

Pierce A. Longmire
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EDUCATION

- 2019 - **PhD Candidate, Graduate Program in Molecular Medicine**
University of Arizona, Tucson, AZ
- 2018 - 2019 **Master of Science, Molecular and Cellular Biology**
University of Arizona, Tucson, AZ
Master's Thesis: *Recombinant NSMCE2 has auto-SUMOylation and SUMO-chain assembly activities*
- 2014 - 2018 **Bachelor of Science, Molecular and Cellular Biology (with Honors)**
University of Arizona, Tucson, AZ
Honors Thesis: *Investigations of expression and purification of the E3 SUMO ligase NSMCE2*

RESEARCH AND WORK EXPERIENCE

- 2020 - **Graduate Research Assistant**
Felicia Goodrum Lab, University of Arizona Department of Immunobiology
 - Utilize molecular genetics and cell culture techniques to interrogate virus-host interactions important for human cytomegalovirus replication and latency
- 2017 - 2019 **Graduate Research Assistant**
Nathan Ellis Lab, Arizona Cancer Center
 - Employed biochemical techniques to study proteins involved in DNA repair and their potential role in cellular responses to chemotherapeutic agents
- 2017 - 2018 **Laboratory Instructor**
University of Arizona Department of Molecular and Cellular Biology
 - Taught 24 undergraduate students in a three-hour laboratory section for an introductory molecular and cellular biology course
 - Explored interactive teaching methods with fellow instructors in weekly teaching workshops
- 2016 - 2017 **Undergraduate Research Assistant**
Ramin Yadegari Lab, University of Arizona School of Plant Sciences
 - Assisted postdoctoral researchers in investigations of genetics of maize
 - Conducted an individual project to analyze transcription factor protein interactions during early maize endosperm development

FELLOWSHIPS and SCHOLARSHIPS

- 2023 - 2024 **Achievement Rewards for College Scientists (ARCS) Foundation, Phoenix Chapter - Theresa F. Jennings Memorial Scholar**
- 2021 - **National Institutes of Health Supplement to Promote Diversity in Health-Related Research**
- 2021 **Infection and Inflammation as Drivers of Aging Predoctoral Training Grant (awarded but declined)**
- 2018 - 2020 **National Science Foundation Louis Stokes Alliances for Minority Participation (LSAMP) Bridge to the Doctorate Fellowship**

SCIENTIFIC PUBLICATIONS

Zarrella, K., **P. Longmire**, S. Zeltzer, D. Collins-McMillen, M. Hancock, J. Buehler, J. M. Reitsma, S. S. Terhune, J. A. Nelson, and F. Goodrum. 2023. Human cytomegalovirus UL138 interaction with USP1 activates STAT1 in infection. *PLoS Pathogens*. 19(6): e1011185. [PMID: 37289831](#)

Zeltzer, S., **P. Longmire**, M. Svoboda, G. Bosco, and F. Goodrum. 2022. Host translesion polymerases are required for viral genome integrity. *Proceedings of the National Academy of the Sciences*. **119**(33):e2203203119. [PMID: 35947614](#)

Longmire, P., S. Zeltzer, K. Zarrella, M. Svoboda, G. Bosco, and F. Goodrum. 2023. Human cytomegalovirus UL138 regulates monoubiquitination of proliferating cell nuclear antigen to suppress virus replication. *In preparation*.

ORAL PRESENTATIONS

- July 2023 47th Annual International Herpesvirus Workshop, Missoula, MT (selected talk)
Human cytomegalovirus UL138 regulates host DNA damage responses for replication and latency
- June 2023 42nd Annual American Society for Virology Meeting, Athens, GA (selected talk)
Human cytomegalovirus UL138 regulates host DNA damage responses for replication and latency
- Sept. 2022 2022 Joint Biology Research Retreat, University of Arizona
Human cytomegalovirus regulates the host DNA damage response for replication and latency
- July 2022 46th Annual International Herpesvirus Workshop, virtual (selected talk)
Human cytomegalovirus hijacks host translesion polymerases for genome integrity

- July 2022 41st Annual American Society for Virology Meeting, Madison, WI (selected talk)
Human cytomegalovirus hijacks host translesion polymerases for genome integrity
- May 2022 College of Medicine Research Day, University of Arizona
Human cytomegalovirus hijacks host translesion polymerases for genome integrity
- Mar. 2022 17th Annual Frontiers in Immunobiology & Immunopathogenesis Symposium, University of Arizona, virtual (selected talk)
Human cytomegalovirus hijacks host translesion polymerases for genome integrity
- Jan. 2022 2nd Annual Infection and Inflammation as Drivers of Aging Symposium, University of Arizona
Human cytomegalovirus regulates the host DNA damage response for replication and latency
- Aug. 2021 45th Annual International Herpesvirus Workshop, virtual (selected talk)
Human cytomegalovirus regulates the host DNA damage response for replication and latency

POSTER PRESENTATIONS

Pierce Longmire, Sebastian Zeltzer, Marek Svoboda, Giovanni Bosco, Felicia Goodrum.
Human cytomegalovirus hijacks host translesion polymerases for genome integrity.

- June 2023 2023 NSF LSAMP Principal Investigators & Project Directors (PIPD) Meeting, Washington, DC (selected abstract)
- July 2022 46th Annual International Herpesvirus Workshop, virtual
- July 2022 41st Annual American Society for Virology Meeting, Madison, WI
- July 2022 Gordon Research Conference on Genomic Instability, Ventura, CA
- Apr. 2022 2021-22 Joint Biology Research Retreat, University of Arizona

Pierce Longmire, Sebastian Zeltzer, Kristen Maness, Jason Buehler, Scott Terhune, Felicia Goodrum.
Human cytomegalovirus regulates the host DNA damage response for latency

- Aug. 2021 45th Annual International Herpesvirus Workshop, virtual
- July 2021 40th Annual American Society for Virology Meeting, virtual
- Mar. 2021 16th Annual Frontiers in Immunobiology & Immunopathogenesis Symposium, virtual

Pierce Longmire, Timothy Marlowe, Nathan Ellis. *Recombinant NSMCE2 has auto-SUMOylation and SUMO chain assembly activities*

Mar. 2020 2020 Western Alliance to Expand Student Research Opportunities (WAESO) Research Conference, Phoenix, AZ

Pierce Longmire, Shanshan Zhang, Choong-Hawn Ryu, Ramin Yadegari. *Investigating the interaction of transcription factor proteins involved in early endosperm development in maize.*

Mar. 2017 2017 WAESO Research Conference, Phoenix, AZ

Jan. 2017 Undergraduate Biology Research Program 28th Annual Conference, University of Arizona

OUTREACH ACTIVITIES

- 2020 - Colors of STEM Leadership Team Member, University of Arizona
 - Organize and lead monthly professional and personal development workshops for students of color in STEM majors
- 2019 - 2021 Joint Biology Research Retreat Committee Member, University of Arizona
 - Organized an interdepartmental retreat focused on biological and biomedical research at the University of Arizona
- 2017 - 2019 Junior Scholar Board Member, University of Arizona Alumni Association Multicultural Clubs
 - Planned professional development workshops to support recipients of scholarships from the University of Arizona Alumni Association's various multicultural clubs for underrepresented minorities
- 2015 - 2016 Preceptor, University of Arizona Department of Molecular and Cellular Biology

ADDITIONAL AWARDS, HONORS, AND ACTIVITIES

- 2024 Co-Chair, 2024 Genomic Instability Gordon Research Seminar
- 2023 NSF LSAMP PIPD 2023 Meeting - First Place Poster Award
- 2023 American Society for Virology Student Travel Award
- 2022 International Herpesvirus Workshop 2022 Merit-Based Award
- 2022 Invited Discussion Leader, Gordon Research Conference on Genomic Instability
- 2022 UArizona Cancer Research Training & Education Coordination Travel Award
- 2022 American Society for Virology Student Travel Award
- 2014 - 2018 University of Arizona Honors College
- 2014 - 2018 University of Arizona Wildcat Excellence Award Scholarship
- 2014 - 2018 University of Arizona Black Alumni Association Scholarship
- 2017 WAESO Research Conference First Place Award - Undergraduate
- 2017 WAESO Undergraduate Student Research Funding
- 2014 Alpha Foundation, Inc. Felix Goodwin Scholarship
- 2014 Raytheon Black Employees Network Academic Award