

## TEXAS STATE VITA

### I. Academic/Professional Background

#### A. Kristy Lynn Daniel (née Halverson)      Title: Assistant Professor

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### B. Educational Background

<i>Degree</i>	<i>Year</i>	<i>University</i>	<i>Major</i>
Ph.D.	2009	University of Missouri	Curriculum and Instruction – Science Education Dissertation: <i>Investigating the Development and Use of Representations by Undergraduates in a Plant Systematics Course</i> (Co-Chairs: Drs. Sandra Abell & Patricia Friedrichsen)
M.S.	2005	Iowa State University	Ecology, Evolution, and Organismal Biology Thesis: <i>Intraspecific Plant Polyploidy Effects on Goldenrod Insect Herbivores</i> (Chair: Dr. John Nason)
B.A.	2002	Westminster College	Biology

### C. University Experience

\* *Institutions Abbreviated: Texas State University (TX State); University of Southern Mississippi (USM); University of Missouri (MU); Iowa State University (ISU); Westminster College (WCMO)*

<i>Position</i>	<i>University</i>	<i>Dates</i>
Assistant Professor	TX State	2015-Present
Assistant Professor	USM	2009-2015
<i>*Recommended for Tenure and Promotion effective August 17, 2015</i>		
Research Investigator	MU	2007-2009
<i>Improving Phylogenetic Thinking in Biology Undergraduates. Supervisors: Dr. Sandra Abell, Dr. Patricia Friedrichsen, and Dr. J. Chris Pires</i>		
Graduate Research Assistant	MU	2005-2009
<i>2007-2009: Decision Making about Biotechnology Issues. Supervisor: Dr. Marcelle Siegel</i>		
<i>2007-2008: Equitable Assessment for English Learners. Supervisor: Dr. Marcelle Siegel</i>		
<i>2005-2007: Supporting Career Changers. Supervisors: Susan White and Dr. Sandra Abell</i>		
<i>2005-2006: Evaluation of Professional Development Projects. Supervisor: Dr. Sandra Abell</i>		
Graduate Instructor	MU	2006-2007
Graduate Teaching Assistant	MU	2007
Biological Science Tutor	MU	2005-2007
Adjunct Instructor	WCMO	2006
Adjunct Instructor	MU	2006
Biology Lab Coordinator Assistant	ISU	2005
Research Investigator	ISU	2003-2005
<i>Plant Polyploid Effects on Goldenrod Insect Herbivores. Supervisor: Dr. John Nason</i>		
Graduate Instructor	ISU	2003-2005
Undergraduate Instructor	WCMO	1998-2001

**D. Relevant Professional Experience**

<i>Position</i>	<i>Entity</i>	<i>Dates</i>
Contributor-BIO Concepts Course	Wiley Publishing	2014
Naturalist	MO Dept. of Natural Resources	2001
Substitute Teacher	Fulton School District	2000-2003
Field Botanist	MO Dept. of Conservation	2000

**E. Other Professional Credentials**

2010-2015	CITI Completion Certificate (expires 9/13/2017)
2015	Allies Training
2015	Developing Assessment Methods & Measures
2013	Scientific Teaching
2011	National Science Foundation, Science: Becoming the Messenger
2011	Quality Enhancement Program Writing and Speaking Pedagogy
2011	USM, Faculty Fellow Service-Learning
2009	College Teaching Certificate
2009	Connecting Undergraduates to the Enterprise of Science

**II. TEACHING****A. Teaching Honors and Awards:**

*Excellence in University Teaching.* (2015). Each year the university awards this honor to one USM faculty member each year with a record of exceptional teaching.

*Honorary Guest Coach.* (Basketball, December 2014; Football, October 2014). This is a student nominated honor for faculty, University of Southern Mississippi.

*Robert Frank Fellowship.* (Academic Year 2007-2008). Each year MU's College of Education awards one MU graduate student with an exemplary academic and research record an annual scholarship to support future research endeavors.

*John Carlock Award.* (October 2006; October 2007). Each year, the Association of College and University Biology Educators organization selects an outstanding graduate student who show(s) high potential for success in career instructing college biology.

*Teaching Excellence Award.* (2005). Each year ISU annually recognizes the top 10% of graduate instructors on campus, based upon student evaluations and peer observation.

**B. Courses Taught:***TX State*

BIO 5399: Thesis

BIO 7303: Research

BIO 7360X: Communicating Science (*Scheduled for Spring 2016*)

*USM*

BSC 103: Biology and Society

BSC 111: Principles of Biology II

BSC 423/523: Science and Society

BSC 497: Senior Capstone in Biological Sciences

BSC 492: Special Problems (Senior Honor's Thesis)

BSC 404/LCA & 504/LCA: Ireland Biology Field Experience

BSC 600: Professional Development for Biology Teaching Assistants  
 BSC 691: Research  
 BSC 692: Special Problems (Learning and Teaching with Visualizations in Biology Education)  
 BSC 698: Thesis  
 BSC 791: Research in Biology  
 BSC 792: Special Problems (Learning to Lecture)  
 BSC 792: Special Problems (Grant Writing)  
 BSC 898: Dissertation  
 SME 601: Science, Mathematics, and Technology Education in Contemporary Perspective  
 SME 691: Research Practicum in Science and Mathematics Education  
 SME 703: Foundations of Science and Mathematics Education  
 SME 761: Qualitative Educational Research Design  
 SME 762: Qualitative Educational Research Practicum  
 SME 789: Seminar in Science and Mathematics Education  
 SME 791: Research in Science Education  
 SME 792: Special Problems (Human Learning)  
 SME 792: Special Problems (Learning and Teaching with Visualizations in Biology Education)  
 SME 797: Independent Study  
 SME 898: Dissertation

*MU*

BIO SC 1010: General Principles and Concepts of Biology  
 BIO SC 1500: General Biology Lab  
 BIO SC 3100: Community Biology  
 BIO SC 3210: Plant Systematics Lab

*ISU*

BIO 201L: Principles of Biology I Lab  
 BIO 202L: Principles of Biology II Lab

*WCMO*

BIO 107: Introduction to Biological Principles Lab  
 BIO 110: Biodiversity  
 BIO 110L: Biodiversity Lab  
 BIO 220: Evolution  
 ENV 105: Introduction to Environmental Science  
 WSM 101: Westminster Seminar: Human Evolution

**C. Graduate Theses/Dissertations, Honors Theses, or Exit Committees:**

(\* indicates K.L. Daniel – major professor)

<i>Student Name, School</i>	<i>Year</i>	<i>Degree</i>
*Zach Nolen, TXState	In progress	Ph.D. Aquatic Resources
*E. Austin Leone, TXState	In progress	M.S. Biology
*Robert Maynard, USM	In progress	Ph.D. Science and Mathematics Education
*Jeremy Norris, USM	In progress	B.S. Biology (Honor's Thesis – co-advisor)

*Validity and Reliability Evaluation of an Instrument Measuring Plant Blindness*

- \*Jacqueline Samuel, USM    In progress (ABD)    Ph.D. Science and Mathematics Education  
*Developing a Theoretical Framework for VPCCK based on Middle School Science Teachers' Views and Uses of Visualizations as an Instructional Tool*
- Joy Suggs, USM                      In progress                      Ph.D. Educational Studies and Research
- \*Jennifer Mraz, USM              2015 Dec                      Ph.D. Biological Sciences  
*Identities and Motives of Naturalist Development Program Attendees and their Relation to Professional Careers*
- \*Chandrani Mishra, USM    2015 Dec                      Ph.D. Biological Sciences  
*Investigating the Impact of Reflexive Practices on College Students in a Science Laboratory Course*
- \*Aubin St. Clair, USM            2015 Aug                      M.S. Biological Sciences  
*Naturalists' Perspectives on the Use of Mobile Technology during a Nature Hike*
- \*Carrie Jo Boyce, USM          2015 Aug                      Ph.D. Biological Sciences  
*Investigating How Students Communicate Tree-Thinking*
- Mounir Saleh, USM              2015 May                      Ph.D. Science and Mathematics Education  
*Moving College Students to a Better Understanding of Substrate Specificity of Enzymes through Utilizing Multimedia Pre-Training and an Interactive Enzyme Model*
- \*Ashleigh Davis, USM          2014 May                      B.S. Psychology (Honor's Thesis)  
*A Look into Informal Science Education and Students with Individual Education Plans*
- \*Donaven McLaurin, USM    2013 May                      B.S. Biological Sciences (Honor's Thesis)  
*Using Manipulative Models to Develop Tree-Thinking*
- \*Jill Maroo, USM                  2013 May                      Ph.D. Science and Mathematics Education  
*Nursing Students' Attitudes toward Science in the Nursing Curricula*
- Angela Bruni, USM              2013 May                      Ph.D. Science and Mathematics Education  
*Dialogue as a Tool for Meaning Making*
- John Parr, USM                    2013 May                      Ph.D. Science and Mathematics Education  
*View of Socioscientific Issues among Educators: The Willingness of Teachers to Accept SSI into the Classroom and the Reasoning Underlying those Beliefs*
- J. Lynn Singletary, USM        2013 May                      Ph.D. Science and Mathematics Education  
*The Role of Service-Learning in College Students' Environmental Literacy: Content Knowledge, Attitudes, and Behaviors*
- Vivian Smith, USM              2013 May                      Ph.D. Science and Mathematics Education  
*Science Fair: is it Worth the Work? A Qualitative Study on Deaf Students' Perceptions and Experiences Regarding Science Fair in Primary and Secondary School*

*Visiting Scholar*

Inga Ubben, Humboldt Universität zu Berlin, Germany – visited at TX State 9/2015-12/2015

*Masters – Non Thesis*

Brody Hutchinson, USM	2015 Dec	M.S. Science and Mathematics Education
Valerie Cook, USM	2015 May	M.S. Science and Mathematics Education
Kylee Dueitt, USM	2014 May	M.S. Science and Mathematics Education
Mark Holcomb, USM	2012 Aug	M.S. Science and Mathematics Education
*Jennifer Lawrence, USM	2012 May	M.S. Science and Mathematics Education
*Carrie Jo Boyce, USM	2010 Dec	M.S. Science and Mathematics Education

*Other Students*

*Supervisor, Undergraduate Students (Non Thesis Research):*

Karen Alvarado Rodriguez, TX State; Sandra Bohn, USM; Izaak DeLeon, TX State; Megan Pallo, MU; Lauren Pittman, USM; Matthew Planchard, USM; Karina Salinas, TX State

*Mentor, Graduate Student Research (Non Thesis Research):*

Laila Ali, USM; Houbin Fang, USM; Soo Ha, Purdue University; Suzanne Jennings, USM; Sara Johnson, USM; Xiaolan Li, USM; Camillia Matuk, Northwestern University; Nasser Syed, USM; Lance Vikaros, Columbia University; Emily Walter, MU; Aresia Watson, USM; Stephanie Williams, USM

**D. Courses Prepared and Curriculum Development:**

BIO 7360X (TXState): Communicating Science  
 BSC 404/504/L (USM): Ireland Biology Field Experience – Course Abroad  
 SME 761 & 762 (USM): Qualitative Educational Research Design and Practicum Series  
 Special Topics Developed (USM): Human Learning, Learning to Lecture, Learning and Teaching with Visualizations in Biology, and Grant Writing

**E. Funded External Teaching Grants and Contracts:**

Howard Hughes Medical Institute. (2014). *SEA-PHAGES Associate Membership 2015-2016*. Primary Faculty Contact: Maldovi, D.; Alternate Faculty Contact: Sellers, J.M. Originally accepted in 2013 by Faculty Contacts: McLean, T. and Halverson, K.L., Deferred to 2014 (for AY 2015-2016).

**F. Submitted, but Not Funded, External Teaching Grants & Contracts**

N/A

**G. Funded, Internal Teaching Grants & Contracts**

N/A

**H. Submitted, but Not Funded, Internal Teaching Grants & Contracts**

N/A

**I. Other**

**Halverson, K.L.** (2010, September). *Research and career opportunities in biology education*. Oral Presentation at the First Year Foundations Biology Course, Hattiesburg, MS.

**III. SCHOLARLY/CREATIVE**

*\*All works authored by “Daniel” are credited to TX State, works by “Halverson” are credited to other institutions*

## **A. Works in Print**

### **1. Books**

#### ***a. Scholarly Monographs***

N/A

#### ***b. Textbooks***

N/A

#### ***c. Edited Books:***

**Daniel, K.L.** (Ed.) (Under Contract). *Towards a Framework for Representational Competence in Science Education*. Dordrecht, The Netherlands: Springer.

#### ***d. Chapters in Books:***

**Halverson, K.L.** & Friedrichsen, P.M. (2013). Learning tree thinking: Developing a new framework of representational competence. In D. Treagust and C.-Y. Tsui (Eds.) *Multiple representations in biology education* (Chapter 10). Dordrecht, The Netherlands: Springer. (pp. 185-202).

### **2. Articles**

#### ***a. Refereed Journal Articles:***

Planchard, M., **Daniel, K.L.**, Maroo, J., Mishra, C., & McLean, T. (2015). Homework, motivation, and achievement in a college genetics course. *Bioscene*, *41*(2), 11-18.

Boyce, C.J., Mishra, C., **Halverson, K.L.** & Thomas, A.K. (2014). Getting students OUTSIDE: Using technology as a way to stimulate engagement. *Journal of Science Education and Technology*, *23*, 815-826. DOI: 10.1007/s10956-014-9514-8

Siegel, M., Menon, D., Sinha, S., Promyod, N., Wissehr, C., & **Halverson, K.L.** (2014). Equitable written science assessments for English language learners: How scaffolding helps. *Journal of Science Teacher Education*, *25*, 681-708. DOI 10.1007/s10972-014-9392-1

McLaurin, D., **Halverson, K.L.**, & Boyce, C.J. (2013). Using Manipulative Models to Develop Tree-Thinking. *Biology International*, *54*, 108-121. <http://biologyinternational.org/wp-content/uploads/2014/03/11Halverson-Vol-54.pdf>

Walter, E.M., **Halverson, K.L.**, & Boyce, C.J. (2013). Investigating the relationship between college students' acceptance of evolution and tree thinking understanding. *Evolution: Education, and Outreach*, *6*, 26. DOI:10.1186/1936-6434-6-26

**Halverson, K.L.**, Boyce, C.J., & Maroo, J.D. (2013). Order matters: Pre-assessments and student generated representations. *Evolution: Education and Outreach*, *6*, 24. DOI:10.1186/1936-6434-6-24

Witzig, S., **Halverson, K.L.**, Siegel, M.A., & Freyermuth, S.K. (2011). The interface of opinion, understanding, and evaluation while learning about a socioscientific issue. *International Journal of Science Education*, *35*, 2483-2507. DOI: 10.1080/09500693.2011.600351

**Halverson, K.L.,** Pires, J.C., & Abell, S.K. (2011). Exploring the complexity of tree thinking expertise in an undergraduate plant systematics course. *Science Education*, 95, 794-823. DOI: 10.1002/sce.20436

**Halverson, K.L.** (2011). Improving tree-thinking one learnable skill at a time. *Evolution: Education and Outreach*, 4, 95-106. DOI: 10.1007/s12052-010-0307-0

Siegel, M.A., **Halverson, K.L.,** Freyermuth, S.K., & Clark, C. (2011). Beyond grading: A series of rubrics for science learning. *The Science Teacher*, 78(1), 42-47. [http://learningcenter.nsta.org/files/tst1101\\_28.pdf](http://learningcenter.nsta.org/files/tst1101_28.pdf)

**Halverson, K.L.,** Siegel, M.A., & Freyermuth, S.K. (2010). Non-Science majors' critical evaluation of websites in a biotechnology course. *Journal of Science Education and Technology*, 19 (6), 612-620. DOI: 10.1007/s10956-010-9227-6

**Halverson, K.L.,** Freyermuth, S., Siegel, M., & Clark, C. (2010). What undergraduates misunderstand about stem cell research. *International Journal of Science Education*, 32, 2253-2272. DOI:10.1080/09500690903367344

Concannon, J., Siegel, M.A., **Halverson, K.L.,** & Freyermuth, S.K. (2010). College students' conceptions of stem cells, stem cell research, and cloning. *Journal of Science Education and Technology*, 19, 177-186. DOI: 10.1007/s10956-009-9190-2

**Halverson, K.L.** (2010). Using pipe cleaners to bring the tree of life to life. *American Biology Teacher*, 72, 223-224. DOI: <http://dx.doi.org/10.1525/abt.2010.72.4.4>

**Halverson, K.L.** & Lankford, D.M. (2009). Science galls me: What is a niche anyway? *American Biology Teacher*, 71, 483-491. DOI: <http://dx.doi.org/10.1662/005.071.0807>

**Halverson, K.L.,** Siegel, M.A., Freyermuth, S.K. (2009). Lenses for framing decisions: Undergraduates' decision making about stem cell research. *International Journal of Science Education*, 31, 1249-1268. DOI:10.1080/09500690802178123

Siegel, M., Wissehr, C.F., & **Halverson, K.L.** (2008). Sounds like "success:." A framework for equitable assessment. *The Science Teacher*, 75 (3), 43-46. [http://learningcenter.nsta.org/files/tst0803\\_43.pdf](http://learningcenter.nsta.org/files/tst0803_43.pdf)

**Halverson, K.L.,** Heard, S.B., Nason, J.D., & Stireman, J.O. (2008). Differential attack on diploid, tetraploid, and hexaploid *Solidago altissima* L. by five insect gallmakers. *Oecologia*, 154, 755-761. DOI: 10.1007/s00442-007-0863-3

**Halverson, K.L.,** Heard, S.B., Nason, J.D., & Stireman, J.O. (2008). Origins, distribution and local co-occurrence of polyploidy cytotypes in *Solidago altissima* (Asteraceae). *American Journal of Botany*, 95, 50-58. DOI: 10.3732/ajb.95.1.50

***b. Non-refereed Articles:***

Maroo, J. & **Halverson, K.L.** (2011). Tree-Thinking: A branch of mental rotation. *Synergy: Different Entities Cooperating for a Final Outcome*, 2(2), 53-59.

Boyce, C.J. & **Halverson, K.L.** (2011). Understanding evolution and evidentiary support. *Synergy: Different Entities Cooperating for a Final Outcome*, 2(2), 101-107.

### **3. Conference Proceedings**

#### **a. Refereed Conference Proceedings:**

Mishra, C., & **Daniel, K.L.** (Accepted). Investigating the role of reflexive practices in a science laboratory course. *Submitted for the Proceedings of the Annual Meeting of NARST: A Worldwide Organization for Improving Science Teaching and Learning through Research*. Baltimore, MD.

**Daniel, K.L.** (2015, September). *Impacts of Collaborative Active Learning in a Large Lecture Setting*. Paper presented at the European Science Education Research Association, Helsinki, Finland.

**Daniel, K.L.** & Clase, K.L. (2015, September). *Teaching Systems Biology through a Course Based Undergraduate Research Experience*. Paper presented at the European Science Education Research Association, Helsinki, Finland.

St.Clair, A., **Halverson, K.L.**, Thomas, A.K., & Boyce, C.J. (2015, April). Dividing attention participation to support informal learning. *Proceedings of the Annual Meeting of NARST: A Worldwide Organization for Improving Science Teaching and Learning through Research*, Chicago, IL.

**Halverson, K.L.** & Clase, K.L. (2014, June). Using classroom-based authentic research experiences to foster scientific thinking and representational competence. *Proceeding of the annual meeting of the International Conference of the Learning Sciences*, Boulder, CO.

Boyce, C.J., Mishra, C., **Halverson, K.L.**, & Thomas, A.K. (2014, April). Getting students OUTSIDE: Using technology as a way to stimulate engagement. *Proceedings of the Annual Meeting of NARST: A Worldwide Organization for Improving Science Teaching and Learning through Research*, Pittsburg, PA.

Maroo, J. & **Halverson, K.L.** (2014, April). Nursing students' attitudes toward science: A modification of the Scientific Attitude Inventory II (SAI II). *Proceedings of the Annual Meeting of NARST: A Worldwide Organization for Improving Science Teaching and Learning through Research*, Pittsburg, PA.

Clase, K., & **Halverson, K.L.** (2013, September). *Using Technology to Facilitate Science Learning and Community Development*. Paper presented at the European Science Education Research Association, Nicosia, Cyprus.

McLaurin, D.C., **Halverson, K.L.**, Boyce, C.J. (2013, April). Using manipulative models to develop tree-thinking. *Proceedings of the Annual Meeting of NARST: A Worldwide Organization for Improving Science Teaching and Learning through Research*, Rio Grande, Puerto Rico.

Saleh, M.R., **Halverson, K.L.**, Gearity, B. (2013, April). Moving students to a better understanding of enzyme specificity. *Proceedings of the Annual Meeting of NARST: A*



*Worldwide Organization for Improving Science Teaching and Learning through Research*, Rio Grande, Puerto Rico.

- Samuel, J. & **Halverson, K.L.** (2013, April). Factors influencing middle school teachers' planning and facilitation of visualization-based instruction. *Proceedings of the Annual Meeting of NARST: A Worldwide Organization for Improving Science Teaching and Learning through Research*, Rio Grande, Puerto Rico.
- Halverson, K.L.**, Walter, E., & Boyce, C.J. (2012, March). Investigating the relationship between college students' acceptance of evolution and tree thinking understanding. *Proceedings of the Annual Meeting of the National Association for Research in Science Teaching*, Indianapolis, IN.
- Clase, K.L., **Halverson, K.L.**, Bohn, S., & Heyden, R. (2012, March). Using Second Life in a formal STEM classroom to learn how to represent annotated genomes and develop a sense of community. *Proceedings of the Annual Meeting of the National Association for Research in Science Teaching*, Indianapolis, IN.
- Boyce, C.J., Maroo, J., & **Halverson, K.L.** (2011, April). *The Influence of Task Order on Student Responses on a Tree Thinking Pretest*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- Boyce, C.J., & **Halverson, K.L.** (2011, April). Understanding evolution and evidentiary support. *Proceedings of the Annual Meeting of the National Association for Research in Science Teaching*, Orlando, FL.
- Fang, H., **Halverson, K.L.**, Williams, S.P., & Li, X. (2011, April). Using discussion in online and traditional college courses. *Proceedings of the Annual Meeting of the National Association for Research in Science Teaching*, Orlando, FL.
- Johnson, S., Maroo, J., & **Halverson, K.L.** (2011, April). Classification of undergraduate alternative conceptions of the Tricarboxylic Acid Cycle. *Proceedings of the Annual Meeting of the National Association for Research in Science Teaching*, Orlando, FL.
- Maroo, J., & **Halverson, K.L.** (2011, April). A Mental Mobile: Using Branch Rotation to Solve the Puzzle, "Are these Trees the Same?" *Proceedings of the Annual Meeting of the National Association for Research in Science Teaching*, Orlando, FL.
- Parr, J., Syed, N., & **Halverson, K.L.** (2011, April). Non-Science majors' perceptions of integrating SSI instruction into high school curricula. *Proceedings of the Annual Meeting of the National Association for Research in Science Teaching*, Orlando, FL.
- Planchard, M., **Halverson, K.L.**, Maroo, J., & McLean, T. (2011, April). Homework, motivation, and achievement in a college genetics course. *Proceedings of the Annual Meeting of the National Association for Research in Science Teaching*, Orlando, FL.
- Sinha, S., Menon, D., Siegel, M.A., Promyod, N., Wissehr, C.F., & **Halverson, K.L.** (2011, April). Assessments for English language learners: How scaffolding helps. *Proceedings of the Annual Meeting of the National Association for Research in Science Teaching*, Orlando, FL.

**Halverson, K.L.** (2010, June). Improving undergraduates' approaches to understanding tree thinking. *Proceedings of the annual meeting of the International Conference of Learning Sciences*, Chicago, IL.

**Halverson, K.L.** (2010, March). Exploring the link between mental rotation and college student learning with phylogenetic trees. *Proceedings of the Annual Meeting of the National Association for Research in Science Teaching*, Philadelphia, PA.

Concannon, J., Siegel, M.A., Freyermuth, S.K., & **Halverson, K.L.** (2009, April). College students' conceptions of stem cells, stem cell research, and cloning. *Proceedings of the Annual Meeting of the National Association for Research in Science Teaching*, Garden Grove, CA.

**Halverson, K.L.**, Abell, S.K., Friedrichsen, P.M., & Pires, C.P. (2009, April). Testing a model of representational competence applied to phylogenetic tree thinking. *Proceedings of the Annual Meeting of the National Association for Research in Science Teaching*, Garden Grove, CA.

**Halverson, K.L.**, Pires, J.C., & Abell, S.K. (2008, March). Undergraduates' abilities to use representations in biology: Interpreting phylogenetic tree thinking. *Proceedings of the Annual Meeting of the National Association for Research in Science Teaching*, Baltimore, MD.

**Halverson, K.L.**, Siegel, M.A., & Freyermuth, S.K. (2008, March). *Socioscientific decision making: Undergraduates' perspectives on stem cell research*. Paper presented at the annual meeting of the American Education Research Association, New York, NY.

#### 4. Abstracts

N/A

#### 5. Reports: (Non-refereed)

**Daniel, K.L.** (2015). *OUTSIDE: Over, under, and through: Students informally discover the environment - NSF Outcomes and Final Project Report*. Hattiesburg, MS: Department of Biological Sciences, University of Southern Mississippi.

**Halverson, K.L.** (2014). *OUTSIDE: Over, under, and through: Students informally discover the environment - NSF Second Annual Project Report*. Hattiesburg, MS: Department of Biological Sciences, University of Southern Mississippi.

**Halverson, K.L.** (2013). *OUTSIDE: Over, under, and through: Students informally discover the environment - NSF First Annual Project Report*. Hattiesburg, MS: Department of Biological Sciences, University of Southern Mississippi.

Abell, S., Cole, J., Ehlert, M., Lannin, J., Marra, R., **Halverson, K.**, Hutchins, K., Lee, M., Park Rogers, M. Wang, C. (2006). *Missouri Department of Higher Education Improving Teacher Quality Grants: Cycle 3 External Evaluation Report*. Columbia, MO: Science Education Center, University of Missouri-Columbia.

Abell, S., Cole, J., Ehlert, M., Marra, R., Brown, P., **Halverson, K.**, Hutchins, K., Lee, M., Musikul, K., Park Rogers, M., Wang, C. (2005). *Missouri Department of Higher Education Improving Teacher Quality Grants: Cycle 2 External Evaluation Report*. Columbia, MO: Southwestern Bell Science Education Center, University of Missouri-Columbia.

## 6. Book Reviews:

**Halverson, K.L.** (2013). *Tree-Thinking: An Introduction to Phylogenetic Biology* [Book Review]. *Reports of the National Center for Science Education*, 35, 7.1-7.3.

## 7. Other Works in Print:

Thomas, A.K. & **Halverson, K.L.** (2012). *Go to Lake Thoreau [iPad app]*. Available from <https://itunes.apple.com/us/app/go-to-lake-thoreau/id593032744?mt=8>

## B. Works not in Print

### 1. *Papers Presented at Professional Meetings:*

**Daniel, K.L.** (2015, November). *Generating student-focused active learning environments in lecture settings*. Oral presentation at the annual meeting of the National Association of Biology Teachers, Providence, RI.

Boyce, C.J., & **Daniel, K.L.** (2015, November). *Phylogenetic word association*. Poster presented at the annual meeting of the National Association of Biology Teachers, Providence, RI.

Ubben, I., Nitz, S., Upmeier zu Belzen, A. & **Daniel, K.L.** (2015, November). *Interpreting models of evolution – The case of phylogenetic trees*. Poster presented at the annual meeting of the National Association of Biology Teachers, Providence, RI.

Mishra, C., **Daniel, K.L.**, & Clase, K.L. (2015, November). *Role of reflexivity on students' outcomes in a college science laboratory course*. Poster presented at the annual meeting of the National Association of Biology Teachers, Providence, RI.

Mraz, J.M., **Daniel, K.L.**, & Thomas, A.K. (2015, November). *OUTSIDE naturalist development workshop: Identities of participants and their relation to volunteer motives*. Poster presented at the annual meeting of the National Association of Biology Teachers, Providence, RI.

St. Clair, A., **Daniel, K.L.**, & Thomas, A.K. (2015, November). *How naturalists use mobile technology to support participation during a nature hike*. Poster presented at the annual meeting of the National Association of Biology Teachers, Providence, RI.

Boyce, C.J., **Halverson, K.L.**, & Thomas, A.K. (May, 2015). *Engaging students in outside science learning*. Oral presentation at VI-EPSCoR Conference, St. Thomas, VI.

Thomas, A.K., McWhorter, M.S., & **Halverson, K.L.** (November, 2014). *Professional development for naturalists-in-training*. Poster presented at the annual meeting of the National Association of Biology Teachers, Cleveland, OH.

Mishra, C., **Halverson, K.L.**, & Gearity, B.T. (November, 2014). *Investigating the impacts of an international STEM service-learning course on college students*. Poster presented at the

annual meeting of the National Association of Biology Teachers, Cleveland, OH. **\*\*Won third prize in the Four-Year College and University Section Student Poster competition.**

Mraz, J.A., Mishra, C., **Halverson, K.L.**, Boyce, C.J., & Ali, L. (November, 2014). *An authentic undergraduate research experience: Development and maintenance of student identities*. Poster presented at the annual meeting of the National Association of Biology Teachers, Cleveland, OH.

Jenkins, K., Mead, L., **Halverson, K.L.**, Baum, D., & Boyce, C.J. (November, 2014). *Seeing the forest by interpreting the trees: An assessment instrument for evaluating undergraduate student understanding of evolutionary trees*. Poster presented at the annual meeting of the National Association of Biology Teachers, Cleveland, OH.

Mead, L., Baum, D. Jenkins, K., & **Halverson, K.L.** (2014, June). *Seeing the forest by interpreting the trees: An assessment instrument for evaluating undergraduate student understanding of evolutionary trees*. Poster presentation at the annual meeting of the Society for the Study of Evolution, Raleigh, NC.

Mraz, J., Boyce, C.J., **Halverson, K.L.**, & Clase, K.L. (November, 2013). *Student reflections on using the virtual learning environment second life in combination with classroom instruction*. Poster presented at the annual meeting of the National Association of Biology Teachers, Atlanta, GA.

McWhorter, M.S., Thomas, A.K., & **Halverson, K.L.** (November, 2013). *A quantitative analysis of a hike in the woods: Preliminary results of what students learn OUTSIDE*. Poster presented at the annual meeting of the National Association of Biology Teachers, Atlanta, GA. **\*\*Won third prize in the Four-Year College and University Section Student Poster competition.**

Boyce, C.J., Mishra, C., **Halverson, K.L.**, & Thomas, A.K. (November, 2013). *Investigating students' use of technology to explore nature*. Poster presented at the annual meeting of the National Association of Biology Teachers, Atlanta, GA.

Samuel, J.Y. & **Halverson, K.L.** (2013, July). *Middle school teachers' experiences and viewpoints of visualizations as an instructional tool*. Poster presented at the biennial meeting of the Gordon Research Conference –Visualizations in Science and Education, Smithfield, RI.

Saleh, M.R., **Halverson, K.L.**, Gearity, B. (2013, July). *Moving students to a better understanding of enzyme specificity*. Poster presented at the biennial meeting of the Gordon Research Conference –Visualizations in Science and Education, Smithfield, RI.

Clase, K., **Halverson, K.L.**, Boyce, C.J., Heyden, R., Rickus, J., Klyczek, K., Mogen, K., Bonilla, J. (2013, July). *Building faculty and student collaborations with virtual learning environments*. Poster presented at the biennial meeting of the Gordon Research Conference –Visualizations in Science and Education, Smithfield, RI.

Clase, K., **Halverson, K.L.**, Boyce, C.J., Heyden, R., Rickus, J., Klyczek, K., Mogen, K., & Bonilla, J. (2013, July). *Developing a research community to enhance student learning*

*and engagement through the use of emerging technologies.* Poster presented at the annual meeting of the Society for the Advancement of Biology Education Research, Minneapolis, MN.

Boyce, C.J. & **Halverson, K.L.** (2013, March). Word association and mental recall: An evolution formative assessment. Poster presentation at the Graduate Student Research Symposium, Hattiesburg, MS. **\*\*Won Department Award, Graduate Student Research Symposium Student Poster competition.**

McLaurin, D.C, **Halverson, K. L.**, & Boyce, C. J. (2013, March). *Using Manipulative Models to Develop Tree Thinking.* Poster presented at Statewide Inaugural Collaborative Honors College Conference, Starkville, MS. **\*\*Won Visual Display Award for the Social Sciences Division.**

McLaurin, D.C, **Halverson, K. L.**, & Boyce, C. J. (2013, February). *Using Manipulative Models to Develop Tree Thinking.* Paper presented at Louis Stokes Mississippi Alliance for Minority Participation Research Symposium, Jackson, MS.

McLaurin, D.C, **Halverson, K. L.**, & Boyce, C. J. (2012, November). *Using Manipulative Models to Develop Tree Thinking.* Poster presentation at 13th Annual McNair Scholars Research Symposium, Hattiesburg, MS.

McLaurin, D.C, **Halverson, K. L.**, & Boyce, C. J. (2012, November). *Using Manipulative Models to Develop Tree Thinking.* Poster presentation at 21st Annual Ronald E. McNair Research Conference and Graduate Fair, Lake Geneva, WI.

Treagust, D.F., Tsui, C.-Y., Yarden, A., Griffard, P., **Halverson, K.L.**, Shoenborn, K., Schwartz, R.S., Wong, S.L., Buckley, B.C., Niebert, K., & Anderson, T. (2012, March). Strand Sponsored Session – *How best can multiple external representations be harnessed for improving learning in biology?* Oral presentation at the annual meeting of the National Association for Research in Science Teaching, Indianapolis, IN.

Clase, K.L., **Halverson, K.L.**, Rickus, J., & Heyden, R. (2012, April). *Integrating emerging technologies into formal education for assessment.* Oral presentation at the annual meeting for Experimental Biology, San Diego, CA.

**Halverson, K.L.** & Boyce, C.J. (2011, October). *Citizen science and society.* Oral presentation at the annual meeting of the National Association of Biology Teachers, Anaheim, CA.

Clase, K.L., **Halverson, K.L.**, Heyden, R. (2011, July). *Immersing STEM students into an interactive virtual experience using Second Life to visualize genomes.* Poster presentation at the biennial meeting of the Gordon Research Conference –Visualizations in Science and Education, Smithfield, RI.

Maroo, J.D., & **Halverson, K.L.** (2011, April). *Tree thinking: A branch of mental rotation.* Poster presented at the Student Research Colloquium, Hattiesburg, MS.

Maroo, J.D., Boyce, C.J., & **Halverson, K.L.** (2011, March). *Student responses influenced by task order on a tree thinking pretest.* Poster presented at the Graduate Student Research

Symposium, Hattiesburg, MS. **\*\*Won Department Award, Graduate Student Research Symposium Student Poster competition.**

Singletary, L., Bruni, A., & **Halverson, K.L.** (2011, February). *A look at college students' remembering and understanding of DNA, genes, traits, and proteins and how these concepts relate to one another.* Oral presentation at the annual meeting of the Mississippi Academy of Sciences, Hattiesburg, MS.

Maroo, J.D., Johnson, S.L., & **Halverson, K.L.** (2011, February). *Identifying college students' alternative ideas about cellular respiration.* Poster presented at the annual meeting of the Mississippi Academy of Sciences, Hattiesburg, MS.

Boyce, C.J., & **Halverson, K.L.** (2011, February). *Examining the impact of task order on a tree thinking pretest.* Poster presented at the annual meeting of the Mississippi Academy of Sciences, Hattiesburg, MS.

Planchard, M., **Halverson, K.L.**, Maroo, J. & McLean, T. (2010, November). *Why do students do their homework (or not)? An exploration of student motivation in an undergraduate genetics course.* Poster presented at the annual meeting of the National Association of Biology Teachers, Minneapolis, MN.

Maroo, J., Johnson, S., & **Halverson, K.L.** (2010, November). *Identifying college students' alternative ideas about cellular respiration.* Poster presented at the annual meeting of the National Association of Biology Teachers, Minneapolis, MN.

Boyce, C.J., & **Halverson, K.L.** (2010, November). *Examining the impact of task order on a tree thinking pretest.* Poster presented at the annual meeting of the National Association of Biology Teachers, Minneapolis, MN. **\*\*Won Vernier Student Travel Award to present research at the Four-Year College and University Section Student Poster competition.**

**Halverson, K.L.** (2009, November). *Pipe cleaner phylogeny: Tree thinking made easy.* Oral presentation presented at the annual meeting of the National Association of Biology Teachers, Denver, CO.

**Halverson, K.L.**, Abell, S.K., Friedrichsen, P.M., & Pires, J.C. (2009, July). *Understanding how undergraduates make sense to a visual approach to plant systematics.* Poster presentation at the biennial meeting of the Gordon Research Conference –Visualizations in Science and Education, Oxford, UK.

Krueger, J., Lloyd, E., Siegel, M., Wissehr, C., & **Halverson, K.L.** (2009, April). *Equitable science assessments for English language learners.* Poster presented at Undergraduate Research Day at the Capitol, Jefferson City, MO.

**Halverson, K.L.** (2008, October). *Using hypothetical flowering plants to develop fundamental phylogenetic tree-reading and tree-building skills.* Oral presentation at the annual meeting of the National Association of Biology Teachers, Memphis, TN.

- Lankford, D.M., & **Halverson, K.L.** (2008, October) *Five steps: Developing problem based learning lessons to investigate biology concepts*. Oral presentation at the annual meeting of the National Association of Biology Teachers, Memphis, TN.
- Halverson, K.L.**, Siegel, M.A., Clark, C., & Freyermuth, S. (2008, October) *What do undergraduates misunderstand about stem-cell research?* Oral presentation at the annual meeting of the National Association of Biology Teachers, Memphis, TN.
- Halverson, K.L.**, Pires, J.C., & Abell, S.K. (2008, June). “*Tree thinking*” issues: *Undergraduates’ reasoning about phylogenies*. Oral presentation at the annual meeting of the Society for the Study of Evolution, Minneapolis, MN.
- Halverson, K.L.**, Nason, J.D., & Stireman, J.O. (2008, February). *Plant polyploidy effects on goldenrod insect herbivores*. Poster presented at Evolution at work: Celebrate Charles Darwin’s contributions to biology on his 199<sup>th</sup> birthday, Columbia, MO.
- Halverson, K.L.** (2007, November). *It’s getting hot in here*. Oral presentation at the annual meeting of the National Association of Biology Teachers Conference, Atlanta, GA.
- Halverson, K.L.**, Siegel, M.A., & Freyermuth, S.K. (2007, October). *Using biotechnology research to teach biology to undergraduates*. Oral presentation at the annual meeting of the Association of College and University Biology Educators, Dubuque, IA.
- Halverson, K.L.**, & Lankford, D.M. (2007, April). *Science galls me: What is a niche anyway?* Oral presentation at the annual meeting of the National Science Teachers Association Conference, St. Louis, MO.
- Halverson, K.L.**, et al. (2007, February). *Learning dialogues: Teachers, tutors, students, staff*. Oral presentation at the Teacher Renewal Conference, Columbia, MO.
- Halverson, K.L.**, Nason, J.D., & Stireman, J.O. (2005, April). *Plant polyploidy effects on goldenrod insect herbivores*. Poster presented at the annual meeting of the Center for Community Genetics 2005 Symposium, Minneapolis, MN.
- Halverson, K.L.**, Nason, J.D., & Stireman, J.O. (2005, April). *Plant polyploidy effects on goldenrod insect herbivores*. Poster presented at the Women in Biological Sciences Symposium, Ames, IA.
- Halverson, K.L.** (2004, December). *Polyploidy as a source of herbivore resistance in tall goldenrods (Solidago altissima)*. Oral presentation at the Community Ecology Seminar, Ames, IA.
- Halverson, K.L.** (2004, November). *Polyploidy as a source for non-uniform host use as seen with phytophagous insects on tall goldenrods (Solidago altissima)*. Oral presentation at the Brown Bag Seminar Series, Ames, IA.
- Halverson, K.L.** (2004, June). *Plant polyploidy effects on goldenrod insect herbivores*. Oral presentation at the annual meeting of the Society for the Study of Evolution, Fort Collins, CO.

Gifford, M., **Halverson, K.**, Hawley, M., & Donnelly, K. (1998, December). *Investigations into the effects of riparian vegetation on aquatic invertebrates*. Oral presentation at the Ecology Seminar, Westminster College, Fulton, MO.

## **2. Invited Talks, Lectures, and Presentations:**

**Daniel, K.L.** (2015, February). *Capturing phylogenetic learning gains in the university classroom*. Oral presentation for the Department of Biology at Texas State University, San Marcos, TX.

**Halverson, K.L.** (2014, October). *Engaging students in OUTSIDE science learning*. Oral presentation for the Department of Biological and Molecular Biology at Montclair State University, Montclair, NJ.

**Halverson, K.L.** (2014, September). *Engaging students in OUTSIDE science learning*. Oral presentation at the USM Biological Sciences Departmental Seminar Series, Hattiesburg, MS.

**Halverson, K.L.** (2014, August). *Over, under, and through: Students informally discover the environment*. Poster presentation at the National Science Foundation Advancing Informal STEM Learning Program Principal Investigator Meeting, Washington, D.C.

**Halverson, K.L.** (2014, February). *Seeing the forest for the trees: Using tree-thinking to understand evolution*. Oral presented during the Darwin Day Teaching Workshop, USM, Hattiesburg, MS.

Boyce, C.J., Mishra, C., **Halverson, K.L.**, & Thomas, A.K. (2013, November). *Exploring students' connections with nature & technology*. Oral presentation at the E3 Seminar, USM, Hattiesburg, MS.

Clase, K., **Halverson, K.L.**, Heyden, R., & Rickus, J. (2013, August). *Multidisciplinary effort to address education in new biology*. Oral presentation at the AAAS sponsored conference Vision & Change in Undergraduate Biology Education, Washington, DC.

**Halverson, K.L.**, Thomas, A. (2012, November). *Creating OUTSIDE learning opportunities at the Lake Thoreau Environmental Center*. Oral presentation at the E3 Seminar, USM, Hattiesburg, MS.

**Halverson, K.L.** & Clase, K. (2012, November). *Exploring the possibilities of new Collaborations and Virtual Learning Environments*. Oral presentation at the PIBERG Seminar, Purdue University, West Lafayette, IN.

**Halverson, K.L.** (2012, September). *Play to learn phylogenetics in the classroom*. Oral presentation at the Department of Coastal Sciences Seminar Series, USM Gulf Coast Research Lab, Ocean Springs, MS.

**Halverson, K.L.** (2012, September). *Play to learn phylogenetics in the classroom*. Oral presentation at the Department of Biological Sciences Seminar Series, Mississippi State, Starkville, MS.



Clase, K.L., Boyce, C.J., Ha, S.J., **Halverson, K.L.**, Heyden, R., & Rickus, J. (2012, June). *Promoting systems thinking through an authentic research environment*. Oral presentation at Introductory Biology Project (IBP) Summer Conference: Implementing Vision and Change at the Introductory Biology Level, Washington D.C.

**Halverson, K.L.** (2011, November). *Mirror, mirror on the wall, who's learning through service most of all?* Oral presentation at the E3 Seminar, USM, Hattiesburg, MS.

Mower, T., & **Halverson, K.L.** (2011, October). *Research Committee Workshop*. Oral presentation at the National Association of Biology Teachers, Anaheim, CA.

**Halverson, K.L.** (2011, August). *Motivating students to learn and think*. Oral presentation at the College of Science and Technology Teaching Assistant Workshop, USM, Hattiesburg, MS.

**Halverson, K.L.** (2008, December). *Making sense of phylogenetic representations: Understanding undergraduates' ideas about tree thinking*. Oral presentation at the Department of Biological Sciences Seminar Series, Hattiesburg, MS.

**Halverson, K.L.** (2008, November). *A dissertation path from pilot to pub: A study of undergraduates' understanding of biological representations*. Oral presentation at the Science and Mathematics Education Colloquium, Columbia, MO.

Pires, J.C., & **Halverson, K.L.** (2008, November). *Darwin's neglected idea: How does evolution prune the family tree?* Oral presented at Saturday Morning Science, Columbia, MO.

### 3. Consultancies:

Research Consultant, <i>Quantitative Assessment: Diagnostics Instrument Development for Tree-Thinking</i> . Duke University & National Evolutionary Synthesis Center.	2013
Assessment Consultant, Linn State Technical College	2011
New England Aquarium Evolution of Fishes Panel, Consultant	2011

### 4. Workshops:

*OUTSIDE Professional Development Workshop for Naturalist Volunteers: Explore the Plants*. (2014, January). Lake Thoreau Environmental Center, Hattiesburg, MS.

*OUTSIDE Professional Development Workshop for Naturalist Volunteers: Meet the Wildlife*. (2013, September). Lake Thoreau Environmental Center, Hattiesburg, MS.

*Mississippi Science Olympiad Coaches Workshop*. (2013, September). Hattiesburg, MS.

*OUTSIDE Professional Development Workshop for Naturalist Volunteers: Walk the Trail*. (2013, January). Lake Thoreau Environmental Center, Hattiesburg, MS.

*Mississippi Science Olympiad Coaches Workshop*. (2012, September). Hattiesburg, MS.

### 5. Other Works not in Print:

#### a. Works "submitted" or "under review"

**Daniel, K.L.** (Under Review). Impacts of Active Learning on Student Outcomes in Large Lecture Biology Courses. *Submitted to American Biology Teacher*.

Moore, A.D. **Daniel, K.L.**, & Thomas, A.K. (Under Review). Engaging students with ADHD through a nature hike. *Submitted to American Journal of Undergraduate Research*.

Mraz, J.A., Mishra, C., **Daniel, K.L.**, Boyce, C.J., Ali, L., & Clase, K.L. (Under Review). Student identities in authentic undergraduate research experience laboratory courses. *Submitted to Research in Science Education.*

Thomas, A.K. & **Daniel, K.L.** (Under Review). Using mobile technology as a hook to engage students in the process of science in a nature setting. *Submitted to Southeastern Naturalist.*

**Daniel, K.L.** & Mishra, C. (Under Review). Student outcomes from participating in an international STEM service-learning course. *Submitted to Sage Open.*

Boyce, C.J., Mead, L., Jenkins, K., **Daniel, K.L.**, & Baum, D. (Under Review). Assessing individual elements of representational competence through a tree-thinking diagnostic test. In K.L. Daniel (Ed.) *Towards a Framework for Representational Competence in Science Education.* Dordrecht, The Netherlands: Springer.

**b. Works “in progress”**

**Daniel, K.L.**, Boyce, C.J., Ha, S.J., & Clase, K.L. (In preparation). Improving students’ representational competence through a course-based undergraduate research experience. *To be submitted to CBE-Life Science Education.*

Boyce, C.J., & **Daniel, K.L.** (In preparation). Changes in students’ phylogenetic tree-reading: A quasi-experimental design study. *To be submitted for the Proceedings of the Annual Meeting of NARST: A Worldwide Organization for Improving Science Teaching and Learning through Research.*

Bucklin, C.J., **Daniel, K.L.**, Mead, L., Jenkins, K. & Baum, D. (In preparation). Assessing changes in tree-thinking using a valid and reliable approach. *To be submitted to Evolution: Education and Outreach.*

**Daniel, K.L.**, Thomas, A.K., St. Clair, A., & Bucklin, C.J. (In preparation). Identifying the roles of attention participation frames in an informal nature experience.

**Daniel, K.L.** & Bucklin, C.J. (In preparation). Insights into how students think about evolution through a word association task.

Mishra, C., **Daniel, K.L.**, & Clase, K.L. (In preparation). Exploring how the use of authentic lab activities and reflexive practices impacts students’ identities, interests and motivation.

Mishra, C., **Daniel, K.L.**, & Clase, K.L. (In preparation). Investigating the impacts of reflexivity on STEM student identity, interest, and motivation.

Mishra, C., Bucklin, C.J., Mraz, J.M., **Daniel, K.L.**, Clase, K.L. (In preparation). How college students view the nature of scientific research.

**Daniel, K.L.**, St. Clair, A., & Thomas, A.K. (In preparation). How hike leaders use mobile technology to support engagement and learning.

**Daniel, K.L.**, St. Clair, A., & Thomas, A.K. (In preparation). Naturalist perspectives on using a mobile technology tool to supplement outdoor activities.

Mraz, J.M., **Daniel, K.L.**, & Thomas, A.K. (In preparation). Understanding the role of and relationships among aspiring naturalist identities, motivation, and STEM career aspirations.

Clase, K.L. & **Daniel, K.L.** (In preparation). Using student generated representations to measure systems thinking.

**C. Grants and Contracts (Total: \$430,794.91 Funded; \$2,982,681.24 Pending)**

**1. Funded External Grants and Contracts:**

National Science Foundation, Informal Science Education. (September 2012-August 2015). *Over, Under and Through: Students Informally Discover the Environment (OUTSIDE)*. Principle Investigator: **Halverson, K.L.**, Subcontractor: Thomas, A.K. (**\$250,001 USM**).

National Science Foundation, Course, Curriculum, and Laboratory Improvement. (January 2009-December 2013). *Show-me the Evolution! Assessing Effectiveness of a New Teaching Resource*. PI: Smith, K., Co-PI: Jenkins, K., Consultant: **Halverson, K.L.** (**\$150,000 Duke + \$2500 USM Consultant + \$3072 USM Graduate Student = Total \$150,000 Duke**).

Howard Hughes Medical Institute. (April 2013). *Understanding how student thinking changes when provided instruction in an authentic research environment within a systems biology project*. PI: Clase, K.L.; Co-PI: **Halverson, K.L.** (**\$3850 Purdue**).

Learn and Serve America: Mississippi Service Learning Program, Service Learning Higher Education STEM Project. (August 2011-July 2012). *Service Learning Irish Biology Field Experience*. Principle Investigator: **Halverson, K.L.** (**\$5,000 Funds + \$5,406 Cost Share = \$10,409 Total USM**).

*Sigma Xi Delegate Grant Program*. (November 2011). Sigma Xi international scientific research society covers travel expenses to attend the annual meeting as a voting delegate. (**\$1150 USM**).

National Science Foundation, Gordon Research Conference Visionary Grant. (October 2009-August 2010). *Constructing an immersive and interactive virtual experience for biology students linking Second-Life and the Gene-to-Protein Viewer*. Principle Investigator: Clase, K.L.; Co-PIs: **Halverson, K.L.** & Heyden, R. (**\$3700 USM, \$2300 Purdue = \$6000 Total**).

**2. Submitted, but not Funded, External Grants and Contracts:**

National Science Foundation, Advancing Informal Science Learning (2015). *Collaborative Research: Gauging Enhancements from Training and Technology use in OUTSIDE (GET<sup>2</sup> OUTSIDE)*. PI: **Daniel, K.L.** (TX State), Co-PI: Thomas, A.K. (Loyola, New Orleans) (\$2,583,986 TX State, \$390,696 Loyola = \$2,974,682 Total). **PENDING**.

National Science Foundation, Advancing Informal Science Learning (2014). *Collaborative Research: Gauging Enhancements from Training and Technology use in OUTSIDE (GET<sup>2</sup> OUTSIDE)*. PI: **Halverson, K.L.** (USM), Co-PI: Thomas, A.K. (Loyola, New Orleans), Co-PI: To, Y. (\$1,997,468 USM, \$989,364 Loyola = \$2,986,832 Total).

National Science Foundation, Advancing Informal Science Learning (2014). *Collaborative Research: Generating Engagement with Technology through OUTSIDE (GET OUTSIDE)*. PI:

**Halverson, K.L.** (USM) PI: Thomas, A.K. (Loyola, New Orleans) Co-PI: Gearity, B. (\$1,998,663 USM, \$1,001,185 Loyola = \$2,999,848 Total).

National Science Foundation. Improving Undergraduate STEM Education (2014). *Exploring the Development of Student Identity Through Biology Course Experiences*. PI: Clase, K.L. (Purdue) Consultant: **Halverson, K.L.** (USM) (\$696,577 Purdue).

National Science Foundation, Discovery Research K-12 (2013). *Collaborative Research: Integrating Quantitative Literacy into Biology through Teacher Professional Development*. PI: Clase, K.L. (Purdue) **PI Halverson, K.L.** (USM) Co-PI: Kirkham, L. & Parker, L.C. (\$39,999 USM, \$407,800 Purdue = \$447,799 Total).

NASA Solicitation and Proposal Integrated Review and Evaluation System (NSPIRES). (2013). *Let's Learn While Having Fun at INFINITY*. PI: Herron, S. Co-PIs: Brown, S., Buchanan, R., **Halverson, K.L.**, Kar, B., Sirola, C., Stephen, J., Graben, J. (\$868,258.00 USM).

National Science Foundation, Experimental Program to Stimulate Competitive Research (EPSCoR) Research Infrastructure Improvement (RII-Track1) Program. (2012). *Advancing Basic and Applied Research through Genomics*. PI: Peterson, D.G., Co-PI: Elasri, M.O., Isokephi, R., Marquart, M.E., Williams, L., Lawrence, M.L., Hoeksema, J., Nannapaneni, R., Noonan, B., Counterman, B., **Halverson, K.L.**, Perkins, A. (~20Mil) *Preproposal*.

NASA Space Grant: STEM Education (2012). *Improving Retention and Success of Unprepared Introductory Biology Students*. PI: **Halverson, K.L.** (\$500,000 USM pre-proposal).

National Science Foundation, Ethics Education in Science & Engineering. (2012). *Sophrosync: An Ethics Education Project for the Sciences*. Principle Investigator: Herron, S.S.; Co-PI: Bruton, S.V., and **Halverson, K.L.** (\$299,993 USM).

National Science Foundation, Transforming Undergraduate Education in Science, Mathematics, and Technology Education (2012). *Using Tree Thinking to Reform Education in Evolutionary Science (Using TREES)*. Principle Investigator: **Halverson, K.L.** (\$192,972 USM).

NCAA Research Committee: Graduate Student Research Grant Program. (2012). *Exploring Effective Student-Athlete Time Management Strategies to Maximize Academic Success*. Graduate Student Investigator: Boyce, C.; Faculty Research Advisors: **Halverson, K.L.**, & Gearity, B. (\$7,500 USM).

Spencer Foundation. (2011). Nursing Students Obstacles with Science (Nursing SOS). Principle Investigator: **Halverson, K.L.** (\$39,723 USM).

National Science Foundation, Informal Science Education (2010). *Over, Under and Through, Students Informally Discover the Environment (OUTSIDE)*. Principle Investigator: Thomas, A.; Co-PI: **Halverson, K.L.** (\$2,925,608 USM).

National Science Foundation, Transforming Undergraduate Education in Science, Technology, Engineering, and Mathematics (TUES) (2010). *Investigating the Role of Representations in Introductory Biology to Optimize Science Education*. Principle Investigator: **Halverson, K.L.** (\$199,340 USM).

National Science Foundation, Transforming Undergraduate Education in Science, Technology, Engineering, and Mathematics (TUES) (2010). *Collaborative Research: TUES Phase I: An experimental model for integrating virtual learning into interdisciplinary biology education* (#1044050). Principle Investigator: Clase, K.L.; Co-PI: **Halverson, K.L.** (\$23,989 USM, \$176,000 Purdue = \$199,989 Total).

Howard Hughes Medical Institute Undergraduate Science Education – Educational Experiment. (2009). *Using visual representations to enhance undergraduate learning in the life sciences*. Program Director: Moore, F.; Key Faculty: **Halverson, K.L.**, Freyermuth, S., & Lee, A. (\$491,600 USM).

Howard Hughes Medical Institute Undergraduate Science Education – Core Project (2009). *Integrated engagement in the life sciences*. Program Director: Moore, F.; Key Faculty: Herron, S., Shearer, G., Biesiot, P., Lee, A., & **Halverson, K.L.** (\$1,692,952 USM).

National Science Foundation, Gordon Research Conference Visionary Grant. (2009). *Developing and evaluating interactive visualization tools for supporting undergraduate understanding of phylogenetic trees*. Principle Investigator: **Halverson, K.L.** (\$6000 MU).

### **3. Funded Internal Grants and Contracts:**

Texas State University, Research Enhancement Program (January 2016-May 2017). *Impacts of Visualization Interactions on Student Tree-Thinking Outcomes*. PI: **Daniel, K.L. (\$8000)**.

Texas State University. (September 2015). Alkek University Library Faculty Startup Funds to Support New Faculty Research by Enhancing the Library's Collections in the New Faculty Areas of Specialization. Requestor: **Daniel, K.L. (\$1404.61 for Eight Book Series)**.

University of Southern Mississippi Grants Proposal Develop Program. (February 2013-February 2014). *Assessing the impact of a VWE educational intervention on college student learning and engagement*. PI: **Halverson, K.L. (\$2000)**.

Richard Wallace Research Incentive Grant, University of Missouri. (August 2008-July 2009). *Improving Phylogenetic Thinking in Biology Undergraduates*. Principle Investigator: Pires, J. C. Investigator: **Halverson, K.L. (\$4000)**.

*Learning Teaching and Curriculum Travel Grant*, University of Missouri, 2006 (**\$250**), 2007 (**\$250**), 2008 (**\$300**). The Department of Learning Teaching and Curriculum annually supports professional development to present research.

*Organization Research Group (ORG) Travel Budget Funding* 2007 (**\$603.86**). ORG supports student associations at the University of Missouri send members to professional conferences to present research.

*Graduate Student Association Travel Grant*, 2007 (**\$50**), 2008 (**\$110**). This association at the University of Missouri selectively supports graduate students' pursuits toward professional development and dissemination of research.

*Graduate Professional Council Travel Grant*, 2007 (**\$366.44**), 2008 (**\$50**). This association at the University of Missouri selectively supports graduate students' dissemination of research.

**4. Submitted, but not Funded, Internal Grants and Contracts:**

University of Southern Mississippi Summer Grant of Improvement of Instruction (2012).  
*Helping Unprepared Students Succeed in Introductory Biology*. PI: **Halverson, K.L.** (\$2000).

Student eResearch Fellowship Program, University of Missouri (2008). *Developing phylogenetic thinking in biology undergraduates by using online supports*. Investigator: **Halverson, K.L.** (\$2000).

**D. Fellowships, Awards, Honors:**

Finalist for *Outstanding Doctoral Dissertation Award*. National Association of Research in Science Teaching. 2010.

Nominated for *Distinguished Doctoral Dissertation Award*. University of Missouri. 2010.

*Graduate Research Assistant of the Year Award*, Southwestern Bell Science Education Center, University of Missouri, 2009. Each year, the Science Education Center faculty at the University of Missouri select one graduate research assistant who has demonstrated outstanding research productivity for this award.

*Ruth E. Norris Scholarship*, University of Missouri, Academic Year 2006-2007. Each year the college of education awards one graduate student with an exemplary academic and research record an annual scholarship to support future research endeavors.

**IV. SERVICE**

**A. Institutional**

**1. University:**

*USM*

- 2014 – 2015 International Exchange Program Committee
- 2013 – 2015 Service-Learning Advisory Board
- 2011 – 2013 McNair Scholar Advisor (Donaven McLaurin)
- 2010 – 2012 Roots and Shoots, Faculty Co-Advisor

*MU*

- 2007 – 2008 Representative, Graduate Student Association

*ISU*

- 2004 – 2005 Honors and Awards Committee

**2. College:**

*TX State*

- 2015 Faculty Chair, Seventh International Research Conference for Graduate Students

*USM – College of Science and Technology*

- 2009 College Science Teaching Conversations Seminar Series, Organizer

*MU – College of Education*

- 2007 – 2008 Conversations about College Science Teaching Organizing Committee

**3. Department/School:**

*TX State – Department of Biology*

- 2015 – Current Faculty Co-Advisor Beta Beta Beta

*USM – Department of Biological Sciences*

- 2011 – 2015 Assessment Committee
- 2010 – 2015 Textbook Committee
- 2014 Marine Biologist Search Committee
- 2010 – 2014 Graduate Admissions Committee
- 2010 – 2011 Biological Sciences Learning Center, Haunted Halloween Trail
- 2010 Department of Biological Sciences Graduate Student Forum, Judge

*University of Southern Mississippi – Center for Science and Mathematics Education*

- 2014 – 2015 Faculty Council, CSME Representative
- 2013 – 2015 CSME Graduate Admissions Committee

*University of Missouri – Department of Learning, Teaching, and Curriculum*

- 2006 – 2009 Learning, Teaching, and Curriculum-Graduate Student Association (President 2007 – 2008)
- 2008 Learning Teaching and Curriculum Departmental Awards Committee
- 2006 – 2008 Science Outreach Coordinator Search Committee

**B. Professional***Review Work*

- 2010 – Current Grant Reviewer, Panelist for Cyberlearning, DRK12, iTEST, REESE, & TUES with the National Science Foundation (*multiple panels 2015*)
- 2013 – 2015 Manuscript Reviewer, *Science Education*
- 2012 – 2015 Manuscript Reviewer, *Evolution, Education, and Outreach*
- 2011 – 2015 Presentation Proposal Reviewer, *National Association of Biology Teachers*
- 2010 – 2015 Manuscript Reviewer, *International Journal of Science Education*
- 2006 – 2015 Presentation Proposals Reviewer, *National Association for Research in Science Teaching*
- 2014 Manuscript Reviewer, *Journal of Geoscience Education*
- 2014 Manuscript Reviewer, *CBE – Life Sciences Education*
- 2013 – 2014 Manuscript Reviewer, *International Journal of Science & Mathematics Education*
- 2011 – 2014 Chapter Reviewer, *Biology for a Changing World*, W.H. Freeman
- 2010 – 2014 Textbook reviewer, Wiley Publisher
- 2011 – 2013 Manuscript Reviewer, *BioScience*
- 2011 – 2013 Textbook reviewer, Oxford University Press
- 2009 – 2013 Manuscript Reviewer, *American Biology Teacher*
- 2011 – 2012 Chapter Reviewer, *Visual Data in Science Education*
- 2007 Manuscript Reviewer, *Ecology*
- 2007 Presentation Proposal Reviewer, *American Educational Research Association*

*International and National*

- 2016 Secretary, Four Year College and University Section, National Association of Biology Teachers
- 2012 – Present AP Biology, Reader
- 2009 – Present Research Committee, National Association of Biology Teachers (co-Chair, 2011 – 2015)
- 2012 Galway Atlantaquaria, National Aquarium of Ireland, Costal Clean-up
- 2012 Wildlife Film School of Ireland, Lissard Estate habitat building project
- 2011 Sigma Xi, Designated (Voting) Delegate for the USM Chapter
- 2010 Non-Majors Biology Summit, Wiley, Phoenix, AZ

2008 – 2010	Presider, Annual meeting of the National Association for Research in Science Teaching
2007 – 2009	National Evolutionary Synthesis Center (NESCent) – Tree Reasoning in Evolutionary Education (TREE) Working Group
2007 – 2009	College and University Student Committee, National Association of Biology Teachers

*Regional and Local*

2010 – 2015	Mississippi Science Olympiad, Event Supervisor (Advisory Board Member 2012-Present)
2010 – 2015	Mississippi Science Fair, Regional Judge (Scientific Review Committee 2012-Present)
2010	Summer Academy, Pentathlon
2006 – 2008	Missouri State Science Olympiad, Event Supervisor

*Memberships*

American Association for the Advancement of Science (AAAS)	Since 2007
American Educational Research Association (AERA)	Since 2007
Association of College and University Biology Educators (ACUBE)	Since 2006
European Science Education Research Association (ESERA)	Since 2012
International Society of the Learning Sciences (ISLS)	Since 2010
Mississippi Academy of Sciences (MAS)	Since 2010
Mississippi Science Teachers Association (MSTA)	Since 2011
National Association of Biology Teachers (NABT)	Since 2006
National Association for Research in Science Teaching (NARST)	Since 2005
National Science Teachers Association (NSTA)	Since 2004
Society for the Advancement of Biology Education Research (SABER)	Since 2013
Society for the Study of Evolution (SSE)	Since 2007
Texas Association of Biology Teachers (TABT)	Since 2015
Pinebelt Young Professionals (PBYP)	2011-12
Sigma Xi	2011-12
Botanical Society of America (BSA)	2007-12
American Society of Plant Taxonomists (ASPT)	2008-10
Society of Systematic Biologists (SSB)	2008-09
Ecological Society of America (ESA)	2007-09

**C. Community**

2015 – Current	Education Advisor, Kappa Alpha Theta: Alpha Theta Chapter
2010 – 2013	Audubon Coastal Bird Survey (Gulfport, MS), Volunteer
2010 – 2013	Southern Pines Animal Shelter
2006 – 2008	Education and Scholarship Advisor, Kappa Alpha Theta: Epsilon Iota

**D. Service Honors and Awards**

*Outstanding Faculty Service Award.* The College of Science and Technology at the University of Southern Mississippi recognizes one faculty member for this award each year that has excelled in (non-administration) professional service. 2012.

**E. Service Grants and Contracts (Total: \$4500 Funded)****1. *Funded External Service Grants and Contract:***

N/A



**2. Submitted, but not Funded, External Service Grants and Contracts:**

Student Leadership: Mississippi Service Learning Program, Service Learning Higher Education STEM Project. (2011). Cleaning up Southern Mississippi. Student Leaders: Boyce, C., Maroo, J., McElyea, K., Bohn, S., Wheat, J. Faculty Liaisons: Herron, S, **Halverson, K.L.**, & Hendry, S. (\$2250 USM).

**3. Funded Internal Service Grants and Contracts:**

*Leadership Grant*, Westminster College, 1998-99 (**\$1500**), 1999-2000 (**\$1500**), 2000-01 (**\$1500**). The college annually recognizes students in the top 10% of their class who have also demonstrated active involvement in leadership events and community service.

**4. Submitted, but not Funded, Internal Service Grants and Contract:**

N/A