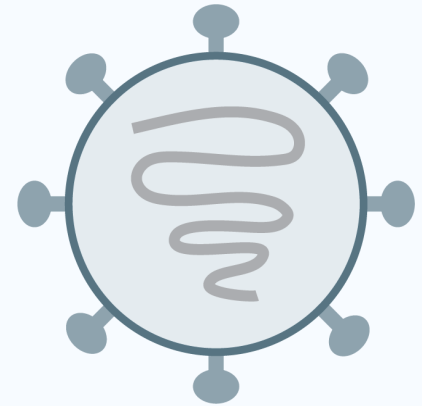




SARAH ARCOS




I am passionate about using computational methods to explore high-throughput biological datasets in a reproducible and rigorous way. I am a post-doctoral fellow in Dr. Adam Luring's lab at the University of Michigan, where I use molecular biology, computational, and statistical toolboxes to study RNA virus evolution.



EDUCATION

- 2020 | 2015**
 - **PhD., Biochemistry**
Vanderbilt University  Nashville, TN
 - Studying RNA-protein interactions and RNA virus replication
- 2015 | 2011**
 - **B.S., Neurobiology, Cum laude**
Georgetown University  Washington, DC
 - Studied developmental biology of the central nervous system

RESEARCH EXPERIENCE

- Current | 2021**
 - **Postdoctoral Fellow**
Luring Laboratory  University of Michigan
 - RNA virus evolution
 - Influenza A polymerase speed and fidelity
 - Epistatic interactions within the Influenza A polymerase complex
- 2020 | 2015**
 - **Graduate Researcher**
Ascano Laboratory  Vanderbilt University
 - RNA virus replication, innate immune evasion
 - Protein-RNA interactions
 - Post-transcriptional gene regulation in the innate immune system
- 2015 | 2012**
 - **HHMI Undergraduate Research Assistant**
Silva Laboratory  Georgetown University
 - Investigated the role and regulation of SOX14 during central nervous system development
 - Used the model organism *Xenopus laevis*

CONTACT

- ✉ sarcos@med.umich.edu
- 🐦 [sarah_arcos](https://twitter.com/sarah_arcos)
- 🔗 github.com/saraharcos
- 🔗 saraharcos.github.io

LANGUAGE SKILLS



Made with the *R* package
[pagedown](#).

The source code is available [on](https://github.com/nstrayer/cv)
github.com/nstrayer/cv.

Last updated on 2023-03-02.



INDUSTRY EXPERIENCE

2018
|
2018



Infectious Disease/Microbiology Intern

Advisors: Dr. Bret Sellman, Dr. Taylor Cohen

📍 MedImmune/Astra Zeneca

- Antibody design and development
- mtDNA haplogroup-dependent neutrophil responses to *Staphylococcus aureus* alpha-toxin
- Neutrophil extracellular trap release



TEACHING EXPERIENCE

Current
|
2019



R Fridays Founder

Vanderbilt Biochemistry Department

📍 Vanderbilt University

- Leader of a peer group dedicated to discussion and problem solving related to biological data analysis in R
- The R Fridays blog is updated with interesting discussion topics from previous meetings



SERVICE POSITIONS

2018
|
2017



Vice President, Biochemistry Student's Association

📍 Vanderbilt University

- Coordinated the 2018 Biochemistry Department Annual Symposium



SELECTED PRESS (ABOUT)

2020



New method captures early viral-host protein interactions¹

VUMC Reporter

- Story of the VIR-CLASP method developed with Dr. Byungil Kim and Dr. Manny Ascano



SELECTED PRESS (BY)

2019



Dr. David Mitchell²

RNA Society

- Authored a spotlight on fellow RNA Society member Dr. David Mitchell

I believe that scientific reproducibility depends upon improved communication between data producers and data analyzers, and I am passionate about increasing data analysis accessibility for wet lab biologists.







PUBLICATIONS

- 2023 • **Mutual information networks reveal evolutionary relationships within the Influenza A polymerase³**
biorxiv
• Sarah Arcos, Alvin X. Han, Aartjan J W Te Velhuis, Colin A Russell, and Adam S Luring
- 2021 • **ELAVL1 primarily couples mRNA stability with the 3' UTRs of interferon stimulated genes⁴**
Cell Reports
• Katie Rothamel, Sarah Arcos, Byungil Kim, Clara Reasoner, Neelanjan Mukherjee, and Manuel Ascano
- 2020 • **Discovery of Widespread Host Protein Interactions with the Pre-replicated Genome of CHIKV using VIR-CLASP**
Molecular Cell
• Byungil Kim*, Sarah Arcos*, Katherine Rothamel, Jeffrey Jian, Kristie L Rose, W Hayes McDonald, Yuqi Bian, Seth Reasoner, Nicholas J Barrows, Shelton Bradrick, Mariano A Garcia-Blanco, and Manuel Ascano. *Co-first authors
- 2020 • **Viral cross-linking and solid-phase purification enables discovery of ribonucleoprotein complexes on incoming RNA virus genomes⁵**
Nature Protocols
• Byungil Kim*, Sarah Arcos*, Katherine Rothamel, and Manuel Ascano. *Co-first authors



SELECTED TALKS

- 2022 • **Mutual information networks reveal evolutionary relationships within the Influenza A polymerase**
American Society for Virology Annual Meeting  Madison, WI
- 2019 • **Discovery of widespread host protein interactions with pre-replicated RNA virus genomes using VIR-CLASP**
EMBL Protein Synthesis and Translational Control Workshop  Heidelberg, Germany
- 2019 • **N6-Methyladenosine-dependent regulation of the pre-replicated Chikungunya viral genome**
Vanderbilt Biochemistry Department Annual Symposium  Nashville, TN
- 2018 • **N6-Methyladenosine-dependent regulation of RNA during Chikungunya virus infection**
RNA Society Annual Meeting  Berkeley, CA

- 2014 ● **The role and regulation of SOX14 in the development of the central nervous system in *Xenopus laevis***
Georgetown- Howard Hughes Medical Institute Summer Research Symposium
📍 Washington, DC



GRANTS AND AWARDS

- 2022
|
2021 ● **Molecular Mechanisms of Microbial Pathogenesis Post-doctoral Training Grant**
University of Michigan
• T32AI007528, PI: Dr. Vern Carruthers
- 2020 ● **Vanderbilt Russell G. Hamilton Graduate Leadership Institute Travel Grant**
Vanderbilt University
• Used to attend rstudio::conf 2020 in San Francisco, CA
- 2019 ● **EMBL Advanced Training Center Corporate Partnership Travel Fellowship**
EMBL Heidelberg
• Used to attend the 2019 EMBL Protein Synthesis and Translational Control Workshop
- 2018
|
2016 ● **National Institute of Allergy and Infectious Diseases Pre-doctoral Training Grant**
Vanderbilt University
• T32AI11254, PI: Dr. Eric Skaar
- 2018 ● **RNA Society Travel Grant**
RNA Society
• Used to attend the 2018 RNA Society Annual Meeting in Berkeley, CA
- 2018 ● **Frank Chytil Travel Award**
Vanderbilt University
• Used to attend the 2018 RNA Society Annual Meeting in Berkeley, CA
- 2018 ● **Best Poster Award, Vanderbilt Biochemistry Department Annual Symposium**
Vanderbilt University
• Poster title: N6-Methyladenosine-dependent regulation of RNA during Chikungunya virus infection and innate immune activation



PROFESSIONAL MEMBERSHIPS

Current

2021

2021

2018

2020

2016

2020

2016

2020

2016

● **American Society for Virology**

● **RNA Society**

● **Biochemistry Students Association**

Vanderbilt University

● **Vanderbilt Institute of Chemical Biology**

Vanderbilt University

● **Chemical Biology Association of Students**

Vanderbilt University



LINKS

- 1: https://news.vumc.org/2020/05/07/new_method_captures_early_viral_host_protein_interactions/
- 2: https://www.rnasociety.org/dr_david_mitchell
- 3: <https://www.biorxiv.org/content/10.1101/2023.02.16.528850v1>
- 4: <https://www.biorxiv.org/content/10.1101/2020.08.24.263418v1>
- 5: <https://www.biorxiv.org/content/10.1101/2020.04.08.032441v1>