

Service

2026 - Present KMT2B Dystonia Foundation
Medical and Scientific Advisory Board member

Technical Skills

- Computing: Python, R, HPC, microbiome analysis, Geneious, SAMtools
- Lab techniques: Mouse handling, PCR, viral cloning, NGS library preparation, automated liquid handlers

Other Work Experience

May 2018 - August 2018 Tricida Inc. South San Francisco, CA
Quality Assurance Intern

- Created deviation and OOS storyboards for Pre-approval inspection (PAI)
- Implemented SOPs (GDP, Change Control, Authorization to Ship)