

Jason A. Stewart

Western Kentucky University
Department of Biology
1906 College Heights Blvd, #11080
Bowling Green, KY 42101

Email: jason.stewart@wku.edu
Website: stewartlab.weebly.com

EDUCATION

Ph.D. in Biochemistry	2009	University of Rochester, Rochester, NY
B.S. in Microbiology	2003	Brigham Young University, Provo, UT

POSITIONS

Assistant Professor	2023-present	Department of Biology Western Kentucky University, Bowling Green, KY
Assistant Professor	2014-2023	Department of Biological Sciences University of South Carolina, Columbia, SC
Postdoctoral Fellow	2009-2014	Department of Cancer Biology University of Cincinnati, Cincinnati, OH

RESEARCH EXPERIENCE

Assistant Professor (08/2023 to present) Principal Investigator
Western Kentucky University, Bowling Green, KY
Projects: Roles of the human CTC1-STN1-TEN1 (CST) complex in DNA replication, DNA repair, and telomere maintenance

Assistant Professor (08/2014 to 05/2023) Principal Investigator
Western Kentucky University, Bowling Green, KY; University of South Carolina, Columbia, SC
Projects: Roles of the human CTC1-STN1-TEN1 (CST) complex in DNA replication, DNA repair, and telomere maintenance

Postdoctoral Fellow (07/2009 to 08/2014) Laboratory of Dr. Carolyn M. Price
University of Cincinnati, Cincinnati, OH
Project: Functions of the human CST complex in DNA replication and genome stability

Postdoctoral Fellow (04/2009 to 07/2009) Laboratory of Dr. Robert A. Bambara
University of Rochester, Rochester, NY
Project: Biochemical functions of Dna2

Graduate Research Assistant (06/2005 to 04/2009) Laboratory of Dr. Robert A. Bambara
University of Rochester, Rochester, NY
Thesis: Functional interactions between Replication Protein A, Dna2, and Flap Endonuclease 1 during Okazaki fragment processing

Research Technician (01/2004 to 08/2004) Laboratory of Dr. Joan M. Hevel
Utah State University, Logan, UT
Project: Enhancer binding of the transcription factor HNF1 α and cofactors DCoH and DCoH α

Undergraduate Research Assistant (07/2002 to 12/2003) Laboratory of Dr. William R. McCleary
 Brigham Young University, Provo, UT
Project: Signal transduction activation during phosphate starvation in *Escherichia coli*

RESEARCH SUPPORT

Current Research Support

Western Kentucky University Research and Creative Activities Program (RCAP) Category I

Title: Determining the role of CST-DNA polymerase alpha-primase interaction in DNA replication rescue

Role: Principal Investigator

Total Cost	\$16,000	05/15/24-08/15/25
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KY INBRE Research Project Award

Title: Phosphoproteomics analysis of ATR signaling in CST deleted cells

Total Cost	\$144,000 (\$100,000 Direct)	05/01/24-04/30/26
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KY INBRE Core Utilization Voucher

Title: Determining the role of CST-DNA polymerase alpha-primase interaction in DNA replication rescue

Role: Principal Investigator

Total Cost	\$5,000	05/01/24-04/30/25
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KY INBRE Faculty Recruitment (Start-up) Award

Role: Principal Investigator

Total Cost	\$35,000 (\$25,000 Direct)	08/01/23-04/30/25
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Completed Research Support

University of South Carolina Internal Grant Program: ASPIRE-I

Title: Determining the role of CST-DNA polymerase alpha-primase interaction in DNA replication rescue

Role: Principal Investigator

Total Cost	\$15,000	07/01/21-05/15/23
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University of South Carolina Internal Grant Program: ASPIRE-II

Title: Chronic social stress and accelerated aging among South Carolina women: Investigating the social, behavioral, and biological influences on aging processes

Role: Co-PI

Principal Investigator: Douglas Moore

Co-PIs: Jason Stewart, Rekha Patel, Sue Heiney, Alexander McLain, Monique Lyle

Total Cost	\$99,796	07/01/17-05/31/19
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National Institutes of Health: K99/R00 Pathway to Independence Award

NIH/NIGMS: R00GM104409

Title: Roles of the mammalian CST complex in DNA replication and chromosome cohesion

Role: Principal Investigator

Total Cost	\$747,000 (Direct \$507,000)	09/01/14-08/31/18
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National Institutes of Health: K99/R00 Pathway to Independence Award

NIH/NIGMS: K99GM104409

Title: Roles of the mammalian CST complex in DNA replication and chromosome cohesion

Role: Principal Investigator

Total Cost	\$90,000	09/06/13-08/31/14
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Trainee Research Support**Western Kentucky University***Undergraduate:*

- **Faculty-Undergraduate Student Engagement (FUSE):** Grayson Duvall (\$3,000) 2024-2025, Colin Loveless & Steven “Donte” Reed (\$4,000) 2024-2025

Gatton Academy:

- **Research Internship Grant (RIG):** Gabriel Gooden, Summer 2024

University of South Carolina*Postdoc:*

- **ASPIRE I (Track IIB for Postdoctoral Scholars) (\$5000):** Yilin Wang, 2019-2020

Graduate Student:

- **Support to Promote Advancement of Research & Creativity (SPARC) (\$5000):** Percy “Logan” Schuck 2020-2021, Stephanie Ackerson 2018-2019

Undergraduate:

- **Magellan Scholar Award (\$2500-\$3000):** Anna Bazell 2021-2022, Benjamin Caiello 2018-2019, Charles “Jesse” Williamson 2016-2017
- **Mini-Magellan Scholar Award (\$1000):** Caroline Gable 2019
- **Magellan Journey Award (\$1000):** Merissa Smith 2022
- **College of Arts and Sciences Undergraduate Research Enhancement Program (UREP) Award (\$1000):** Alexander Welch 2020
- **Honors College Science Undergraduate Research Fellowships (SURF):** Danny Burnett 2022-2023 (\$3000), Meaghan Arnold 2022-2023 (\$3000), Emma Ladd 2021-2022 (\$2000), Anna Bazell 2020-2022 (\$4860)
- **Honors College Thesis Grant:** Benjamin Caiello 2018 (\$903)

TEACHING EXPERIENCE**Western Kentucky University***Courses Taught:*

<u>Year</u>	<u>Semester</u>	<u>Course</u>	<u>Credits</u>	<u>Students</u>
2024	Fall	BIOL 495G Molecular Genetics	3	2
2024	Fall	BIOL 495 Molecular Genetics	3	10
2024	Fall	BIOL 598 Graduate Seminar	2	6
2024	Spring	BIOL 319 Intro to Mol & Cell Biol (Honors)	3	26
2024	Spring	BIOL 319 Intro to Mol & Cell Biol	3	73
2023	Fall	BIOL 319 Intro to Mol & Cell Biol (Honors)	3	4
2023	Fall	BIOL 319 Intro to Mol & Cell Biol	3	22
2023	Fall	BIOL 598 Graduate Seminar	2	9

Mentored Undergraduate Research Studies:

<u>Year</u>	<u>Semester</u>	<u>Course</u> [^]	<u>Students</u>
2024	Fall	BIOL 399	3
2024	Spring	BIOL 399	2

[^]BIOL 399: Research Problems in Biology

University of South Carolina*Courses Taught:*

Year	Semester	Course[^]	Credits	Students
2023	Spring	Honors - BIOL 546/CHEM 556	3	21
2023	Fall	BIOL 665	3	16
2022	Spring	Honors - BIOL 546/CHEM 556	3	21
2021	Fall	BIOL 665	3	21
2021	Spring	Honors - BIOL 546/CHEM 556	3	28
2020	Fall	BIOL 665	3	18
2020	Spring	Honors - BIOL 546/CHEM 556	3	21
2019	Fall	BIOL 665	3	32
2019	Summer	BIOL 546/CHEM 556	3	7
2019	Spring	Honors - BIOL 546/CHEM 556	3	15
2018	Fall	BIOL 665	3	18
2018	Spring	BIOL 546/CHEM 556	3	58
2017	Fall	BIOL 665	3	16
2017	Spring	BIOL 665	3	7
2016	Spring	BIOL 665	3	16
2015	Spring	BIOL 665	3	22

[^]BIOL 665: Human Molecular Genetics; BIOL 546/CHEM 556: Biochemistry/Molecular Biology II

Mentored Undergraduate Research Studies:

Year	Semester	Course[^]	Students
2022	Spring	SCHC 499	2
2022	Spring	BIOL 399	1
2021	Fall	CHEM 496	1
2021	Fall	SCHC 499	1
2020	Spring	BIOL 399	1
2019	Fall	BIOL 399	2
2019	Spring	SCHC 499	2
2018	Fall	BIOL 399	2
2018	Fall	SCHC 499	2
2018	Spring	BIOL 399	1
2017	Fall	BIOL 399	1
2015	Spring	BIOL 399	1

[^]BIOL 399: Independent Study; SCHC 499: Honors Senior Thesis/Project

AWARDS, HONORS & PROFESSIONAL SERVICE**Awards and Honors**

2022 Distinguished Undergraduate Research Mentor Award – Office of the Vice President for Research, University of South Carolina

2013 Outstanding Platform Presentation by a Postdoctoral Fellow (1st Place) – 15th Annual Midwest DNA Repair Symposium

2012 Outstanding Platform Presentation by a Postdoctoral Fellow (2nd Place) – 14th Annual Midwest DNA Repair Symposium

2012 NIGMS Workshop for Postdocs Transitioning to Independent Positions – National Institutes of Health

2009 Walter J. Bloor Award for Outstanding Thesis – Department of Biochemistry and Biophysics, University of Rochester

2004 Poster Award – Regional American Chemistry Society Meeting, Utah State University

Grant Reviews

- 2023** National Science Foundation, Division of Molecular and Cellular Biosciences, Genetics Mechanisms Grant Review Panel
- 2021** *Ad hoc* for National Science Foundation
- 2018** Early Career Reviewer on National Institutes of Health Cancer Etiology Study Section
- 2017** *Ad hoc* for National Institutes of Health - South Carolina IDeA Networks Biomedical Research Excellence
- 2017** *Ad hoc* for UK Medical Research Council
- 2016** *Ad hoc* for National Science Foundation

Manuscript Reviews

Peer-reviewed manuscripts for the following journals (>40 articles): *Nature Structure & Molecular Biology*, *EMBO Journal*, *Nucleic Acid Research*, *DNA Repair*, *Communications Biology*, *Frontiers in Molecular Biosciences*, *Frontiers in Cell and Developmental Biology*, *PLOS One*, *Cell Cycle*, *Genes*, *International Journal of Molecular Studies*, *Biomolecules*, *Cells*, *Molecules*, *Cancers*, *Journal of Fungi*, *Hormone Research in Paediatrics*, *Hereditas*, *Open Biology*, *Journal of Visualized Experiments*

Book Editor

Methods in Molecular Biology: DNA Repair (2019), co-editor with Dr. Lata Balakrishnan

Conferences

Co-organizer of Poster Sessions – Midwest DNA Repair Symposium, Cincinnati, OH (2012)

Fellowships

- NIH F32 Postdoctoral Fellowship (F32GM097833)** – 04/2011 to 7/2012
- Elon Huntington Hooker Fellowship** – 06/2008 to 06/2009 (Support: \$16,000)

Training Grant Appointments

- NIH T32 Grant Postdoctoral Trainee (T32CA117846)** – 08/2009 to 04/2011
- NIH T32 Grant Graduate Trainee (T32GM068411)** – 01/2007 to 06/2008

Memberships

- 2015-present: American Society for Biochemistry and Molecular Biology (ASBMB)
- 2024-present: Kentucky Academy of Sciences

PUBLICATIONS

#Corresponding author(s), *Authors contributed equally to this work
^Graduate and †undergraduate students from my group

NCBI My Bibliography: <https://www.ncbi.nlm.nih.gov/myncbi/jason.stewart.1/bibliography/public/>

Research Articles

Published since joining WKU:

Wysong, B.C., Schuck, P.L.^ Carrison, S., Murakami, Y., Balakrishnan, L.#, **Stewart, J.A.#** (2024)
Human CST stimulates base excision repair to prevent the accumulation of oxidative DNA damage.
Journal of Molecular Biology. 436:168672 doi: [10.1016/j.jmb.2024.168672](https://doi.org/10.1016/j.jmb.2024.168672)

Li, T., Zhang, M., Li, Y., Zhao, R., Han, X., Tang, L., Ma, T., Zhao, X., Zhou, R., Wang, Y., Bai, X., Zhang, K., Geng, X., Sui, L., Feng, X., Zhang, Q., Zhao, Y., Liu, Y.#, **Stewart, J.A.#**, Wang, F.# (2023)
Cooperative interaction of CST and RECQ4 resolves G-quadruplexes and maintains telomere stability.
EMBO Reports. 24:e55494 doi: [10.15252/embr.202255494](https://doi.org/10.15252/embr.202255494)

Published prior to joining WKU:

Wang, H., Ma, T., Zhang, X., Chen, W., Lan, Y., Kuang G., Hsu, S.J., He, Z., Chen, Y., **Stewart, J.**, Bhattacharjee, A., Luo, Z., Price, C., Feng, X.# (2023) CTC1 OB-B interaction with TPP1 terminates telomerase and prevents telomere overextension. *Nucleic Acids Research*. 51:4914-4928 doi: [10.1093/nar/gkad237](https://doi.org/10.1093/nar/gkad237)

Jhanji, M., Rao, C.N., Massey, J.C., Hope M.C., Zhou, X., Keene, C.D., Ma, T., Wyatt, M.D., **Stewart, J.A.**, Sajish, M.# (2022) Cis- and trans-resveratrol have opposite effects on histone serine-ADP-ribosylation and tyrosine induced neurodegeneration. *Nature Communications*. 13:3244 doi: [10.1038/s41467-022-30785-8](https://doi.org/10.1038/s41467-022-30785-8)

Schuck, P.L.^, Ball, L.E., **Stewart, J.A.#**. (2021) The DNA-binding protein CST associates with cohesin and promotes chromosome cohesion. *Journal of Biological Chemistry*. 297:101026 doi: [10.1016/j.jbc.2021.101026](https://doi.org/10.1016/j.jbc.2021.101026)

Moore, S.#, Patel, R. **Stewart, J.A.**, McLain, A., Heiney, S. (2021) Social inequalities in accelerated aging among southern U.S. women: An analysis of the biosocial and behavioral pathways linking social determinants to telomere length. *Biodemography and Social Biology*. 66:118-131 doi: [10.1080/19485565.2020.1869918](https://doi.org/10.1080/19485565.2020.1869918)

Ackerson, S. M.^, Gable, C.I.‡, **Stewart, J.A.#**. (2020) Human CTC1 promotes TopBP1 stability and CHK1 phosphorylation in response to telomere dysfunction and global replication stress. *Cell Cycle*. 19:3491-3507 doi: [10.1080/15384101.2020.1849979](https://doi.org/10.1080/15384101.2020.1849979)

Wang, Y.*, Brady, K.S.*, Caiello, B.P.‡, Ackerson, S.M.^, **Stewart, J.A.#** (2019) Human CST suppresses origin licensing and promotes AND-1/Ctf4 chromatin association. *Life Science Alliance*. 2:e201800270 doi: [10.26508/lsa.201800270](https://doi.org/10.26508/lsa.201800270)

Bhattacharjee, A., **Stewart, J.A.#**, Chaiken, M., Price, C.M.# (2016) STN1 OB fold mutation alters DNA Binding and affects selective aspects of CST function. *PLOS Genetics*. 12:e1006342 doi: [10.1371/journal.pgen.1006342](https://doi.org/10.1371/journal.pgen.1006342)

Wang, F, **Stewart, J.A.**, Price, C.M.# (2014) Human CST abundance determines recovery from diverse forms of DNA damage and replication stress. *Cell Cycle*. 13:3488-3498 doi: [10.4161/15384101.2014.964100](https://doi.org/10.4161/15384101.2014.964100)

Wang, F, **Stewart, J.A.**, Kasbek, C., Zhao, Y., Wright, W.E., Price, C.M.# (2012) Human CST has independent functions during telomere duplex replication and C-strand fill-in. *Cell Reports*. 2:1096-1103 doi: [10.1016/j.celrep.2012.10.007](https://doi.org/10.1016/j.celrep.2012.10.007)

Stewart, J.A.*, Wang, F.*, Chaiken, M.F., Kasbek, C., Chastain, P.D., Wright, W.E., Price, C.M.# (2012) Human CST promotes telomere duplex replication and general replication restart after fork stalling. *EMBO Journal*. 31:3537-3549 doi: [10.1038/emboj.2012.215](https://doi.org/10.1038/emboj.2012.215)

Price, C.M.#, Boltz, K.A., Chaiken, M.F., **Stewart, J.A.**, Beilstein, M.A., Shippen, D.E.# (2010) Evolution of CST function in telomere maintenance. *Cell Cycle*. 9:3157-3165 doi: [10.4161/cc.916.12547](https://doi.org/10.4161/cc.916.12547)

Balakrishnan, L.*, **Stewart, J.A.***, Polaczek P., Campbell J.L., Bambara, R.A.# (2010) Acetylation of Dna2 and FEN1 by p300 promotes DNA stability by creating long flap intermediates. *Journal of Biological Chemistry*, 285:4398-4404 doi: [10.1074/jbc.M109.086397](https://doi.org/10.1074/jbc.M109.086397)

Stewart, J. A., Campbell, J.L., Bambara, R.A.# (2010) Dna2 is a structural specific nuclease, with affinity for 5' flap intermediates. *Nucleic Acids Research*, 38:920-930 doi: [10.1093/nar/gkp1055](https://doi.org/10.1093/nar/gkp1055)

Stewart, J. A., Campbell, J.L., Bambara, R.A.# (2009) Significance of the dissociation of Dna2 by flap Endonuclease 1 to Okazaki fragment processing in *Saccharomyces cerevisiae*. *Journal of Biological Chemistry*, 284: 8283-8291 doi: [10.1074/jbc.M809189200](https://doi.org/10.1074/jbc.M809189200)

Stewart, J.A., Miller, A.S., Campbell, J.L., Bambara, R.A.# (2008) Dynamic removal of replication protein A by Dna2 facilitates primer cleavage during Okazaki fragment processing in *Saccharomyces cerevisiae*. *Journal of Biological Chemistry*, 283:31356-31365 doi: [10.1074/jbc.M805965200](https://doi.org/10.1074/jbc.M805965200)

Stewart, J.A., Campbell, J.L., Bambara, R.A.# (2006) Flap endonuclease disengages Dna2 nuclease/helicase from Okazaki fragment flaps. *Journal of Biological Chemistry*. 281:38565-38572 doi: [10.1074/jbc.M606884200](https://doi.org/10.1074/jbc.M606884200)

Hevel, J.M., **Stewart, J.A.**, Gross, K.L., Ayling, J.E.# (2006) Can the DCoHalpha isozyme compensate in patients with 4a-hydroxy-tetrahydrobiopterin dehydratase/DCoH deficiency? *Molecular Genetics and Metabolism*. 88:38-46. doi: [10.1016/j.ymgme.2005.11.014](https://doi.org/10.1016/j.ymgme.2005.11.014)

Invited Review and Methods Articles and Book Chapters

Published prior to joining WKU:

Schuck P.L.^, Ackerson, S.M.^, **Stewart, J.A.#** (2023) Telomere biology. In R.A. Bradshaw, G.W. Hart, P.H. Stahl (Eds.) *Encyclopedia of Cell Biology* (2nd ed.) Elsevier Inc. 1:523-531 doi: [10.1016/B978-0-12-821618-7.00099-7](https://doi.org/10.1016/B978-0-12-821618-7.00099-7)

Ackerson, S.A.^, Schuck, P.L.^, Romney, C., **Stewart, J.A.#** (2021) To join or not to join: Decisions along the path to double-strand break repair versus chromosome end protection. *Frontiers in Cell and Development Biology*. 9:708763 doi: [10.3389/fcell.2021.708763](https://doi.org/10.3389/fcell.2021.708763)

Par, S., Vaides, S., VanderVere-Carozza, P.S., Pawelczak, K.S., **Stewart, J.A.**, Turchi, J.J.# (2021) OB-folds and genome maintenance: Targeting protein-DNA interactions for cancer therapy. *Cancers*. 13:3346-358 doi: [10.3390/cancers13133346](https://doi.org/10.3390/cancers13133346)

Schuck, P.L.^, **Stewart, J.A.#** (2019) FISHing for DNA damage on metaphase chromosomes. *Methods in Molecular Biology*. 1999:335-347 doi: [10.1007/978-1-4939-9500-4_24](https://doi.org/10.1007/978-1-4939-9500-4_24)

Stewart, J.A.#, Wang Y., Ackerson, S.M.^, Schuck, P.L.^ (2018) Emerging roles of CST in maintaining genome stability and human disease. *Frontiers in Biosciences*. 1:1564-1586 doi: [10.2741/4661](https://doi.org/10.2741/4661)

Stewart, J.A., Chaiken, M.F., Wang, F., Price, C.M.# (2012) Maintaining the end: Roles of telomere proteins in end-protection, telomere replication and length regulation. *Mutation Research*. 730:12-19 doi: [10.1016/j.mrfmmm.2011.08.011](https://doi.org/10.1016/j.mrfmmm.2011.08.011)

Under Review, In Revision, and In Preparation

Joudeh, L.A., Schuck, P.L., Van, N.M., DiCintio, A.J., **Stewart, J.A.**, Waldman, A.S. Progerin can induce DNA damage in the absence of global changes in replication or cell proliferation. *Under Review at PLOS One*. (pre-print posted on *bioRxiv* doi:[10.1101/2024.07.02.601729](https://doi.org/10.1101/2024.07.02.601729))

Jhanji, M., Bhan, A., Massey, J.C., Atkins, A., Zhou, X., Keene, D., Vacharasin, J., **Stewart, J.A.**, Wyatt, M.D., Lizarraga, S., Ma, T., Porcu, A., Sajish, M.# Amyloid β 40 and 42 Have Opposite Effects on Neuronal Single Strand DNA Break Repair. *In Preparation*

INVITED SEMINARS AND CONFERENCE PRESENTATIONS

Research Seminars

- 2022** – Dept of Biochemistry, University of Buffalo
- 2022** – Dept of Biochemistry and Molecular Biology, Wright State University
- 2021** – Dept of Biochemistry, Molecular Biology and Biophysics, University of Minnesota (virtual)
- 2020** – Dept of Biological Sciences, University of South Carolina (virtual)
- 2020** – Genome Stability Group, University of Minnesota (virtual)
- 2020** – Dept of Genetics and Biochemistry, Clemson University
- 2018** – Dept of Biology, Indiana University Purdue University at Indianapolis
- 2016** – Dept of Biology, University of South Carolina – Aiken
- 2016** – Dept of Chemistry and Biochemistry, University of South Carolina
- 2016** – Dept of Physiology and Developmental Biology, Brigham Young University

Conference Talks

- 2019** – 4th International Conference on Molecular Biology & Nucleic Acids Meeting, Chicago, IL
- 2019** – Cold Spring Harbor Telomere & Telomerase Meeting, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY
- 2018** – American Society for Biochemistry and Molecular Biology Annual Meeting, San Diego, CA
- 2015** – Emerging Topics in Genome Instability, Oklahoma Medical Research Foundation, Oklahoma City, Oklahoma
- 2015** – Annual Center for Colon Cancer Retreat, Saluda Shoals, Irmo, SC
- 2014** – 18th Annual DNA Replication and Repair Symposium, University at Buffalo, Buffalo, NY
- 2013** – 15th Annual Midwest DNA Repair Symposium, University of Kentucky, Lexington, KY
- 2013** – Cold Spring Harbor Telomere & Telomerase Meeting, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY
- 2012** – 14th Annual Midwest DNA Repair Symposium, University of Cincinnati, Cincinnati, OH
- 2008** – 12th Annual Buffalo DNA Replication and Repair Symposium, Roswell Park, Buffalo, NY

Career Development Seminars

- 2016** – “Preparing for the academic job market: curriculum vitae and cover letter”, University of South Carolina
- 2015** – “Maximizing your time as a postdoc: getting plugged in”, University of South Carolina
- 2015** – UofSC’s ASBMB “Graduate School Panel Seminar”, University of South Carolina

RECENT POSTER PRESENTATIONS AT REGIONAL & NATIONAL MEETINGS

***Student Presentations**

- 2021** – Cold Spring Harbor: Telomeres and Telomerase Meeting
- 2021** – Cold Spring Harbor: Eukaryotic DNA Replication and Genome Maintenance Meeting*
- 2021** – Cell Cycle Meeting at the Salk Institute*
- 2019** – Cold Spring Harbor: Eukaryotic DNA Replication and Genome Maintenance Meeting*
- 2018** – Cell Cycle Meeting at the Salk Institute
- 2017** – Cold Spring Harbor: Eukaryotic DNA Replication and Genome Maintenance Meeting*
- 2017** – Keystone Symposium: DNA Replication and Recombination

MENTORING & TRAINING

Western Kentucky University

Undergraduates:

- Savanna Arnold** (08/19/24-present)
- Madison Kircher** (06/07/24-present): BIOL 399 student
- Jaclyn Holbrooks** (05/20/24-present): BIOL 399 student
- Steven “Donte” Reed** (01/16/24-present): BIOL 399 student; FUSE award recipient
- Colin Loveless** (10/25/23-present): BIOL 399 student; FUSE award recipient
- Grayson Duvall** (09/13/23-present): BIOL 399 student; FUSE award recipient

Gatton Academy Students:

- Gabriel Gooden** (05/20/24-07/12/24) RIG recipient
- Savanna Arnold** (10/25/23-04/26/24)

Thesis Advisory Committees:

- Rachel Foster** (MS candidate; Mentor: Dr. Joe Marquardt)
- Rangana Ratnayake** (MS candidate; Mentor: Ajay Srivastava)
- Alannah Dicintio** (PhD candidate at USC; Mentor: Alan Waldman)

University of South Carolina

PhD Students:

- Percy “Logan” Schuck** (05/2017-12/2022): SPARC Grant Recipient; Donna and Andrew Sorensen Graduate Fellowship for Cancer Research; Kathryn Hinnant-Johnson, M.D. Memorial Fellowship for Excellence in Graduate Research in Genetics
- Stephanie Ackerson** (01/2017-07/2021) SPARC Grant Recipient; Cindy and Dan Carson Best Graduate Student Paper Award, 2021; Graduate Association for Biological Sciences President

Undergraduates:

- Daniel Burnett** (09/2021-04/2023): BIOL 399 student; SURF Grant
- Meaghan Arnold** (09/2021-09/2023): SURF Grant
- Merissa Smith** (02/2022-05/2022): Magellan Journey Award
- Emma Ladd** (02/2021-05/2022): CHEM 547 student; SURF Grant
- Anna Bazell** (09/2019-05/2022): BIOL 399 student; SURF Grant; Magellan Scholar Award; Discover UofSC Poster Award (1st Place); Outstanding Biological Sciences Senior Award
- Alexander Welch** (05/2019-02/2021): BIOL 399 student; UREP Grant
- Ross Jaeger** (09/2019-03/2020)
- Kaury Thome** (08/2018-12/2019): BIOL 399 student
- Margaret Pokalsky** (05/2018-05/2019): BIOL 399 student
- Caroline Gable** (01/2018-08/2019): BIOL 399 student; Mini-Magellan Scholar Award; Discover UofSC Poster Award (2nd Place)
- Benjamin Caiello** (05/2016-08/2019): BIOL 399 student; Magellan Scholar Award; Honors College Thesis Grant; Discover UofSC Poster Award (1st Place)
- Sasha Hodge** (05/2017-05/2017): CCCR Minority Summer Research Program
- Charles “Jesse” Williamson** (11/2015-09/2016): Magellan Scholar Award
- Jazmine Benjamin** (05/2016-07/2016): CCCR Minority Summer Research Program
- Ji’Vone Freeman** (05/2015-07/2015): CCCR Minority Summer Research Program
- Francesco Maoli** (12/2014-05/2015): BIOL 399 student; UofSC Discovery Day Poster Award

Post-baccalaureates:

- Carlan Romney** (07/2019-07/2020): part of NIH PREP program (R25GM076277)

Postdoctoral Researchers:

- Yilin Wang** (03/2017-07/2019): ASPIRE I (Track II-B for Postdoctoral Scholars) Grant
- Ali Naqi** (02/2018-02/2019)
- LeAnna Ledford** (05/2015-01/2017)

Laboratory Technicians:

- Katie Brady** (12/2014-08/2017)
- Stephanie Ackerson** (01/2016-12/2016)
- Francesco Maoli** (05/2015-05/2016)

Thesis Advisory Committees:

- Jacob Massey** (PhD, graduated 2022)

- Danda Chapagai** (PhD, graduated 2022)
- Geetha Sreeram Chellappa** (PhD, graduated 2021)
- Taylor Carter** (PhD, graduated 2020)
- Samuel Burnett** (PhD, graduated 2020)
- Anne “Shelley” Huck** (MS, graduated 2019)
- Mithil “Harsh” Soni** (PhD, graduated 2018)

Top Scholar Mentor:

- Danny Burnett** (2021-2023)
- Remi Brebion** (2019-2023)

Undergraduate Senior Honors Thesis Advisor:

-Thesis Director:

- Emma Ladd** (Thesis completed 2022)
- Anna Bazell** (Thesis completed 2022)
- Benjamin Caiello** (Thesis completed 2019)
- Collen Openshaw** (Thesis completed 2019)

-Second Reader:

- Alyssa Franklin** (Thesis completed 2022)
- Leland Hartzog** (Thesis completed 2020)
- Kevin Field & Christine Reid** (Joint Project; Thesis completed 2018)

UNIVERSITY SERVICE

Academic

Western Kentucky University

- *Department:*

- Curriculum Committee (2023-present)
- Ad hoc* Tenure & Promotion Guidelines Committee (2023)

- *University:*

- Departmental Faculty Senator (2024-present)

University of South Carolina

- *Department:*

- Awards Committee (2021-2022)
- Graduate Studies Committee (2016-2022)
- Academic Student Advisor (2015-2022)
- Graduate Qualifying Exam Committee (2016, 2017, 2018, 2022)
- Department Advisory Committee (2018-2021)
- Faculty Search Committee: Microbiome (2019-2020)
- Undergraduate Scholarship Committee (2015-2019)
- Instructor Search Committee: Biochemistry (2019)
- Co-Discussion Leader on Faculty Mentoring Guidelines at Department Retreat (2019)
- Kathryn Hinnant-Johnson Fellowship Committee (2017)

- *University:*

- Discover USC Poster Judge (2015, 2017, 2021, 2023)
- ASPIRE Grant Review Committee (2022)
- Top Scholar Selection Committee (2020, 2021, 2022)
- Magellan Scholar Reviewer (2016, 2018, 2021)
- Magellan Scholar Review Committee (2018)
- USC Postdoctoral Association Faculty Advisor (2015-2017)

University of Cincinnati

- Group Discussion Leader – GNTD 730, Ethics in Research, University of Cincinnati (2012, 2013)

Professional

2024 – Panelist for the WKU Medical Center Interprofessional Panel: *The Immortal Life of Henrietta Lacks*

2024 – Poster Judge (KY-INBRE Annual Research Conference)

Community

2016 – Invited Judge at the UofSC American Society for Biochemistry and Molecular Biology Science Fair for High School Students from the Center for Advanced Technical Studies, Chapin, SC

2012 – Science Week Presenter for 3rd Grade Science Classes at Western Row Elementary School, Mason, OH

CAREER DEVELOPMENT

Western Kentucky University

Certificates of Completion and Trainings

2024 – Blackboard Ultra Training

2024 – QPR Gatekeeper Suicide Prevention Training

2021 – Entering Mentoring (program based on work by the Center for the Improvement of Mentored Experiences in Research at the University of Wisconsin)

2018 – Diversity: Inclusion in the Modern Workplace; Harassment and Discrimination Prevention

Workshops and Seminars

Western Kentucky University

2024 – CITL: Blackboard Ultra Training

2024 – Counseling Center: QPR Suicide Prevention Training

2024 – Professional Development Day (Seminars attended: Creating Pathways to Success in the Classroom: Teaching Strategies for First Generation College Students & How to Effectively Support WKU Students with Mental Health Issues: Best Practices and Research)

2023 – CITL New Faculty Workshop: How to Teach Effectively at WKU

2023 – KY-INBRE R15/R16 Grant Workshop

University of South Carolina

Office of Diversity, Equity and Inclusion:

2020 – Diversity, Equity, and Inclusion Workshop & Training

Center for Teaching Excellence Workshops:

2016 – Managing Large Lecture Courses: Engaging the Masses

2015 – Improve Your Vocal Presence in the Classroom

2015 – Best Practices for Facilitating Effective Team Projects in the Classroom

2015 – Flipped and Active Learning Basics

2014 – Getting Good Teaching Evaluation

2014 – What to do About Cheating and Plagiarism

Office of Research and Grant Development Workshops:

2016 – Grant Writing 101; NSF Overview Class

2015 – NIH Peer Review

2014 – Pivot Training; What Makes a Good Budget?

Other:

2018 – SC-INBRE Academic Leadership & Development Workshop, Columbia, SC

2014 – CCCR Workshop: Experimental Design and Techniques for the Use of Animals, Tissues, and Cells in Biological/Biomedical Research, University of South Carolina

2014 – 3T: Teaching, Technology & Techniques Conference, University of Cincinnati-Clermont

2010 – Grant Writing Workshop, Presented by Stephen W. Russell, University of Cincinnati