**Sara Raven, Ph.D.**

Texas A&M University

Assistant Professor of Science Education

College of Education and Human Development

Department of Teaching, Learning, and Culture

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**EDUCATION**

**University of Georgia,** Athens, GA

 **Ph.D., Science Education**  2013 (Aug)

Dissertation Chairperson: Dr. J. Steve Oliver

Graduate Certificates: *Interdisciplinary Qualitative Studies*

*Women and Gender Studies*

**University of Georgia,** Athens, GA

 **M.A., Science Education**  2010 (Aug)

Thesis Chairperson: Dr. J. Steve Oliver

**University of Georgia,** Athens, GA

 **B.S.Ed., Science Education**  2008 (May)

Certification: Secondary Teaching Licensure

Biology, Chemistry

**RECENT & CURRENT POSITIONS**

**Texas A&M University**, College Station, Texas 2016 (Sep) – Current

Assistant Professor of Science Education

**Kent State University,** Kent, Ohio 2013 (Aug) – 2016 (Aug)

Assistant Professor of Science Education

**Barrow County School District** 2007 (Dec) – 2010 (Aug)

 Science Teacher, grades 9-12

**RESEARCH INTERESTS**

* Preschool and elementary science education
* Equity and diversity in science education
* Feminist epistemologies
* Interdisciplinary qualitative research methods

**RELATED PROFESSIONAL EXPERIENCE**

**Department of Science Education,** University of Georgia, Athens, GA 2010-2013

* Research Assistantships
	+ Research assistant for the project, *Learning Biological Processes through Animations and Inquiry: A New Approach,* funded by the National Institutes of Health – Science Education Partnership Award, Grant # R25 RR025061-03, under the direction of J. Steve Oliver.
	+ Research assistant to assist with PCK assessment item design under the direction of Julie Luft.
	+ Research assistant to create and implement STEM activity sessions for UGA’s Summer STEM Academy under the direction of J. Steve Oliver.
	+ Research assistant funded by the National Science Foundation – Noyce grant, under the direction of J. Steve Oliver.
	+ Research assistant to develop marine science curriculum in collaboration with the Department of Marine Sciences, UGA, under the direction of J. Steve Oliver.
* Teaching Assistantships
	+ Teaching assistant for the graduate-level course History of Science Education for J. Steve Oliver.
	+ Teaching assistant for the undergraduate-level course Secondary Science for Georgia Hodges.
	+ Teaching assistant for the graduate-level course International Science Education for Norman Thompson.

**PUBLICATIONS**

\*Published with students

**Refereed Journal Articles**

1. Esparza, A.M., & **Raven, S.** (Accepted). Mystery critters: Close encounters through observation. *Science and Children.*
2. **Raven, S.** (Accepted). Why does this matter? The value of intersectionality. *Cultural Studies in Science Education.* Impact Factor: 0.437.
3. **Raven, S.**,Cevik, E., & Model, M. (2020). A novel microscopy technique for middle school. *The American Biology Teacher, 82(*7), 463–469*.* Impact factor: 0.318.\*
4. Namdar, B., Aydin, B., & **Raven, S.** (2020). Preservice science teachers’ informal reasoning about hydroelectric power issue: The effect of attitudes towards socio-scientific issues and media literacy. *International Journal of Research in Education and Science*, *6*(4), 551-567.
5. **Raven, S.**, Singleton, J., & Scaramuzzo, P. (2020). Transformative holistic learning experiences through study abroad: Place-based pedagogy with pre-/in-service teachers. *Journal of Transformative Learning*, *7*(1), 41-55.
6. Williams-Duncan, O., & **Raven, S.** (2020). Robots and reading: Trade books and circuit activities enhance science literacy and energy education. *Science & Children, 57*(6), 48-53.
7. **Raven, S**., & Whitman, G. (2019). Science in silence: How educators of the deaf and hard-of-hearing teach science. *Research in Science Education*, *49*(4), 1001-1012.<https://doi.org/10.1007/s11165-019-9847-7>. Impact factor: 1.329.*\**
8. **Raven, S.**, Al Husseini, D., & Cevik, E. (2018). We are engineers! Engineering design activities for preschool. *Science & Children, 56*(1),55-61.\*
9. Oliver, J. S., Hodges, G. W., Moore, J. N., Cohen, A., Jang, Y., Brown, S. A., Kwon, K., Jeong, S., **Raven, S.,** Rogers, W., Jurkiewicz, M., & Robertson, T. P. (2017). Supporting high school student accomplishment of biology content using interactive computer-based curricular case studies. *Research in Science Education,* 1-26. <https://doi.org/10.1007/s11165-017-9675-6>. Impact factor: 1.329.
10. Borgerding, L. A., & **Raven, S.** (2017). Children's ideas about fossils and foundational concepts related to fossils. *Science Education*, *102*(2), 414-439. <https://doi.org/10.1002/sce.21331>. Impact Factor: 2.506.
11. Dever, R. & **Raven, S.** (2017). Intersection of principles: How *This We Believe* and international baccalaureate align. *Middle School Journal, 48*(4), 36-44.
12. **Raven, S.** (2016). Understanding the body: A series of activities designed to teach pre-k children about human anatomy. *Science and Children, 53*(9), 52-57.
13. **Raven, S**., Klein, V., & Namdar, B. (2016). Making critical friends: Using socioscientific issues to teach argumentation and evidence-based reasoning. *The Science Teacher, 83*(2), 23-28.\*
14. **Raven, S.** (2015). Assessing secondary science students' knowledge of molecule movement, concentration gradients, and equilibrium through multiple contexts. *Research in Science and Technological Education, 33*(3), 269-303. Impact factor: 0.513.
15. **Raven, S**. (2015). Outness as pedagogy in teacher education. *Academic Exchange Quarterly, 19*(1), 68-72. Impact Factor: 0.43– ResearchGate.
16. **Raven, S.** (2014). Wanted: The intersection of feminist pedagogy and science education*. International Journal of Gender, Science, and Technology, 6*(2), 243-251.
17. **Raven, S.,** & Jurkiewicz, M. (2014). Preservice secondary science teachers’ experiences and ideas about bullying in science classrooms. *The Science Educator*, *23*(1), 65-72.
18. Linsky, C. L., **Raven, S.**, Jurkiewicz, M., Bloch, L., & Farkas, B. (2011). Using folklore to promote ocean literacy: Four activities that connect ancient legends to ocean literacy principles for those 11-14 years of age. *Green Teacher*, *92*, 38-41.

**Book Chapters**

1. **Raven, S.,** & Wenner, J. (Accepted). Growing wonder, growing crystals: Pedagogical choices in preschool science inquiry. In *Cases in science teaching and learning: Exploring complexities, promises and dilemmas*, D. Tippins & L. Bryan (Eds.).
2. **Raven, S.,** Davis, T. J., & Craig, C. J. (2020). The mentor-mentee faculty relationship: Cases of reciprocal learning and leading. In D. McDonald (Ed.), *Cross-disciplinary, cross-institutional collaboration in teacher education: Cases of learning and leading*. need publisher here.
3. **Raven, S.** (2016). Promoting creativity through writing in science. In J. Dowdy & Y. Gao, (Eds.), *Pump it up: Literacy activities for the classroom* (3-8). Sense Publishers.
4. **Raven, S.** (2015). Outness as pedagogy in teacher education. In Mulvihill, T. M. (Ed.), *Sound Instruction: Gender and Sexuality, volume 8* (19-23)*.* Rapid Intellect Group Inc.
5. **Raven, S.** (2014). Sexuality, gender, and families in the animal kingdom: Lessons from the wild. In K. Cushner & J. Dowdy (Eds.), *From the margins to the mainstream: Enhancing social awareness in the social studies classroom* (81-85).Rowman Littlefield Publishers.

**MANUSCRIPTS SUBMITTED**

**Raven, S.,** Wenner, J., & Baldwin, K. (2020). Science at the center: A preschool science framework. *Journal of Research in Science Teaching.* Impact Factor: 3.87.

**SELECTED MANUSCRIPTS IN PROGRESS**

**Raven, S.,** & Pedersen, B. Results from the CREST project: Community research and engagement in STEM teaching. *Journal of Science Teacher Education.*

**Raven, S.,** Sabat, I., Scaramuzzo, P., & Kostecki, T. LGBT teachers and disclosure.

**RESEARCH PRESENTATIONS**

**Invited Presentations**

Science in Silence: Science education for deaf and hard-of-hearing students. (March, 2018). Invited presentation for the University of Georgia, Department of Mathematics and Science Education.

Silent science: Science education for deaf and hard-of-hearing students. (February, 2017). Invited presentation for the National Technical Institute for the Deaf at the Rochester Institute of Technology.

**International and National Refereed Presentations**

1. Craig, C., McDonald, D… **Raven, S**. (Accepted). *Collective and collaborative understanding of leadership within a knowledge community.* Round Table session at the American Educational Research Association Annual Conference, Virtual Conference.
2. Wenner, J.A., **Raven, S.**, & Baldwin. K.(Accepted). *Science at the center: A preschool science lesson for teacher educators.* [Paper] Association of Science Teacher Education Annual Conference, Salt Lake City, UT.
3. Scaramuzzo, P., Singleton, J., & **Raven, S.** (2020). *Texas pre-Service teachers in Costa Rica: Holistic impact of international study abroad experiences on future educators*. [Paper] American Educational Research Association Annual Conference, San Francisco, CA. (Conference cancelled).\*
4. **Raven, S.,** & Cevik, E. (2020). *Assessing the effectiveness of a novel microscopy technique in middle school science classrooms*. [Paper] NARST Annual Conference, Portland, OR. (Conference cancelled).\*
5. **Raven, S.,** & Whitman, G. (2020). *Science in silence: How educators of the deaf and hard-of-hearing teach science.* Association of Science Teacher Education Annual Conference, San Antonio, TX.\*
6. Scaramuzzo, P., Singleton, J., & **Raven, S.** (April, 2019). *Transformative holistic learning experiences through study abroad: Placed-based pedagogy with pre/in-service teachers.* [Paper] American Educational Research Association Annual Conference, Toronto, Canada.\*
7. Namdar, B., **Raven, S.,** Mansen, N., & Burks, C. (April, 2019). *Modeling in teacher education: A review of relevant research from 1999-2016*. [Paper] NARST Annual Conference, Baltimore, MD.\*
8. Raven, S., & Whitman, G. (March, 2018). *Science in silence: How educators of the deaf and hard-of-hearing teach science.* [Paper] NARST, Atlanta, GA.\*
9. Namdar, B., Aydin, B., & **Raven, S.** (March, 2018). *The effect of attitudes and media literacy on preservice science teachers’ informal reasoning about hydroelectric power*. [Paper] NARST, Atlanta, GA.
10. Borgerding, L., & **Raven, S.** (August, 2017). *Children’s ideas about fossils and foundational concepts related to fossils*. [Paper] European Science Education Research Association, Dublin, Ireland.
11. **Raven, S.,** & Borgerding, L. (August, 2017). *Preschool students’ conceptions of human anatomy and physiology*. [Paper] European Science Education Research Association, Dublin, Ireland.
12. Mooney, E., Klein, V., **Raven, S.,** & Namdar, B. (April, 2017*). Mother nature does not allow for a comfortable death: Argumentation, critical friends, and socioscientific issues*. [Paper] American Educational Research Association, San Antonio, TX.\*
13. McDonald, D. M., Kahn, M., Craig, C., **Raven, S**., Crawford, C., Kiekel, J., Divoll, K., & Christol, P. (April, 2017). *Academia being “Trump”ed by corporatized organizational models*. Session presented at the Invisible College, San Antonio, TX.
14. Namdar, B., Klein, V., & **Raven, S.** (January, 2017). *Preservice science teachers on animal encroachment: Critical friend pairs and socioscientific arguments*. [Paper] Association for Science Teacher Education, Des Moines, IA.
15. **Raven, S.,** Kritzer, K., & Whitman, G. (November, 2016). *Science for deaf and hard-of-hearing students: A call to action*. [Paper] American Educational Studies Association, Seattle, WA.\*
16. Dever, R., & **Raven, S.** (October, 2016). *Integrating IB and AMLE principles*. [Paper] Association for Middle Level Education’s Symposium on Middle Level Teacher Education, Austin, TX.
17. Borgerding, L., & **Raven, S.** (April, 2016). *Children's ideas about fossils*. [Paper] NARST, Baltimore, MD.
18. **Raven, S.,** Kritzer, K. L., Rathburn, E, & Frash, A. (February, 2016). *The state of science education for deaf and hard-of-hearing students.* [Paper] Association for College Educators of Deaf and Hard-of-Hearing, New York City, NY.\*
19. **Raven, S.,** & Borgerding, L. (January, 2016). *Multicultural competency and awareness in preservice science teacher education: A tale of two cohorts*. [Paper] Association for Science Teacher Education, Reno, NV.
20. **Raven, S.** (November, 2015). *Outness as pedagogy in teacher education*. [Paper] American Educational Studies Association, San Antonio, TX.
21. **Raven, S.,** & Borgerding, L. (November, 2015). *Multicultural competency, awareness, and acceptance: Preparing preservice secondary science teachers for diversity in schools*. [Paper] American Educational Studies Association, San Antonio, TX.
22. **Raven, S.,** & Borgerding, L. (April, 2015*). Preservice science teachers’ multicultural understandings.* [Paper] NARST, Chicago, IL.
23. Klein, V., **Raven, S.,** & Namdar, B. (January, 2015). *Critical friends as a tool for evidence evaluation and argumentation on socioscientific issues*. [Paper] Association for Science Teacher Education, Portland, OR.\*
24. **Raven, S.,** Jurkiewicz, M., & Beutel, B. (October, 2014). *Bullying in K-12 science classrooms.* [Paper] American Educational Studies Association, Toronto, Canada.
25. **Raven, S.,** Namdar, B., & Klein, V. (October, 2014). *Critical friends as a tool for evidence evaluation and argumentation on socioscientific issues*. [Poster] American Educational Studies Association, Toronto, Canada.\*
26. Klein, V., & **Raven, S.** (October, 2014). *Using technology to explore preliterate children’s experiences of nature.* [Paper] North American Association for Environmental Education, Ottowa, Canada.\*
27. **Raven, S.** (May, 2014). *A cognitive/metacognitive coding model for the concurrent think-aloud protocol*. [Paper] International Congress of Qualitative Inquiry, Urbana-Champaign, IL.
28. **Raven, S.,** & Kittleson, J. (March, 2014). *Secondary science students' knowledge of molecule movement, concentration gradients, and equilibrium through multiple learning contexts*. [Paper] NARST, Pittsburgh, PA.
29. Hodges, G.W., Oliver, J. S., Kwon, K., **Raven, S.,** Rogers, W. F., Jurkiewicz, M., Cohen, A. S., Jang, Y., Moore, J. N., & Robertson, T. P. (March, 2014). *High school student accomplishment of cellular biology content using 3-d computer based modules*. [Paper] NARST, Pittsburgh, PA.
30. Hodges, G. W., Oliver, J. S., Rogers, W., Kwon, K., **Raven, S.,** Jurkiewicz, M., & Dubois, S. (January, 2014). *A longitudinal study of teaching the cell unit in introductory high school biology.* [Paper] Association for Science Teacher Education, San Antonio, TX.
31. Luft, J. A., **Raven, S.,** Hill, K., & Weeks, C. B. (September, 2013). *Content knowledge for teaching science: Capturing an elusive construct*. [Paper] European Science Education Research Association, Nicosia, Cyprus.
32. Luft, J. A., Weeks, C. B., Hill, K., & **Raven, S.** (April, 2013). *Science teacher knowledge: The impact of in and out-of-field instruction.* [Paper] American Educational Research Association, San Francisco, CA.
33. Luft, J. A., Hill, K., Weeks, C. B., & **Raven. S.** (April, 2013). *The knowledge needed for teaching science: A study of in- and out-of-field science teachers.* [Paper] National Association for Research in Science Teaching, Puerto Rico.
34. Hodges, G. W., Oliver, J. S., Robertson, T. P., Cohen, A. S., Kwon, K., Rogers, W. F., Jurkiewicz, M., Jang, Y., Moore, J. N., & **Raven, S.** (January, 2013). *The implementation and evaluation of technology-based learning experiences: Leveraging technology to individualize learning experiences*. [Paper] Association for Science Teacher Education, Charleston, SC.
35. Jurkiewicz, M., & **Raven, S.** (January, 2013). *Preservice secondary science teachers’ conceptions of bullying in relation to their roles as science teachers*. [Paper] Association for Science Teacher Education, Charleston, SC.
36. **Raven, S.** (September, 2012). *Women’s studies and science education: A student perspective and vision.* [Paper] Society for Educating Women Conference 2012-(Re)Voicing the Lexicon of Educating Women: On Contemporary Feminist Pedagogy, St. Louis, MO.
37. Hodges, G. W., Oliver, J. S., Kwon, K., Cohen, A., Wimpey, B. J., Robertson, T., Moore, J., Jackson, J., **Raven, S.,** & Dubois, S. (March, 2012). *Evaluating the assessment of student learning related to novel instructional materials*. [Paper] National Association for Research in Science Teaching, Indianapolis, IN.

**Regional Refereed Presentations**

Cevik, E., Whitfield, J., Yalvac, B., & **Raven, S.** (February, 2019). *Middle school students’ perceptions of engineers and engineering in an engineering-design summer camp*. [Paper] Southwest Educational Research Association, San Antonio, TX.\*

**Raven, S.**, Al Husseini, D., & Cevik, E. (February, 2018*). Preschool children’s perceptions of engineering.* [Paper] Southwest Educational Research Association, New Orleans, LA.\*

**Raven, S.,** & Wenner, J. A. (October, 2012). *Alternative forms of data analysis and representation in science education research*. [Paper] Southeastern Association for Science Teacher Education, Macon, GA.\*

**Raven, S.** (October, 2012). *Preservice secondary science teachers’ professional identities and knowledge for teaching*. [Paper] Southeastern Association for Science Teacher Education, Macon, GA.\*

**Raven, S.,** & Jurkiewicz, M. (October, 2011). *Examining privilege in pre-service science teacher education.* [Paper] Southeastern Association for Science Teacher Education, Athens, GA.\*

Wenner, J., & **Raven, S.** (October, 2011). *Science education graduate students wanted: AGSSEPTing new members now.* [Paper] Southeastern Association for Science Teacher Education, Athens, GA.\*

**State Refereed Presentations**

**Raven, S**., Baldwin, K., & Wenner, J. (November, 2020). *Science at the center: A preschool science framework*. Experiential session presented at the Science Teachers Association of Texas Conference, Virtual Conference.

Cevik, E., Al Aqra, M., Amin, S., Yalvac, B., & **Raven, S**. (November, 2019). *Forget superheroes, I want to be a scientist!* Experiential session presented at the Science Teachers Association of Texas Conference, San Antonio, TX.\*

**Raven, S.,** Al Husseini, D., & Cevik, E. (November, 2018). *We are engineers! Engineering design activities for preschool*. Experiential session presented at the Science Teachers Association of Texas Conference, Dallas, TX.\*

**Raven, S.,** Todt, M., Monarchino, A., Trautmann, E., & Mruk, C. (January, 2016). *Integrating ELA and social studies into science.* Experiential session presented at the Science Education Council of Ohio 2016 conference, Columbus, OH.\*

**Raven, S.,** Ackerman, D., Barry, S., Evans, M., & Sandvick, S. (January, 2015). *Water testing as a holistic connection to environmental science topics.* Experiential session presented at the Science Education Council of Ohio 2015 conference, Columbus, OH.\*

**Raven, S.,** Harris, R., Marshall, J., Miday, O., & Morgason, K. (January, 2015). *Enzymes and catalysts*. Experiential session presented at the Science Education Council of Ohio 2015 conference, Columbus, OH.\*

**Raven, S.,** Phan, J., Juengel, E., Ansell, J., Preston, G., Remenaric, T., Sasfy, T., & Vober, J. (January, 2014). *Water cleanup and filtration: Inquiry activities*. Experiential session presented at the Science Education Council of Ohio 2014 conference, Columbus, OH.\*

**Raven, S.** (February, 2010). *Web 2.0 tools in alternative education*. Paper presented at the Georgia Association for Alternative Education Conference, Macon, GA.\*

**Local Presentations**

**Raven, S.** (April, 2013). *Student cognition and metacognition: The use of curricular modules that feature computer animations of biological processes in the secondary science classroom.* [Paper] University of Georgia 2013 Graduate Students Interdisciplinary Research Conference, Athens, GA.

**Raven, S.** (April, 2013). *Bullying in the secondary science classroom: Preservice teachers’ thoughts on content, roles, and responsibility.* [Paper] University of Georgia 2013 Graduate Students Interdisciplinary Research Conference, Athens, GA.

**Raven, S.** (March, 2013). *Women’s studies and science education: A student perspective and vision.* [Paper] 20th Annual Women’s Studies Student Research Symposium, Athens, GA.\*

**Pre-Conference Workshops**

Equity and Ethics Committee: School, Community, Citizenship: Science Education Across Places and Contexts. Organized by **Raven, S.,** Danielle, D., Rivera, S., Mark, S. Preconference workshop conducted for the Equity and Ethics Committee of NARST. Portland, OR, April 2020. (Conference cancelled).

Equity and Ethics Committee: Creating and sustaining collective activism through science education research Organized by Bancroft, S., **Raven, S.,** Azam, S., Mark, S., Henley, J., and Danielle, D. Preconference workshop conducted for the Equity and Ethics Committee of NARST. Baltimore, MD, March 2019.

Equity and Ethics Committee: Re-Centering on scientific literacy in an era of science mistrust and misunderstanding. Organized by Bancroft, S., Azam, S., Choi, S., Saribas, D., Boda, P., Mark, S., **Raven, S.,** and Ramos, L. Preconference workshop conducted for the Equity and Ethics Committee of NARST. Atlanta, GA, March 2018.

**GRANT ACTIVITIES – TEXAS A&M UNIVERSITY**

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**External Funding**

1. **Funded**

Hammond, T., **Raven, S.,** Stepanova, A., & Belanger, C. (12/31/19-12/31/22). EXP: FossilSketch, a new educational software application for teaching micropaleontology (Foraminifera and Ostracoda). Proposal funded by the National Science Foundation (NSF) IUSE. Amount Awarded: $300,000. **Co-PI**.

1. **Under Review**

**Raven, S.**, Sabat, I., Scaramuzzo, P., & Kostecki, T., & Jennings, K. *LGBTQ+ Teacher Disclosure: Impact of Visibility in K12 Education.* Proposal submitted to the Lyle-Spencer Foundation. Amount Requested: $49,634. **PI.**

1. **Unfunded**

Craig, C., **Raven, S**., & Davis, T. (2019). *Culturally Responsive Instructional STEAM Program (CRISP)*. Proposal submitted to the National Science Foundation (NSF) Improving Undergraduate STEM Education (IUSE: EHR) program. Amount Requested: $300,000. **Co-PI**.

Rao, A., Versaw, W., McKnight, T., & **Raven, S.** (2019). *Biological Science Transition and Retention (BioSTAR) Program*. Proposal submitted to the National Science Foundation (NSF) S-STEM. Amount Requested: $999,996. **Co-PI**.

**Raven, S.**, Sabat, I., Slattery, P., Jennings, K., Scaramuzzo, P., & Kostecki, A. (2019). *LGBTQ+ Teacher Disclosure: Impact of Visibility in K12 Education.* Proposal submitted to the Lyle-Spencer Foundation. Amount Requested: $49,514. **PI.**

Quek, F., Chu, S., Schlegal, R., **Raven, S.**, & Webb-Hasan, G. (2018). *Making the Maker: Toward Sustainable Making-Based Learning in the Public School Classroom.* Proposal submitted to the National Science Foundation (NSF) ITEST SPREAD. Amount Requested: $2,000,000. **Co-PI**.

**Raven, S.** (2018). CAREER: Engaging Deaf and Hard-of-Hearing Children in Authentic Science: An Emergent Integrated Model for Research and Teaching. Proposal submitted to the National Science Foundation (NSF) CAREER – DRK-12 program. Amount Requested: $722,042. **PI.**

Quek, F., Schlegal, R., **Raven, S.**, & Smith, S. (2018). *Collaborative Research: Scientific and Computational Thinking Through Cyber-Physical Models in the 5th and 6th Grades*. Proposal submitted to the National Science Foundation (NSF) STEM + Computing Partnerships (STEM+C). Amount Requested: $1,663,962. **Co-PI**.

**Raven, S.,** & Sabat, I. (2018). *LGBT Educators in K-12 Schools: The Impact of Visibility.* Proposal submitted to the American Psychological Foundation (APF) Wayne F. Placek Grant Program. Amount Requested: $10,000. **PI.**

Craig, C., **Raven, S**., & Davis, T. (2017). *An Examination of the Challenges and Supports of Induction-Year Middle and High School STEM Teachers*. Proposal submitted to the National Science Foundation (NSF) Discovery Research Pre-K-12 Program (DRK-12). Amount Requested: $450,000. **Co-PI**.

Quek, F., Chu, S., Schlegal, R., **Raven, S.**, Irby, B., & Natarajarathinam, M. (2017). *National Center for Advancement of Rural Education through Hands-On Technology-based Learning (CARE HoTLearning).* Proposal submitted to the Institute of Education Sciences (IES). Amount Requested: $9,999,999. **Co-PI.**

Hwaryoung Seo, J., Pine, M., **Raven, S.,** & Liew, J. (2017). *Arts in Education: Developing an Interactive Art Program to Cultivate Creative Habits for Elementary Life Science Education.* Proposal submitted to the Institute of Education Sciences (IES). Amount Requested: $956,451. **Co-PI.**

Craig, C., Webb-Hasan, G., James, M., Hill-Jackson, V., & **Raven, S.** (2017). *Addressing Critical Junctures in Teaching and Teacher Education: The USTAR+ Program.* Proposal submitted to the Department of Education (DoE). Amount Requested: $2,346,084. **Co-Investigator**.

Quek, F., Chu, S., Schlegal, R., **Raven, S.**, & Webb-Hasan, G. (2017). *Making the Maker: Toward Sustainable Making-Based Learning in the Public School Classroom.* Proposal submitted to the National Science Foundation (NSF) ITEST SPREAD. Amount Requested: $2,000,000. **Co-PI**.

Quek, F., Chu, S., **Raven, S.**, & Smith, S. (2017). *EI: Supporting Science Model Thinking Through Computationally-Based Making in the 5th and 6th Grades.* Proposal submitted to the National Science Foundation (NSF) STEM + Computing Partnerships (STEM+C). Amount Requested: $1,250,000. **Co-PI**.

Craig, C., **Raven, S**., & Davis, T. (2016). *Teaching STEM in Urban, Secondary Schools: Challenges and Support During the Induction Years*. Proposal submitted to the National Science Foundation (NSF) Discovery Research Pre-K-12 Program (DRK-12). Amount Requested: $450,000. **Co-PI**.

**Internal**

1. **Funded**

**Raven, S**. (2019).TAMU College of Education and Human Development’s 2019-20 Montague-CTE Scholar. Amount Granted: $6,500 over 3 years. October 2019 – August 2022.

**Raven, S**. (2018).TAMU College of Education & Human Development, Faculty Fellowship for STEM Education and Innovation. Amount Granted: $4,000/year over 3 years. November 2018 – August 2022.

Zoghi, B., Craig, C., & **Raven, S.** (2018). *Emotional Intelligence and its Impact on Identity Formation of Engineering Graduate Students.* Texas A&M University, Triads for Transformation. Amount Granted: $30,000. **Co-PI,** January 2019 – August 2020.

**Raven, S**. (2017). *The CREST Project: Undergraduate Student Research Assistant**.* TAMU College of Education & Human Development, Undergraduate Student Research Initiative. Amount Granted: $3,200. **PI,** September 2017 – May 2018.

**Raven, S**., Craig, C., Davis, T., & Hill-Jackson, V. (2016). *The CREST Project: Community Research through Engagement in STEM Teaching.* TAMU College of Education & Human Development, Catapult Grant. Amount Granted: $30,000. **PI,** December 2016 – December 2018.

**Raven, S**., Craig, C., Davis, T., & Hill-Jackson, V. (2016). *The CREST Project: Community Research through Engagement in STEM Teaching.* TAMU Department of Teaching, Learning, & Culture, Reinvestment Fund. Amount Granted: $34,700. **PI,** December 2016 – May 2018.

Davis, T., Howe, R., Li, Y., Matsuda, N., **Raven, S.**, & Waxman, H. (2016). *Minding the Gap: STEM Opportunity, Choice, & Achievement in Texas High Schools.* TAMU Department of Teaching, Learning, & Culture, Reinvestment Fund. Amount Granted: $65,000. **Co-PI,** December 2016 – May 2018.

1. **Unfunded**

Craig, C., **Raven, S.,** & Davis, T. (2017). *Examination of the challenges and support of induction-year secondary STEM teachers.* TAMU College of Education & Human Development, Catapult Grant. Amount Requested: $30,000. **Co-PI.**

Slattery, P., **Raven, S.,** & Liew, J. (2017). *LGBT educators in K-12 schools: The impact of visibility.* TAMU College of Education & Human Development, Catapult Grant. Amount Requested: $29,917. **Co-PI.**

**Raven, S.,** Natarajarathinam, M., & Liew, J. (2016). *Assessing Gaps and Needs in Engineering Curriculum for ELL Students in Elementary Grades.* Texas A&M University, Program to Enhance Scholarly and Creative Activities (PESCA). Amount Requested: 24,973. **PI.**

James, M., Hill-Jackson, V., & **Raven, S.** (2016). *Urban Student Teacher’s Advanced Residency (U-STAR3) Project.* TAMU Department of Teaching, Learning, & Culture, Reinvestment Fund. Amount Requested: $61,680. **Co-PI.**

Craig, C., **Raven, S.**, & Davis, T. (2016). *Examination of the Challenges and Support of Induction-Year Middle and High School Teacher Experiences.* TAMU Department of Teaching, Learning, & Culture, Reinvestment Fund. Amount Requested: $20,757. **Co-PI.**

**GRANT ACTIVITIES – KENT STATE UNIVERSITY**

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**External**

1. **Funded**

**Raven, S.** & Model, M. (2016). *Assessing the Effectiveness of a Novel Microscopy Technique in Middle and High School Science Classrooms.* Sisler McFawn Foundation. Amount Granted: $12,500. **PI,** January 2016 – August 2016.

**Raven, S.** (2016). *Supporting Science Instruction for Deaf Students.* American Society for Biochemistry and Molecular Biology, HOPES Program. Amount Granted: $1,959. **PI**, January 2016 – August 2016.

1. **Unfunded**

Gandolfi, E., & **Raven, S.** (2016). *Code-in-Action: Exploring how Coding Software Can Make a Difference in K-12 STEM Education.* National Science Foundation (NSF), STEM + Computing Partnerships (STEM+C). Amount Requested: $387,907. **Co-PI.**

Gandolfi, E., & **Raven, S.** (2015). *Act-Work: Maps, Networks and User Control for Improving Science Education.* National Science Foundation (NSF), Science, Technology, and Society (STS). Amount Requested: $402,103. **Co-PI.**

**Raven, S.,** & Klein, V. (2014). *The NETT Professional Development Program: Nature Education through Technology.* Ohio Board of Regents, Improving Teaching Quality (ITQ). Amount Requested: 112,098. **PI.**

**SELECTED PROFESSIONAL DEVELOPMENT ACTIVITIES**

**Research**

*Future Substance of STEM Education Workshops and Webinars* by Drs. Ariel Anbar, Punya Mishra, Trina Davis, Cathy Manduca, Stephanie Pfirman, & Lawrence Ragan.(September – October, 2020). Supported by the National Science Foundation under Grant DGE-1747486.

*NSF CAREER Writers Group Workshops* by Dr. James Izat. (March – June, 2017). Division of Research, Texas A&M University.

*Stata Data Analysis Software Workshop* by Dr. Chuck Huber. (January, 2017). College of Education and Human Development, Texas A&M University.

**PROFESSIONAL MEMBERSHIPS**

National Science Teachers Association (NSTA)

Association for Science Teacher Education (ASTE)

American Educational Studies Association (AESA)

National Association for Research in Science Teaching (NARST)

American Educational Research Association (AERA)

**COURSES TAUGHT**

**Texas A&M University**

Graduate:

EDCI 701 Scientific Inquiry in Science Education – Summer 2020

EDCI 669 Science Education in a Sociological Context – Fall 2019

EDCI 663 Scientific Inquiry in K-16 Classrooms – Spring 2017

Undergraduate:

EDCI 485/685 Directed Study Abroad – Summer 2018

EDCI 680 Proseminar – Summer 2018, Fall 2018

EDCI 684 Professional Internship – Fall 2018

EDCI 692 Professional Study – Fall 2018

INST 291 Research – Spring 2017

MASC 320 Inquiries into Physical Science – Fall 2017-Fall 2020

MASC 420 Inquiries in Life and Earth Science – Fall 2018-Spring 2021

**Kent State University**

Graduate:

C&I 61134/71134 Research Trends in Science Education

Undergraduate:

ADED 32277 Teaching Science in Secondary Schools

ADED 49525 Inquiry into Professional Practice

ADED 42292 Field Work Practicum in Science

ADED 42277 Topics in Secondary Science Teaching

MCED 30002 Integrated Social Studies and Science in Middle Childhood

MCED 40002/50002 Topics in Middle Childhood Science Teaching

C&I 47502/57502 Teaching Science in Early and Middle Childhood

**Professional Development Workshops (Provided)**

Raven, S. (2020, June). *Moving online: Best practices for designing digital science courses.* 1-hour professional workshop provided for 15 postsecondary instructors at Daemen College, Amherst, NY.

Raven, S. (2017, October & 2018, February). *Implementing authentic science in grades PK-5 with DHH students.* 2-day professional workshop provided for 10 grades K-5 teachers at Region 4 Education Service Center, Houston, TX.

Raven, S. (2016, January). *Modifications for deaf and hard-of-hearing students in science.* 2-day professional workshop provided for 15 grades K-5 teachers at Willson Elementary School, Cleveland, OH.

Raven, S. (2014, March). *Basics of scientific inquiry.* Half-day professional workshop provided for 20 grades 6-8 teachers at Monticello Middle School, Cleveland Heights, OH.

Raven, S. (2013, March). *Bullying in science: How content can lead to confrontation.* Half-day professional workshop provided for 40 grades 9-12 teachers at Kenmore High School, Akron, OH.

**GRADUATE COMMITTEES**

**Texas A&M University**

**Ph.D. Committees**

|  |  |  |  |
| --- | --- | --- | --- |
| Student’s Name | Department | Role | Progress |
| Allison Esparza | TLAC | Chair | Courses |
| Iliana De La Cruz | TLAC | Co-Chair | Courses |
| Cherilyn Porter | TLAC | Member | Courses |
| Peter Scaramuzzo | TLAC | Member | Dissertation |
| Sijin Yan | TLAC | Member | Dissertation |
| Michele Norton | TLAC | Member | Complete (2020) |
| Erin Singer | TLAC | Member | Complete (2019) |

**Ed.D. Committees**

|  |  |  |  |
| --- | --- | --- | --- |
| Student’s Name | Department | Role | Progress |
| Jill Melchiorre | TLAC | Co-Chair | Proposal |
| Valerie Choron | TLAC | Co-Chair | Proposal |
| Kimberly Martin | TLAC | Co-Chair | Complete (2020) |
| Karen Harper | TLAC | Co-Chair | Complete (2020) |
| Glenda Thacker | TLAC | Co-Chair | Complete (2019) |

**Master’s Committees**

|  |  |  |  |
| --- | --- | --- | --- |
| Student’s Name | Department | Role | Progress |
| Kathryn Kunz | TLAC | Member | Complete (2020) |
| Maram Al Aqra | TLAC | Member | Complete (2018) |

**Kent State University**

**Doctoral Committees**

|  |  |  |  |
| --- | --- | --- | --- |
| Student’s Name | Department | Role | Progress |
| Brenda Harper | C&I | Member | Complete (2016) |
| Vanessa Klein | C&I | Co-Chair | Complete (2014) |

**AWARDS & COMMENDATIONS**

Nominated for UGA COE’s 2021 Distinguished Alumni Awards 2020

**Awarded** the TAMU CEHD Early Career Research Excellence Award 2020

**Awarded** as a Montague Center for Teaching Excellence Scholar 2019

**Awarded** a Faculty Fellowship for STEM Education and Innovation 2018

Nominated for TAMU CEHD Outstanding New Faculty Award 2018

Nominated for the Dr. Terry Kuhn Distinguished Undergraduate Advising Award 2016

Nominated as a student leader for the Leadership UGA Cohort 2011

**PROFESSIONAL SERVICE**

**Texas A&M University**

*Community*

STEM Saturday Program Creator/Leader 2017-2018

*University*

oSTEM Invited Panelist 2019

Student Research Week Judge 2017

*College*

Communications Specialist II Hiring Committee Member 2020

Special Guest at CERD Coffee Chat 2020

*Voices of Impact* speaker: Science in Silence 2019

CEHD Outstanding Faculty Mentor Award Selection Committee Member 2018

Graduation Marshal 2016-2019

*Department*

edTPA Task Force, TLAC Leader 2020-2021

GLB Organizing Committee 2020-2021

Faculty A-1 Review Committee 2017, 2019

Science Education Associate/Full Professor Search Committee member 2016-2017

**Service to the Profession**

NARST

 Equity and Ethics Committee Member 2017-2021

 Chair 2019-2020

 Co-Chair 2018-2019

Strand 7 (Pre-service teacher education) Coordinator 2016-2018

 Mentor 2015

Session Presider 2014-2018

 Conference Proposal Reviewer 2011-2019

Journal Manuscript Reviewer

*Science & Children* (editorial board member) 2019-2020

*Cultural Studies in Science Education* 2019

 Best Paper Award Committee Member

*Early Education & Development* (guest reviewer) 2017-2018

*International Journal of STEM Education* (guest reviewer) 2016-2017

*Turkish Journal of Teacher Education* (guest reviewer) 2016

*British Journal of Educational Technology* 2014-2016

*Science Activities*  2013-2017

Scientific board member

 *Recep Tayyip Erdogan University Journal of Science and Engineering* 2020

National Science Foundation

 NSF-AISL Review Panel Member 2018

National Science Teachers Association

 Monsanto National Advisory Group 2017

American Educational Research Association

 Queer SIG Pre-Conference Mentor 2019

 Conference Proposal Reviewer 2014-2016

Association of Science Teacher Education

 Conference Proposal Reviewer 2013-2015

Science Education at the Crossroads

Session facilitator 2012

**Kent State University**

*Community*

Proyecto Raices instructor 2016

BioMed Instructor 2015

*College*

Child Development Center STEAM Camp Program Instruction 2014-2016

Graduate Research Symposium Judge 2015

Game of Life volunteer 2015

EHHS Doctoral Student Forum Retreat Panel Member 2014

University Commencement Committee Member 2014-2016

Faculty Consultant for Project ASTUTE 2014-2016

*Department*

Faculty Advisory Committee member 2015-2016

TLCS Curriculum Committee member 2015-2016

MYP IB Training, Category 1, Tahoe City, CA 2014

Office of Diversity Outreach and Development Advisory Board member 2013-2015