Rebecca Lyn Seipelt-Thiemann, Ph.D.
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Professor of Biology
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EDUCATION

Doctor of Philosophy, University of Kentucky, 1996.
Major: Medical Microbiology and Immunology

Bachelor of Arts, Berea College, 1991.
Major: Biology, *cum laude*

TEACHING

Teaching Experience (2019-present only)

Classroom Instruction

BIOL 3250H/1H, Honors Genetics and Lab. 4 credit hours. MT Engage course designation. Course features: Flipped classroom style with spaced practice and backwards design, focus on problem-solving "Dig In" worksheets, weekly quizzes, course undergraduate research (CURE) project for lab with every student having their own real research project that utilizes an electronic lab notebook (OneNote) and culminates in a scientific research poster preparation and a poster presentation session I make open to the public

- *Fall 2022* CURE project: Biodiversity analyses using environmental DNA in the Stones River Watershed, additional faculty collaborator – Dr. Cole Easson
    - Added pre-class PrepFocus sheets to help activate prior learning
    - Re-tried group text annotation using Perusall
- *Fall 2021* CURE project: Macrophage alternative splicing in response to Cryptococcus neoformans– additional faculty collaborators – Drs. Erin McClelland and David Nelson
- *Fall 2020* CURE project: Stress-regulated alternative splicing in age-related genes in nematodes. additional faculty collaborator – n/a
    - During COVID social distancing, I used Desmos for "Dig In" sheets; example: https://teacher.desmos.com/activitybuilder/custom/5f3c7b999b7c113490395956?collections=5f22fd98d5a6163238a2ec4c
    - Tried group text annotation using Perusall
- *Fall 2019* CURE project: Maize genome annotation using next-generation sequencing data analysis, additional faculty collaborator – Dr. Doreen Ware of the Maize Genome Database

BIOL 3250, General Genetics. 4 credit hours. Course features: Flipped classroom style with spaced practice and backwards design, focus on problem-solving "Dig In" worksheets, weekly quizzes, weekly mini-concept maps

BIOL 3251, Genetics Lab. 0 credit hours. I am the course designer and lab coordinator for this lab, which is designed as a Course Undergraduate Research Experience (CURE) project with every student having their own real research project and culminates in a scientific research poster preparation and a poster presentation session I make open to the public. The Course Learning Objectives were derived directly from the Genetics Society of America Learning Framework - Core Competencies (2015), which is available at: https://genetics-gsa.org/education/genetics-learning-framework/

The student should be able to:

1. locate and comprehend primary literature papers in genetics.
2. generate testable hypotheses.
3. gather and evaluate experimental evidence.
4. generate and interpret graphs displaying experimental results.
5. communicate experimental results effectively including writing and giving presentations

- Taught by GTAs (Fall 2019 – present): Approximately 10-11 sections of 24 students each for fall semesters and approximately 8-9 sections of 24 students for spring semesters for a total of more than ***1800 course-based student research projects***

BIOL 4460/1; 5460/1, Human Genetics and Lab. 3 credit hours. MT Engage course designation. Course features: Flipped classroom style with spaced practice and backwards design, focus on problem-solving "Dig In" worksheets, course undergraduate research (CURE) project for lab with every student having their own real research project that

utilizes an electronic lab notebook (OneNote) and culminates in a scientific research poster preparation and a poster presentation session I make open to the public

BIOL 6760, Bioinformatics. 4 credit hours. Course features: Application-focused course where students learn to use existing bioinformatics tools, a coding language, and a bioinformatics platform (CyVerse; Galaxy); students also work on a "big research project" based on their own thesis or dissertation research projects which students present on the last day of class

BIOL 6770, Issues in Biotechnology. 2 credit hours. Course features: Engaging with biotechnology companies and business skills; we travel and utilize the Business Concepts for Life Sciences materials for a portion of the course: https://ibiov2.herokuapp.com/catalog/BCLS/SP/

MOBI 7100, Experimental Design. 3 credit hours. Course features: Problem-solving and critiques of actual experimental designs

MOBI 7105, Experimental Techniques. 3 credit hours. Course features: Students utilize MURAL collaborative notetaking to generate conceptual maps and notes on molecular tools

MOBI 7300, Scientific Literature in Molecular Bioscience. 2 credit hours. Course features: Students work on presentation skills by presenting research papers and building summary presentations. Students get to choose a focus topic for practical application, such as data skills, open science skills, etc.

Specialized Instruction (one-one) – These courses are those in which I mentor students in their own research project. My approach is that we discuss our interests and find an area where these overlap, then build a project that interests us both.

Unusual Specialized Instruction (one-one) – Miscellaneous

BIOL 3200, Internship in Biology. 2 credit hours. This course was a digital internship in science literacy involving annotation of professional science podcasts for use in the classroom. This was the basis of a peer-reviewed paper (Boury et al 2021) and the inspiration for an Open Education Resource (Podcast Annotation for Microbiology: https://iastate.pressbooks.pub/par-twim/ is "under construction") and a National Science Foundation Grant (Microbiology Open Education Resources, submitted Jan 2023).

BIOL 3890, Biology Instruction Internship. 1 credit hours. This course allows me to mentor students with an interest in teaching by observing course design and implementation for a laboratory course, Genetics Lab (BIOL 3251)

Directed Student Learning (2019-present only)

Master's Thesis Mentor and Committee Chair - I mentored these M.S. Biology graduate students in their research project and thesis writing.

- Carter Ayers – "Effects of MHC H-2 Locus Variability in Cryptococcus neoformans Adaptation" (Fall 2022-present).
- Davia Watkins - "Evolutionary Analyses of the PARP Gene Family." (August 2020 – Fall 2022)
- Sarah Garcia - "Effects of chromatin dysregulation on alternative splicing in human embryonic kidney cells." (August 2020 – Fall 2022)

UG Honors Thesis Mentor and Chair – I mentored these undergraduate students in their honors research project and thesis writing.

- Eden Anderson – "Estrogen Pollution in the Stones River Watershed as Assayed by an Engineered Yeast" (September 2023-present).
- Karmina Ghobrial – "Exploring Coffee Silverskin Extract's Effects on Age-Related Gene *DVE-1/SATB1* During UV-Induced Oxidative Stress (September 2023-April 2024).
- Lacon Parton – " Antibiotic Resistance eDNA in the Stones River Watershed" (January 2022-October 2023)
- Alaa Mohammed -"Evidence-based annotation revision to genes involved in melanin production in pathogen, Cryptococcus neoformans." (September 2019 - April 2021).
- Chase Burton "Improving Gene Model Accuracy for Genes Involved in Capsule Formation of Fungal Pathogen Cryptococcus neoformans." (September 2019 - November 2020).
- Niah Frantzen - "Analysis of the Differentially Expressed Genes of Cryptococcus neoformans -Infected Macrophage Mouse Cells." (January 2019 - November 2020).
- Russell Walden -"Evidence-Based Curation of Nitrogen Efficiency Genes in Zea mays." (January 2020 - November 20, 2020).

- Madonna Ghobrial -"Structural Curation of Virulence-Related Genes Signaled by the HOG Response Pathway in the Fungal Pathogen Cryptococcus neoformans." (May 2019 - April 2020).
- Zachary Lay UG Honors Thesis, Chair, "Fungal Endophyte Isolation and Identification from Vitis aestivalis Norton/Cynthiana Grapevines from Virginia and New York." (September 2018 - October 2019).

Directed Individual/Independent Study - I mentored these undergraduate students in their research project.

- Kayelynne Rathbone – "Progesterone Pollution in Cosmetics" (August 2023-April 2024)
- Neroosh Mossa - "Macrophage Host-Pathogen Genes." (August 2021 – Spring 2022).
- Sarah Soliman - "Macrophage Host-Pathogen Genes." (August 2021 - Spring 2022).
- Daviesha Carter - "Evidence-Based Curation of Nitrogen Efficiency Genes in Zea mays and Cryptococcus neoformans." (September 2019 - April 2020).
- Camyla Rocha – "Cryptococcus neoformans Genome Annotation" (Summer 2020).
- Caleb McBride - "Curation of Corn Genes Involved in Nitrogen Use Efficiency." (January 2020 - April 2020).

Course-based Undergraduate Research Projects WITH Scholar's Week Poster Preparation – These students participated in course undergraduate research projects taught personally by me and the students opted to present their research projects/posters at Scholar's Week

- Asha Ali = "Does Coliform Bacteria Affect Biodiversity in the Stones River Watershed?" (August 2023 - March 2024)
- Kiley Barrett – "Stones River Watershed Biodiversity Does Not Correlate with Conductivity Alone" (August 2023 - March 2024)
- Giovanni Ghattas " Decoding Turbidity: Impact Assessment on Stream Biodiversity in the Stones River Watershed" (August 2023 - March 2024)
- Patrick Ibrahim " Effects of Total Water Hardness on Biodiversity in the Stones River Watershed" (August 2023 - March 2024)
- Bavly Labib " Relationship of Free Chloride to Biodiversity in The Stones River Watershed" (August 2023 - March 2024)
- Jona Madgy " Phosphorus Effects on Stream Biodiversity in the Stones River Watershed" (August 2023 - March 2024)
- Elizabeth McQueen " Ultraviolet Levels Does Not Correlate with Species Biodiversity in the Stones River Watershed" (August 2023 - March 2024)
- Samir Abdeljawad – "Evaluating the Effects of Precipitation on Biodiversity Within the Stones River Watershed" (August 2022 - March 2023)
- Eden Anderson – "*E. coli* and Biodiversity in the Stones River Watershed" (August 2022 - March 2023)
- Sabita Basnet - Biodiversity in the Stones River Watershed is Positively Associated with Canopy (August 2022 - March 2023)
- Rand Hassan - The Stones River Watershed has Little Chlorine Pollution and Moderate Biodiversity (August 2022 - March 2023)
- Veronika Moussa - Investigating the Stones River Watershed Biodiversity-pH Relationship (August 2022 - March 2023)
- Sevinch Kamaridinova - Investigating the Biodiversity-Forest Land Use Relationship in the Stones River Watershed (August 2022 - March 2023)
- Bismah Aslam - "Dus2 Expression in Infected Macrophage." (August 2021 - April 2022).
- Elizabeth Kowalcyzk - "Cebpa is Similarly Alternatively Spliced in Macrophages Regardless of Polarization State and Cryptococcus neoformans Infections." (August 2021 - April 2022).
- Janna Abou-Rahma - "Nob1 is Alternatively Spliced in Naive, M1, and M1 Macrophages Infected with Cryptococcus Neoformans." (August 2021 - April 2022).
- Jozeph Abdelmas - "Naive, M1 Polarized Macrophages, and M1 Macrophages Infected with *Cryptococcus neoformans* Show Extensive *Surf6* Alternative Splicing." (August 2021 - April 2022).
- Lacon Parton - "Naive, M1, and M1-infected Macrophages Show Alternative Splicing of the Pmm1 Gene." (August 2021 - April 2022).
- Ross Sibley - "Complex Alternative Splicing of Mettl-8 During Macrophage Polarization and Infection by C. neoformans." (August 2021 - April 2022). **Won 1st place at CBAS Poster Competition**
- Shivam Patel -"Alternative Splicing of GPCPD1 in Macrophages Infected with Cryptococcus neoformans shows Four New Isoforms.." (August 2021 - April 2022).
- Victoria Bascou- "The Effect of Macrophage Interactions Alongside the Ctse Gene." (August 2021 - April 2022).
- Maryam Almosajin -"Evolutionary of KIR Gene Family." (January 2021 - April 2022).
- Christine Adalikwu -"Oxidative Stress Does Not Affect Alternative Splicing of Transcription Factor DAF-16 Exon 5 in C. elegans." (February 2021 - April 2021).

- Kap A. Paull, "Effects of Osmotic Stress by NaCl on C. elegans." (February 2021 - April 2021).
- Maria Hite - "Alternative Splicing of LRK-1 in C. elegans After Exposure to Osmotic Stress." (February 2021 - April 2021).
- Maryam Almosajin - "Alternative Splicing of LRK-1 in the Region of Exon 15 is Suppressed Under Peroxide-Induced Oxidative Stress." (February 2021 - April 2021).
- Anika Chowdhury and Marzea Akter - "Improving Accuracy for Genes Involved Phosphorus Use Efficiency in Corn." (January 2020 - April 2020).
- Anna Yuhas -"Evidence-based Improvements to the Gene Model for MADS-box 15, a Gene Implicated in Corn Inflorescence." (January 2020 - April 2020).
- Deng Aguto - "UV-Exposure Induces Alternative Splicing of BRC-1 RNA in Nematodes." (January 2020 - April 2020).
- Helana Yacoub - "Caffeine Affects Alternative Splicing of the Nematode WNT Pathway Gene, APR-1." (January 2020 - April 2020).
- "Treatment with Endogenous Cannabinoid, Arachidonyl Ethanolamide, Alters Expression of Nematode Cannabinoid Receptor Gene NPR-19." (January 2020 - April 2020).
  Advised: Mathysyn Fields
- Neroosh Mossa -"Effects of Caffeine on the Stress-Regulated Gene, HSF-1, in C. elegans." (January 2020 - April 2020). **Won 1st place at University Poster Competition; Won 1st place at CBAS Poster Competition**
- Rija Asim - "Improving Structural Gene Annotation a Gene Involved in Nitrogen-Use Efficiency." (January 2020 - April 2020).
- Sarah Soliman -"Acute Nicotine Exposure Induces Alternative Splicing of a Nicotine Receptor Subunit." (January 2020 - April 2020).
- Scarlett Benitez - "Alternative Splicing of Splicing Regulator Protein, Polypyrimidine Tract Binding Protein 1." (January 2020 - April 2020).

Honors Thesis Committee Member - I worked with these undergraduate students as a member of their honors research project committee.

- Nicholas Morgan – “Behavior Changes in Neuromuscular Transduction” (Fall 2022-present).
- Elizabeth Kowalcyzk - "Investigating the Inhibition of Herpes Simplex Virus-1 by Ginsenoside 20(S)-Rg3." (September 2021 – Fall 2022).
- Grace Millican "CITED1 Localization during macrophage infection." (September 2020 – Fall 2021).
- Anika Chowdhury “Ginsenosides.” (September 2020 - April 27, 2022).
- Jacqueline Williams - "Assessing linkage between aqutic biodiversity and water chemistry in the Stones River Watershed." (September 2021 - April 13, 2022).
- Maria Hite - "Determine the phosphorylation state and subcellular localization of CITED1 in noninfected and Cn-infected macrophages.." (February 2021 - April 12, 2022).
- Savannah Lawell - "Ginseng Polysaccharides." (January 2020 - April 11, 2022).
- Gabriella Morin - The"PINK/Parkin in Mitochondrial Dysfunction." (August 2018 - November 2020).

Master's Thesis Committee Member - I worked with these MS Biology graduate students as a member of their research project committee.

- Trey Borders – “Amoebal Pathogen CC99 is Changed by Host” (August 2022-April 2024)
- Jeremy Smith - "Evolutionary Investigation of Corals." (June 2021 – Spring 2022)
- Deborah Nwadibie - "Lipids as Evolutionary Tools." (March 2020 - March 2021).
- Serenah Smith -"Analysis of Gene Editing." (January 2019 - April 2020).

Dissertation Committee Member - I worked with these graduate students as a member of their dissertation research project committee in either the Molecular Biosciences Doctoral Program and the Math and Science Education Doctoral Programs.

- Elena Mancera – “Mechanism of Action of Peptoids” (January 2023 – present)
- Jason Griner - "The Mechanism of a Homologous Inosine Uridine Nucleoside Hydrolase (IU-NH) found in Arabidopsis thaliana, Escherichia coli, and Crithidia fasciculata." (January 2019 – Apr 2024).
- Nicole Gammons - "Pichia Evolution for Biofuels." (January 2019 - Present).
- Brock Couch – “Network Analysis of Discussion of Socio-Scientific Issues” (January 2020-Summer 2022)
- Olena James – “Teacher Technological and Pedagogical Knowledge” (January 2020-Summer 2022).
- Aarthi Subramani - "Macrophage-Cryptococcus neoformans Host Pathogen Interactions." (January 2017 – Fall 2022
- Shannon Smith - "Ginseng Culture." (January 2018 - April 2021).
- Zachary Grimes - "Science Phobia." (January 2020 - March 2021).

- Angela Google-"Experiences of Women of Color in Science." (August 2019 - March 2021).
- Chatoria Kent -"Teaching Triads." (January 2010 - April 2020).
- Najlaa Hosain - "Purification, Structural Characterization and Immunomodulation Properties of Polysaccharides Isolated from Frankincense (Boswellia carterii)." (February 2020 - April 2020).

Awards and Honors (2019-present only)

- MTSU Excellence in Teaching - 2023
- Make a Difference - 2021, MTSU. (May 19, 2021).
- Make a Difference 2021, MTSU. (May 19, 2021).
- Make a Difference, MTSU Provost Office. (December 3, 2020).

Professional Memberships

- American Society for Microbiology (September 2023-present)
- National Association of Biology Teachers. (July 2022- Present).
- American Society for Biochemistry and Molecular Biology. (January 2005 - Present).

Teaching Development Activities Attended (2019-present only)

Book club

- “The Collaborative Classroom” by Trevor Muir, LT-ITC (September 2024-present)
- "Geeky Pedagogy by Jessamyn Neuhaus," LT-ITC. (February 2023 – April 2023).
- “Relationship-rich Education,” MTEngage. (September 2022- December 2022).
- “Dare to Lead by Brene Brown," LT-ITC. (February 2022 – April 2022).
- "Lifelong Kindergarten by Mitchel Resnick," LT-ITC. (October 1, 2019 - October 22, 2019).

Long-term Workshops or Groups

- "Foundations of Open Science," CyVerse. (September 14, 2021 - November 18, 2021).
- Teaching Circle, "Teaching Circle: Science," MTSU Faculty Support Network. (June 2020 - September 2020).
- “AAC&U High Impact Practice Conference.” (June 2- June 6, 2020).
- “Maize Genome Annotation 3 day Workshop” at the Plant and Animal Genome Conference (January 10-13 2019)

Training Seminars

- "Creating OER When OER Doesn’t Exist: Lessons Learned," MTSU - Oldham, Cook, Bruce, Weir, Murfreesboro. (March 23, 2022).
- "The Science of Learning: A Crash Course in What Works," MTSU - Lando Carter, Murfreesboro. (September 14, 2021).
- "Talking about Leaving Revisited: Dimensions of STEM persistence," AAAS. (October 27, 2020).
- "Talking about Leaving Revisited: Dysfunctions of the STEM weed-out system," AAAS. (September 22, 2020).
- "Talking about Leaving Revisited: STEM learning experiences and their consequences," AAAS. (August 18, 2020).
- "Examity Training," MTSU LTITC. (August 18, 2020).
- "Panopto Pro Tips," MTSU LTITC. (July 30, 2020).
- "Take a Deep Dive: Polling and Breakout Rooms in Zoom Redux - Summer 2020," MTSU LTITC. (July 29, 2020).
- "Talking about Leaving Revisited: Entering an uneven playing field," AAAS. (July 21, 2020).
- "Advanced Panopto - Summer 2020," MTSU LTITC. (July 9, 2020).
- "Using D2L as a Virtual Teaching Assistant: Introduction to Intelligent Agents - Summer 2020," MTSU LTITC. (June 24, 2020).
- "Teaching through the Screen: Authentically Connecting with Students in Online Instruction - Summer 2020," MTSU LTITC. (June 16, 2020).
- "Grading Made Easier: Utilizing D2L Rubrics to Assess Discussions," MTSU LTITC. (June 10, 2020).
- "Talking About Leaving Revisited," SEA CHANGE - AAAS. (June 9, 2020).
- "Providing Effective and Efficient Feedback on Student Writing," LT-ITC. (November 6, 2019).
- "R for Math and Science Education," MSE doctoral program. (October 2019).

RESEARCH

Published Intellectual Contributions (2019-present only)

* undergraduate student; ** graduate student; my students

Seipelt-Thiemann RL. 2024. Cryptococcus neoformans Transcriptome Analysis to Identify Differentially Expressed Genes Using the STAR Pipeline in CyVerse Discovery Environment. Methods Mol Biol. 2775:109-126. doi: 10.1007/978-1-0716-3722-7_8. PMID: 38758314.

**Subramani A, *Hite MEL, **Garcia S, *Maxwell J, *Kondee H, *Millican GE, McClelland EE, Seipelt-Thiemann RL, Nelson DE. Regulation of macrophage IFNγ-stimulated gene expression by the transcriptional coregulator CITED1. J Cell Sci. 2023 Jan 1;136(1):jcs260529. doi: 10.1242/jcs.260529. PMID: 36594555.

**Wasendorf C, **Reid JW, Seipelt-Thiemann R, **Grimes ZT, **Couch B, Peters NT, Massimelli Sewall J, McCombs A, Armstrong PI, Boury N. 2022. The development and validations of the Mutation Criterion Referenced Assessment (MuCRA). Journal of Biological Education. doi.org/10.1080/00219266.2022.2100451

**Grimes ZT, Boury NM, **Wasendorf C, **McCombs AL, **Reid JW, **James O, **Couch B, Armstrong PI, Seipelt-Thiemann R. 2022. An Assessment to Investigate Student Conceptions of Pedigree Analysis. American Biology Teacher. 84(9):535-544 DOI: https://doi.org/10.1525/abt.2022.84.9.535.

Boury N, Alvarez KS, Costas AG, Knapp GS, Seipelt-Thiemann RL. Teaching in the Time of COVID-19: Creation of a Digital Internship to Develop Scientific Thinking Skills and Create Science Literacy Exercises for Use in Remote Classrooms. J Microbiol Biol Educ. 2021;22(1). doi: 10.1128/jmbe.v22i1.2433. eCollection 2021. PubMed PMID: 33884056; PubMed Central PMCID: PMC8011875.

**Merryman M, **Crigler J, Seipelt-Thiemann R, McClelland E. A mutation in C. neoformans mitochondrial NADH dehydrogenase results in increased virulence in mice. Virulence. 2020 Dec;11(1):1366-1378. doi: 10.1080/21505594.2020.1831332. PubMed PMID: 33103620; PubMed Central PMCID: PMC7588220.

*Ali MF, **Tansie SM, **Shahan JR, Seipelt-Thiemann RL, McClelland EE. Serial Passage of Cryptococcus neoformans in Galleria mellonella Results in Increased Capsule and Intracellular Replication in Hemocytes, but Not Increased Resistance to Hydrogen Peroxide. Pathogens. 2020 Sep 5;9(9). doi: 10.3390/pathogens9090732. PubMed PMID: 32899539; PubMed Central PMCID: PMC7559301.

Subramani A, *Griggs P, *Frantzen N, **Mendez J, **Tucker J, *Murriel J, * Millican GE, McClelland EE, Seipelt-Thiemann RL, Nelson DE. Intracellular Cryptococcus neoformans disrupts the transcriptome profile of M1- and M2-polarized host macrophages. PLoS One. 2020;15(8):e0233818. doi: 10.1371/journal.pone.0233818. eCollection 2020. PubMed PMID: 32857777; PubMed Central PMCID: PMC7454990.

Presentations Given (2019-present only)

Seipelt-Thiemann, R. L. (Presenter), Alvarez, K. (Presenter), Boury, N. (presenter), Garcia Costas, A. (presenter), Knapp, G. (presenter), "Teaching in the Time of COVID-19: Creation of a Digital Internship to Develop Scientific Thinking Skills and Create Science Literacy Exercises for Use in Remote Classrooms," MTSU Biology Department/MOBI Program. (April 1, 2021).

Seipelt-Thiemann, R. L. (presenter), Reid, J. (contributor), Grimes, Z. (contributor), James, O. (contributor), Couch, B. (contributor), Boury, N. (collaborator- Iowa State University), Wassendorf, C. (collaborator - Iowa State University), Armstrong, P. (psychometrician - Iowa State University), International Plant and Animal Genome Conference, "Identifying and Addressing Naïve Concepts in the Undergraduate Genetics Student," San Diego, United States of America. (January 2020).

Seipelt-Thiemann, R. L., International Plant and Animal Genome Conference, "Investigating the Maize Genome with Undergraduate Researchers," San Diego, United States of America. (January 2020).

Funded Contracts, Grants and Sponsored Research (2019-present only)

Boury, N (Principal), Seipelt-Thiemann, R.L. (Co-Principal), Armstrong, P. I. (Co-Principal), “RCN-UBE: Case-based Active Science Education (CASE) Mentoring Network,” Sponsored by National Science Foundation, $468,549 (12/2023-12/2028)

Seipelt-Thiemann, R.L. (Principal), Boury, N (Principal), Knapp Gwendolyn (Principal), Garcia Costas, A. M. (Principal), Armstrong, P. I. (Co-Principal), “Collaborative Research: Learning MOER (Microbiology Open Education Resource) Science Literacy,” Sponsored by National Science Foundation, $369,274 (10/2023-10/2025)

Nelson, D. E. (Principal), Seipelt-Thiemann, R. L. (Co-Principal), McClelland, E. E. (Co-Principal), "Modulation of Macrophage Antifungal Activity by the Transcriptional Co-regulator CITED1," Sponsored by NIH, Federal, $424,403.00.

Nelson, D. E. (Principal), Seipelt-Thiemann, R. L. (Supporting), "Modulation of Macrophage Polarization by a Facultative Intracellular Pathogen," Sponsored by NIH, Federal, $392,400.00. (August 24, 2018 - July 31, 2022). – supported my mentoring regarding bioinformatics training for undergraduates Maria Hite and MS Biology graduate Sarah Garcia

Seipelt-Thiemann, R. L. (Co-Principal), Boury, N. (Co-Principal), "IUSE-Tools for Assessment in Genetics," Sponsored by National Science Foundation, Federal, $300,000.00. (August 2017 - November 2021).

Unfunded Contracts, Grants and Sponsored Research (2019-present only)

Nelson, D. E. (Principal), Seipelt-Thiemann, R. L. (Supporting), "Modulation of Macrophage Polarization by a Facultative Intracellular Pathogen (Renewal - Resubmission)," Sponsored by NIH, Federal, $403,910.00.

Nelson, D. E. (Principal), Seipelt-Thiemann, R. L. (Co-Principal), "Modulation of Macrophage Polarization by a Facultative Intracellular Pathogen (Renewal)," Sponsored by NIH, Federal, $380,573.00.

Seipelt-Thiemann, R. L. (Co-Principal), Boury, N. (Co-Principal), Brown, M. (Co-Principal), Peters, N. (Co-Principal), Armstrong, P. (Co-Principal), "Facilitating Learning with Activities in Agricultural Genetics," Sponsored by USDA, Federal, $300,000.00.

SERVICE

University Service (2019-present only)

- Senior Oral Exam - Helper, Biology Department. (October 2020 - Present).
- Committee Member, Scholar's Week Organizing Committee. (September 2019 - Present).
- Chair, Biology Department Genetics Curriculum Integration. (January 2022 - April 2022).
- Member, Implementing High Impact Practice Committee. (March 2020 - June 15, 2020).
- Team Member, High Impact Practice Institute at AAC&U. (June 2, 2020 - June 5, 2020).