LINDSAY B. WHEELER, Ph.D.

Assistant Director of Educational Development Research & Assessment
Assistant Professor, General Faculty
Center for Teaching Excellence, University of Virginia
Charlottesville, VA 22904
lsb4u@virginia.edu
Bio | Publications | LinkedIn

EDUCATION

University of Virginia
- Ph.D., Science Education 2015
  Dissertation: *Professional development for general chemistry laboratory teaching assistants: Impact on teaching assistant beliefs, practices, and student outcomes*
  Advisors: Randy L. Bell & Jennifer L. Chiu
- M.T., Secondary Science Education 2008
- M.A., Chemistry 2006

Virginia Commonwealth University
- B.S., Chemistry 2004
- B.S., Forensic Science 2004

EXPERIENCE

Professional Roles

2023-present *Senior Associate Director and Assistant Professor, General Faculty – Center for Teaching Excellence, University of Virginia*

2022 – 2023 *Assistant Director of Educational Development Research & Assessment and Assistant Professor, General Faculty- Center for Teaching Excellence, University of Virginia*
Shifted work as educational developer to lead and support center assessment, advance center scholarship, and drive university-wide data liberation initiatives. Meet regularly with university leadership and collaborate with other units across campus to improve data infrastructure and develop interactive data dashboards and training modules to support departmental review of courses and curriculum. Also lead SoTL programming, plan annual Pedagogy Summit, conduct consultations, and facilitate CTE's signature course design institute. Currently mentoring 1 postdoctoral research associate.

2017- 2022 *Assistant Director of STEM Education Initiatives and Assistant Professor, General Faculty- Center for Teaching Excellence, University of Virginia*
Promoted to full-time educational developer with teaching responsibilities. Developed and implemented Scholarship of Teaching and Learning (SoTL)

programming. Mentored and supervised 1 postdoctoral associate and 6 graduate students to support the SoTL Scholars program. Developed a model to support all first-time STEM Teaching Assistants (TAs) through a 1-credit teaching methods course, called Spark. Mentored and supervised 2 post-doctoral associates in teaching and assessing the impact of Spark. Also planned the first virtual Pedagogy Summit, conducted consultations, and developed a facilitator guide for educational developers implementing the c^{3}Design virtual course design experience.

2016-2017 *Assistant Director of STEM Education Initiatives and Lecturer - Center for Teaching Excellence & Department of Chemistry, University of Virginia*
Half-time instructor in the chemistry department and half-time educational developer in the CTE. Taught inquiry-based large enrollment general chemistry laboratory course. Mentored, trained, and supervised 30-35 TAs each year for lab course. Conducted a large-scale observation research study of STEM courses to understand the impact of center programming on instructional practices. Mentored and trained 30 undergraduate students to conduct classroom observations and 3 graduate students to manage the data collection process.

2015-2016 *Lecturer – Department of Chemistry, University of Virginia*
Instructor for inquiry-based large-enrollment general chemistry laboratory course and Project Oriented Guided Inquiry Learning (POGIL) small foundational chemistry course. Mentored, trained, and supervised 30-35 TAs each year for lab courses. Conducted SoTL research on the relationship between TAs' and students' chemistry mindsets.

2014-2015 *Graduate Student Associate - Center for Teaching Excellence, University of Virginia*
Led research study on student's perceptions of course syllabi. Co-facilitated the Nucleus program – a year-long community of practice for STEM instructors – to support their course redesign to more student-centered approaches.

2011-2015 *Head Teaching Assistant –Department of Chemistry, University of Virginia*
Redesigned laboratory course to inquiry-based and developed training for TAs. Mentored, trained, and supervised 30-35 TAs each year to be primary lab instructors. Worked with undergraduate lab students each summer to revise and improve the course design. Conducted SoTL research on the impact of TA training on TAs and student outcomes in the lab course.

2011-2013 *Graduate Student Associate – School of Education, University of Virginia*
Mentored, supervised, and evaluated 3-5 student teachers each semester. Teaching assistant for student teaching seminar. Aided in student teachers' preparing and presenting at state conference.

2008-2011 *Chemistry Teacher – Rockbridge County High School, Lexington, Virginia*
Taught chemistry, honors chemistry, and developed the AP chemistry course for high school students. Won "Outstanding Teaching Award" from the Math and Science Governor's School in 2010 & 2011.

Leadership Experiences

Campus Leadership

2022-present *Member of the University Committee for Evaluating Teaching, Office of the Provost, University of Virginia*
Provide feedback about approaches for evaluating teaching, including revising course evaluation questions. Participate in monthly meetings to engage in discussions about the what, how and why of evaluating teaching.

2021-present *Subcommittee chair & steering committee member of the University Teaching & Learning (UTLT)Committee*, *Office of the Provost, University of Virginia*
Lead a small group of university stakeholders to develop an approach to ongoing assessment of the teaching and learning digital ecosystem. Meet regularly with school representatives and Vice President and Chief Information Officer to receive feedback and support on various initiatives.

2021-present *Member of the Associate Deans for Diversity and Inclusion group, Office of the Provost, University of Virginia*
Provide equity-focused feedback to the Vice Provost for Faculty Affairs on university-level policies and procedures. Participate regularly in bi-monthly meetings to discuss diversity, equity, and inclusion initiatives at the institution.

2020-present *Leadership team member for Howard Hughes Medical Institute (HHMI) inclusive excellence (ie3) grant project, University of Virginia*
Lead the assessment of faculty teaching and students enrolled in introductory STEM courses participating in the grant. Strategize and prioritize key initiatives to build faculty capacity in equitable instructional practices that will promote success for all students. Engage in ongoing meetings and collaborations with key stakeholders, including faculty, unit directors, and academic leadership.

Spring 2020 *Working group co-facilitator for the Course Evaluation working group*, *Office of the Provost, University of Virginia*
Worked with University Registrar and CTE Director to design and lead a working group, comprised of faculty and other stakeholders, examining the purpose and use of course evaluations at UVA.

Leadership in the Field of Educational Development

2021-present *Editor-in-Chief, To Improve the Academy, POD Network*
Decide on strategic direction of the journal in collaboration with editorial team and Board. Manage day-to-day operations of the journal, including review process, publication process, and budget. Mentor and support reviewers, authors, and Associate Editors.

2020-present *Research Coordinator, Pandemic Educational Development Research Collaborative (PEDRC)* (https://sites.google.com/view/pedrc/)

Co-lead a group of 18 educational developers in a novel researcher-participant project to identify the impacts of the pandemic on educational developers and their work. Support PEDRC researchers in expanding and adapting the work of the collaborative.

2020-2022 *Leadership team member, SoTL Collaboratory* (https://sotl.gmu.edu/sotl-collaboratory/)
Created a community of practice with other educational developers supporting SoTL work at their institutions in Virginia. Developed strategic plan for SoTL programming at UVA. Currently identifying next steps in expanding the work of the Collaboratory and supporting other institutions in developing SoTL programming.

2019-2021 *Associate Co-Editor, To Improve the Academy, POD Network*
Managed the review process, including identifying reviewers, working with and supporting authors, and rendering decisions on manuscripts. Spearheaded January 2021 special issue "Educational Development in Times of Crises", including advertising and selecting guest editors, mentoring guest editors, and working with the publisher to publish the issue.

2018-2020 *Scholarship Committee Chair*, *POD Network*
Coordinated and managed the work of an active committee that includes three subcommittees, three peer reviewed publications, and a grants program. Doubled committee membership and mentored new members into leadership positions. Developed the POD Scholarly Reads program and created a mechanism for sustaining the program.

Specialized Training

Leadership

Fall, 2021 *Leadership in Academic Matters, Provost Office, University of Virginia*
Semester-long leadership program, which included weekly meetings, media training and 360 assessment (participation by nomination only).

Spring, 2020 *Prosci Change Management*, *Office of Organizational Excellence, University of Virginia*
3-day change management program, ending with certification.

Educational Equity & Inclusive Teaching

Spring 2022 *Equity Literacy*
4-part virtual workshop series by the Equity Literacy Institute to set a foundation for understanding inequity in higher education contexts.

2020-2021 *Racial Equity Reading Group*
Monthly book group, which discussed and reflected on reading of and actions related to books such as "White Fragility" and "Me and White Supremacy".

Spring 2019 *Universal Design for Learning (UDL) 2.0: Expanding UDL*
2-day train-the-trainer event for educational developers and instructional designers to learn about and plan for integration of UDL into faculty programming.

Center for Teaching Excellence Programs, Events, & Services

Program Development

2018-present *SoTL Programming*
Developed and implemented a suite of programs to support faculty in consuming and producing scholarship of teaching and learning. Programming includes a multi-faceted SoTL Scholars program, SoTL newsletter, SoTL grants program, and SoTL Faculty Learning Community (FLC).

2020-present *CDI 2.X: Equitable Collaborative Learning*
Co-developed and implemented a 2-day workshop for faculty to refine and redesign their collaborative learning experiences as part of a suite of intensive workshops for instructors seeking to expand their course design experience.

2020 *c³Design*
Co-developed a comprehensive facilitator guide to support implementation of synchronous 2-week course design experience.

2020-2022 *Pedagogy Summit*
Planned and implemented a local 1-day teaching conference in collaboration with advisory board. Redesigned program for a virtual modality in 2021 and mentored new program lead to take over program in 2022.

2016-2020 *Spark*
Developed and implemented a 1-credit Teaching Methods in Higher Education courses to support STEM undergraduate and graduate TAs in their teaching. Also created a novel, multi-tiered model utilizing post-doctoral research associates to expand and sustain these courses across all STEM departments.

2014-2016 *Teaching Assistant Professional Development*
Developed and implemented a week-long training for TAs in supporting student learning within a Project-based guided inquiry general chemistry laboratory.

Program support

2020-present *c³Design*
Co-facilitate 2-week virtual course design experience for 10-15 instructors who are designing their courses.

2018-present *Course Design Institute*
Co-lead annual five-day institute for instructors who are redesigning their courses.

2018 *Ignite*
Co-facilitated a learning community for new faculty to support implementation of newly redesigned course. 2018.

University Workshops

- *Using Qualtrics in Teaching to Support Learning.* With Sarah Schultz Robinson. Ed Tech Week. August 19, 2021.
- *Assessable, Student-focused Course Learning Objectives: Refinement & Alignment*. With Lynn Mandeltort. Biomedical Engineering Department seminar. April 16, 2021.
- *Introduction to Using Data for Majors/Minors Equity Review*. With Elizabeth Dickens, Jess Taggart, and Josipa Roksa. Workshop to support Arts & Sciences major/minor equity review. March 30 & April 2, 2021.
- *Teaching for Learning: Empowering Students to Succeed.* With Adriana Streifer and Elizabeth Dickens. A plenary talk for UVA's Teaching as a Graduate Student (TAGS) workshop. August, 2017-2020.
- *Scholarly Teaching: Using Evidence to Better Support Student Learning.* With Elizabeth Dickens. UVA's Faculty Development Workshop Series. March 22, 2019.
- *Writing Reflective Teaching Statements.* With Adriana Streifer. Office of graduate students and post-doctoral affairs. August 2017-2019.
- *Exploring CATME: An Online Tool to Support Effective Group Work.* With Brian Helmke. CTE workshop. January/August, 2018.
- *Writing Reflective Teaching Statements.* With Amy Clobes. School of Engineering & Applied Sciences graduate student workshop. August 2018.
- *Planning for Inclusive Teaching and Responding to Critical Incidents.* With Dorothe Bach. UVA's Faculty Development Workshop Series. November 17th, 2017.
- *Collecting and Analyzing Mid-semester Student Feedback Using Qualtrics.* With Michael Palmer. UVA's Qualtrics day. September 8th, 2017.
- *Using Undergraduate Curriculum Developers to Enhance Inquiry-based General Chemistry Labs.* With Claire Romaine. A talk for UVA's Student-Faculty Partnerships meeting. October 14th, 2016.
- *TA training: How to Use Questioning Strategies to Improve Discourse in Physics Laboratories.* UVA's Department of Physics graduate students, University of Virginia. August 19th, 2016.
- *TA Training: How to Support Students' Computational Thinking in a Flipped Computer Programming Course.* University of Virginia Advanced Computing Services and Engagement (UVACSE). August, 2015.
- *Implementing Guided Inquiry in the General Chemistry Labs at UVA.* With Charles Grisham. An invited presenter UVA's Chairs & Directors Retreat. August 20th, 2013.
- *Teaching Laboratory Classes.* August Teaching Workshop, Teaching Resource Center, August, 2011-2015.

COVID-19 response

Emergency transition to remote teaching: webinars for UVA instructors.

- Co-designed and implemented emergency in-person and webinar-based presentations for instructors to quickly learn how to use Zoom and LMS tools as they transition to remote teaching.
- Co-designed and supported implementation of pedagogy-focused webinars about student engagement and assessment for instructors as they transitioned into remote teaching.

One-on-one consultations.

- Supported individual faculty transitioning to online instruction through responding to Service Now requests and scheduling one-on-one Zoom consultations.

Teaching Continuity website.

- Co-developed pedagogically-focused resources for the teaching continuity website, including resources around student presentations, supporting TAs, and assessment of student learning.

Spring 2020 course evaluations.

- Co-created new course evaluation questions and contributed to decision-making around implementation and use of course evaluations for the spring 2020 semester.

Instructional support for online summer and fall 2020 courses.

- Helped develop a comprehensive guide for c^3 Design facilitation.
- Facilitated three cohorts of instructors through a 2-week course design process.

Awards and Recognition (grants listed separately, below)

Research & Scholarship awards

2022 *Article of the year - International Journal of Academic Development (IJAD)*
For research article entitled "Embracing complexity: an inclusive framework for the scholarship of educational development". One award given annually.

2021 *Article of the year - International Journal of Academic Development (IJAD)*
For research article entitled "Understanding the impact of educational development interventions on classroom instruction and student success". One award given annually.

2018 *Robert J. Menges Honorable Mention Award for Outstanding Research in Educational Development, POD Network*
For research presentation entitled "Making Assessment Matter". First honorable mention given for the award.

2015 *Robert J. Menges Award for Outstanding Research in Educational Development, POD Network*
For research presentation entitled "Not your Granddaddy's Syllabus". One award given annually.

Teaching & Educational awards

2014 *All University Graduate Student TA Award, University of Virginia*
Awarded to three graduate students annually, only one award given in a STEM discipline, for excellence in teaching.

2014 *Chemistry Department Graduate Teaching Assistant award, University of Virginia*
Awarded to five graduate students in the chemistry department annually for superior teaching.

2014 *Raven Society Doctoral Fellowship Award, University of Virginia*
Awarded to ~20 graduate students annually to support a research project.

2008 *Odelia Moore Scholarship Award, School of Education, University of Virginia*
Awarded to one student annually.

2004 *Chemistry outstanding major award, Department of Chemistry, Virginia Commonwealth University*
Awarded to one graduating chemistry major annually.

2004 *Forensic Science outstanding major award, Department of Forensic Science, Virginia Commonwealth University*
Awarded to one graduate forensic science major annually.

TEACHING

Courses Taught

Graduate Courses – University of Virginia

2021 EDLF 7130 – Research on Teaching & Learning in Higher Education[+] (Fall)
2016-2018 CHEM 7011/BIOL 7110/PHYS 9030/ASTR 8500[+] - Teaching Science in Higher Education (Fall, Spring)
2017 APMA 6548 – Teaching Methods in Higher Education (Fall)
2011-2013 EDIS 5050/5051, Secondary Science Methods I and II[*]
EDIS 5875, Secondary Teaching Associateship Seminar[*]
EDIS 5885, Secondary Teaching Associateship[*]

Undergraduate Courses Taught – University of Virginia

2018 INST 2559 – Teaching Methods for ULAs[+] (Spring)
2017 APMA 3501- Teaching Methods for Undergraduate TAs (Fall)
2016, 2017 CHEM 2900/BIOL 2900 – Teaching Methods for Undergraduate TAs[+] (Fall)
2015, 2016 CHEM 1400 – Foundations of Chemical Principles (Spring)
2011-2016 CHEM 1411/1421 – Intro to College Chemistry Lab (Fall, Spring)
CHEM 1611/1621 – Intro to College Chemistry for Engineers Lab (Fall, Spring)
2011-2013 EDIS 4885, Secondary Science Field Placement[*] (Spring)

2005-2008 CHEM 1411, General Chemistry Lab I* (Fall)
CHEM 1421, General Chemistry Lab II* (Spring)
2006 CHEM 4410, Biological Chemistry* (Spring)

Undergraduate Courses Taught – Georgia Southern University

2004-2005 CHEM 3441, Chemical Kinetics & Thermodynamics* (Fall)
CHEM 3442, Introduction to Quantum Chemistry* (Spring)

K-12 Courses Taught – Rockbridge County High School

2008-2011 General Chemistry
Honors Chemistry
2010-2011 Advanced Placement (AP) Chemistry

+ co-taught courses
* TA for course

Courses Designed

EDLF 7130 – Research on Teaching and Learning in Higher Education
Co-designed and taught course focused on higher education scholarship and educational research skills.

APMA 3501, APMA 6548 – Teaching Methods in Higher Education
Developed teaching methods course focused on learning theory, mathematics pedagogical strategies, and reflective practice to support undergraduate and graduate TAs who teach in engineering calculus courses.

CHEM 2559/BIOL 2900, CHEM 7011/BIOL 7110/PHYS 9030 – Teaching Science in Higher Education
Developed teaching methods course focused on learning theory, evidence-based pedagogical strategies, and reflective writing to support undergraduate and graduate science TAs in improving current and future teaching. Modeled active learning strategies within classroom.

CHEM 1400 – Foundations of Chemical Principles
Used POGIL instructional method to facilitate deep understanding of foundational topics in chemistry. Integrated reflective writing using Digication web portfolio tool to enhance student understanding of their own learning process.

CHEM 1411/1611/1421/1621 – General Chemistry Labs
Redesigned curriculum to a collaborative, project-based guided inquiry approach that utilized student-led design of experiments, gathering and analyzing data, and communication of results through presentations and formal scientific writing.

AP Chemistry
Created an AP chemistry program for students to expand chemical knowledge and

laboratory skills.

RESEARCH & SCHOLARSHIP

Peer Reviewed Publications

Published

Lukes, L., Abbot, S., **Wheeler, L.,** Henry, D., Case, K., Wells, M., & Brantmeier, E. (accepted). Strategic Planning Tools for Educational Developers Supporting SoTL Cultures and Programs at their Institutions. *To Improve the Academy*. DOI: 10.3998/tia.3492

Wheeler, L. B., Thompson, K., Marbach-Ad, G., Sheehan, P., Bortiatynski, J., & Ghent, C. (2023). Factors predicting students' values of STEM cross-disciplinary skills: A study across four institutions. *CBE Life Sciences Education. 22: ar20*, 1-20. DOI:10.1187/cbe.22-06-0101

Lukes, L., Abbot, S., Henry, D., Wells, M., Baum, L., Case, K., Brantmeier, E. J., & **Wheeler, L.** (2022). Impact of a regional community of practice for academic developers engaged in institution-level support for SoTL. *International Journal of Academic Development.* DOI: 10.1080/1360144X.2022.2135005

Wheeler, L. B., & Gonczi, A.L. (2022). Finding the variables that react: Student achievement in an inquiry-based introductory chemistry laboratory course. *Journal of Research in Science Teaching.* DOI: 10.1002/tea.21840.

Cruz, L., Dickens, E., Flaming, A., & **Wheeler, L. B.** (2022). Embracing complexity: An inclusive framework for the scholarship of educational development. *International Journal of Academic Development, 27(1),* 45-57. DOI: 10.1080/1360144X.2021.1901102

- IJAD article of the year, 2022. https://www.tandfonline.com/journals/rija20/collections/best-paper-prize-academic-development-winners

McAlister, A., McDermott, J., Garibay, J., & **Wheeler, L.** (June, 2022). "Man, I am a Black Engineer": The Co-development of Transformational Resistance and Engineering Identity. In *2022 ASEE Annual Conference & Exposition.*

Wheeler, L. B. & Sloane, J. (2021). A mixed methods exploration of the Learning Assistant model: How do Learning Assistants benefit? *Journal on the Excellence in College Teaching. 32(4*), 21-41.

Wheeler, L. B (2021). Supporting STEM faculty of large enrollment courses: A mixed methods study of impact. *International Journal of the Scholarship of Teaching and Learning*, 15 (1), article 7

Favre, D., Bach, D., & **Wheeler, L. B.** (2021). Measuring institutional transformation: A multi-faceted assessment of a new faculty development program. *Journal of Research in Innovation Teaching & Learning.* DOI: 10.1108/JRIT-04-2020-0023

Little, D., Caulkins, J., Kaldor, E., & **Wheeler, L. B.** (2021). Fractal reflection: Cultivating community and meaning in times of crises. *To Improve the Academy*, *39*(3), 25-38. DOI: 10.3998/tia.17063888.0039.302

Wheeler, L. B. & Bach, D. (2021). Understanding the impact of educational development interventions on classroom instruction and student success. *International Journal of Academic Development, 26(1),* 24-40. DOI: 10.1080/1360144X.2020.1777555

- IJAD article of the year, 2021. https://www.tandfonline.com/journals/rija20/collections/best-paper-prize-academic-development-winners

Sanders, M., Walsh, K., & **Wheeler, L. B.** (2021). Effective survey design: Asking the right questions to get the data you need. *POD Scholar: Guides to Research, Scholarship, and Creative Activities in Educational Development*, (2).

St. Claire, T., **Wheeler, L. B.**, Maeng, J.L., & Bell, R.L. (2020). Mixed-methods analysis of science teacher educator professional development. *Professional Development in Education.* DOI: 10.1080/19415257.2020.1787191

Wheeler, L. B., Palmer, M., & Aneece, I. (2019). Students' perceptions of course syllabi: The role of syllabi in motivating students. *International Journal of the Scholarship of Teaching and Learning, 13(3)*, 1-10.

Sturtevant, H. & **Wheeler, L. B.** (2019). The STEM Faculty Instructional Barriers and Identity Survey (FIBIS): Development and exploratory results. *International Journal of STEM Education, 6(35)*, 1-22. DOI: 10.1186/s40594-019-0185-0

Wheeler, L., Sturtevant, H., & Mumba, F. (2019). An exploratory study of the impact of a teaching methods course for International Teaching Assistants in an inquiry-based general chemistry laboratory. *Journal of Chemical Education, 96,* 2393-2402. DOI: 10.1021/acs.jchemed.9b00239

Wheeler, L. B., Mulvey, B.K., Maeng, J.L., Librea-Carden, M.R., & Bell, R. L. (2019). Teaching the teacher: Exploring STEM graduate students' Nature of Science conceptions in a teaching methods course. *International Journal of Science Education, 41,* 1905-1925. DOI: 10.1080/09500693.2019.1647473

Wheeler, L. B., Navy, S. L., Maeng, J.L., & Whitworth, B.A. (2019). Development and validation of the Classroom Observation Protocol for Engineering Design (COPED). *Journal of Research in Science Teaching, 56,* 1285-1305. DOI: 10.1002/tea.21557

Wheeler, L. B., Chiu, J.L., Maeng, J.L., & Bell, R.L (2019). Teaching assistant motivation: Learning to teach in an inquiry-based undergraduate laboratory context. *Chemical Education Research and Practice*, 20, 53 – 67. DOI: 10.1039/c8rp00157j

Clobes, A. M., & **Wheeler, L.** (2019, June). SciComm: An Oral Communication Professional Development Program for STEM Graduate Students. In *2019 ASEE Annual Conference & Exposition.*

Stains, M., Harshman, J., Barker, M.K., Chasteen, S.V., Cole, R., DeChenne-Peters, S.E., Eagan Jr., M.K., Esson, J.M., Knight, J.K., Laski, F.A., Levis-Fitzgerald, M., Lee, C.J., Lo, S.M., McDonnell, L.M., McKay, T.A., Michelotti, N., Musgrove, A., Palmer, M.S., Plank, K.M., Rodela, T.M., Sanders, E.R., Schimpf, N.G., Schulte, P.M., Smith, M.K., Stetzer, M., Van Valkenburgh, B., Vinson, E., Weir, L.K., Wendel, P.J., **Wheeler, L. B.**, Young, A.M. (2018). Anatomy of STEM teaching in American universities: A snapshot from a large-scale observation study. *Science, 359,* 1468-1470. DOI: 10.1126/science.aap8892

- Featured on Inside Higher Ed , Futurity, Science Daily, Times Higher Education, Campus Technology, and STEM | PROF Newsletter No. 83 (April 9-16, 2018)

Guadagni, G., Ma, H., & **Wheeler, L.** (2018, June). The Benefit of Training Undergraduate Teaching Assistants. In *2018 ASEE Annual Conference & Exposition*.

Wheeler, L. B., Maeng, J.L., Chiu, J.L., & Bell, R.L. (2017). Do Teaching Assistants matter? Investigating relationships between Teaching Assistants and student outcomes in undergraduate science laboratory classes. *Journal of Research in Science Teaching, 54,* 463-492. DOI: 10.1002/tea.21373

- Top 50 JRST downloaded article for 2016-2018, 12-months post publication

Whitworth, B.A., & **Wheeler, L. B.** (2017). Engineering or not? *The Science Teacher,* 25-29.

Maeng, J.L., Whitworth, B.A., Gonczi, A.L., & **Wheeler, L. B.** (2017). Elementary science teachers' integration of engineering design into science instruction: Results from a randomized controlled trial. *International Journal of Science Education, 39,* 1529-1548. DOI: 10.1080/09500693.2017.1340688.

Wheeler, L. B., Clark, C.P., & Grisham, C.M. (2017). Transforming a traditional laboratory to an inquiry-based course: Importance of training TAs when redesigning a curriculum. *Journal of Chemical Education, 94,* 1019-1026. DOI: 10.1021/acs.jchemed.6b00831

Whitworth, B.A., Maeng, J. L., **Wheeler, L. B.**, & Chiu, J. L. (2017). Investigating the role of a district science coordinator. *Journal of Research in Science Teaching, 54*, 914-936. DOI: 10.1002/tea.21391

Wheeler, L. B., Maeng, J.L., & Whitworth, B.A. (2017). Teaching assistant (TA) professional development within an inquiry-based general chemistry context: Characterization of TA knowledge and beliefs. *Journal of Chemical Education, 94,* 19-28. DOI: 10.1021/acs.jchemed.6b00373

Wheeler, L. B., Chiu, J.L., & Grisham, C.M. (2016). Computational methods in general chemistry: Perceptions of programming, prior experience, and student outcomes. *Journal of College Science Teaching, 45, 3,* 83-91.

Wheeler, L. B., Maeng, J.L., & Whitworth, B.A. (2015). Teaching Assistants perceptions of a training to support an inquiry-based general chemistry laboratory course. *Chemical Education Research and Practice, 16,* 824-842. DOI: 10.1039/c5rp00104h

Wheeler, L. B., Bell, R.L., Whitworth, B.A., & Maeng, J.L. (2015). The science ELF: Assessing the Enquiry Levels Framework as a heuristic for professional development. *International Journal of Science Education, 1,* 55-81. DOI: 10.1080/09500693.2014.961182

Wheeler, L. B., Whitworth, B. A., & Gonczi, A.L. (2014). Engineering design challenge: Building a voltaic cell in the high school chemistry classroom. *The Science Teacher, 81(9)*, 30-36.

Wheeler, L. B., Maeng, J. L. & Smetana, L.K. (2014). Incorporating argumentation through forensic science. *Science Activities: Classroom Projects and Curriculum Ideas*, *51(3),* 67-77. DOI: 10.1080/00368121.2014.907233

Wheeler, L. B. & Bell, R.L. (2012). Open-ended inquiry: Practical ways of implementing the most challenging form of inquiry. *The Science Teacher*, 79(6), 32-39.

In Review

Taggart, J., & **Wheeler, L. B.** (Revise & Resubmit). Collaborative learning as constructivist practice: A qualitative descriptive study of faculty approaches to student group work. *Active Learning in Higher Education.*

Sloane, J., **Wheeler, L.B.**, & Manson, J. (Revise & Resubmit). Teaching Nature of Science in introductory biology: Impacts on students' acceptance of biological evolution. *PLOS One.*

Abbot, S., Lukes, L., Henry, D., & **Wheeler, L.** (In Review). Examining a Regional Educational Developer Community of Practice for Advancing Institutional Cultures of SoTL Engagement. *New Directions in Teaching & Learning.*

Taggart, J., **Wheeler, L.B.**, & Dela Cruz, K. (In Review). Getting started with SoTL: Supporting faculty with SoTL through a multi-faceted SoTL Scholars program. *New Directions in Teaching & Learning.*

In Preparation

Wheeler, L. B., Chiu, J.L., Maeng, J.L., McAlister, A.M. & Bell, R.L. (In preparation). Exploring research on student outcomes in inquiry-based undergraduate science laboratory instruction: A mixed methods synthetic review. *Journal of College Science Teaching.*

Streifer, A., **Wheeler, L. B**., & Gravett, E. (In preparation). Student perceptions of faculty: A case of race and gender. *To Improve the Academy.*

Wheeler, L.B., Bychkov, M. (In preparation). Understanding ability beliefs, motivation, and performance for students in traditional vs. inquiry-based introductory physics labs. *Physical Review Special Topics: Physics Education Research.*

Wheeler, L. B, Sloane, J., & Sturtevant, H. (In preparation). An investigation of mathematics TAs' intent to practice. *International Journal of Research in Undergraduate Mathematics Education.*

Hunt, A., Zeineldin, R., **Wheeler, L. B.**, Grant, J., Smith, C., Hakala, C., & Bowers, E. (In preparation). Leveraging "What Matters": How CTLs address wicked problems in higher education. *International Journal of Academic Development.*

Other Scholarly Work

Book Chapters

Magliaro, S., Newbill, P., & **Wheeler, L.** (2021). A High-Impact University Collaborative to Advance STEM Educational Opportunities for All Virginians. In M. Cowell and S. Lyon-Hill (Eds). *Vibrant Virginia.*

Wheeler, L. & Morkowchuk, L. (2020). Project-based Guided Inquiry (PBGI) curriculum in Introductory Chemistry laboratories. In J.J. Mintzes and E.M. Walter (Eds). *Active learning in college science: The case for evidence-based practice.* Berlin: Springer Nature.

Palmer, M. & **Wheeler, L.** (2018). Dopamine and the Hard Work of Learning Science. In A. James & C. Nerantzi (Eds). *The Power of Play in HE: Creativity in Tertiary Learning.*

Educational Resources

Wheeler, L. & Dickens, E. (2022). CTE Departmental Equity Review Training & Resources Website. Center for Teaching Excellence. University of Virginia. https://rise.articulate.com/share/Zr3ldyNOyZsqTiZEWwLBiMAK_pnWymmr (PW: CTE123)

Taggart, J., & **Wheeler, L. B.** (2021, October 11). University of Virginia Scholarship of Teaching and Learning Programming Resources. An Open Access Resource: https://osf.io/nzfdt

Wheeler, L.B. (2013). Project-based Guided Inquiry General Chemistry Laboratory Manual. Department of Chemistry, University of Virginia.

Blog Posts

Dickens, E., & **Wheeler, L.** (In preparation). Data-informed department-based change initiatives. *Center for Teaching Excellence.*

Wheeler, L. (2017, March 19). Diversity and inclusive teaching practices in STEM. *Center for Teaching Excellence.* https://cte.virginia.edu/blog/2020/01/05/diversity-and-inclusive-teaching-practices-stem

Podcasts & Interviews

Wheeler, L. & Palmer, M. Featured guests. Improving the Academy (September 15, 2022). In *Centering Centers.* https://anchor.fm/podnetwork-podcast/episodes/Improving-the-Academy-with-Michael-Palmer--Lindsay-Wheeler-e1nt2rg

Wheeler, L. & Sturtevant, H.. Interviewed. Why the science of teaching is often ignored (January 3, 2022). In *The Chronicle of Higher Education.* https://www.chronicle.com/article/why-the-science-of-teaching-is-often-ignored?cid2=gen_login_refresh&cid=gen_sign_in

Wheeler, L., & Sturtevant, H.. Featured guests. Barriers to Active Learning (June 5, 2019). In *Tea for Teaching.* http://teaforteaching.com/84-barriers-to-active-learning/

Wheeler, L. & Sturtevant, H. Interviewed. Many professors want to change their teaching but don't. One university found out why (March 21, 2019). In *The Chronicle of Higher Education (Teaching).* https://www.chronicle.com/newsletter/teaching/2019-03-21

White Papers & Position Papers

Byers, A., Cresawn, K. O., Edmondson, E., Jones, R., Magliaro, S. G., Maeng, J. L., Newbill, P., Seshaiyer, P., Webb, A., & **Wheeler, L. B.** (2020). *Developing a Virginia STEM Network.* A white paper for the Virginia STEM Commission.

Palmer, M.P., **Wheeler, L.B.**, & Aneece, I.P. (2016). Does the document matter? The evolving role of syllabi in higher education*, Change: The Magazine of Higher Learning, 48 (4)*, 36-47. DOI: 10.1080/00091383.2016.1198186

Invited Talks

Keynotes

Wheeler, L. (June 4, 2021). *Demystifying DEI: Understanding and applying principles of equitable and inclusive teaching practices in STEM courses*. A keynote address for the NSF Cyber-physical systems virtual principal investigator's meeting, Online.

Wheeler, L. (October 26, 2020). *Networking for Change: Improving Teaching Professional Development Through Connections, Collaboration, and Community*. A keynote address for the annual virtual BioTAP conference, Online.

Wheeler, L. (August 16, 2016). *Why is Teaching Important? Impact of Teaching Assistants on Students and Self.* A keynote address for University of Nebraska-Lincoln TA Orientation, Lincoln, NE.

Invited Talks

Wheeler, L. (Feb. 2, 2022). *An Introduction to the Scholarship of Teaching & Learning.* An invited talk for the School of Nursing, University of Virginia, Online.

Wheeler, L. & Bernhagen, L. (July 29, 2021). *Publishing in Educational Development.* An invited talk for the POD Network Wulff fellows, Online.

Wheeler, L. (February 15, 2021). *Application of Mentoring Practices to Teaching in Higher Education.* A talk for the Fundamentals of Science graduate student seminar, University of Virginia, Online.

Bach. D. & **Wheeler, L.** (February 14, 2020). *Teaching, Accessibility, & Universal Design for Learning.* Invited presentation for the Disability Advocacy and Action Committee, University of Virginia, Charlottesville, VA.

Wheeler, L. (May 29, 2019). *Faculty Development: Using Data to Drive Institutional Change in Teaching & Learning.* Invited talk for the Convening on Faculty Affairs Research, Washington, D.C.

Wheeler, L. (December 13, 2017). *Implementing Active Learning in Large Enrollment Courses*. School of Nursing, University of Virginia, Charlottesville, VA.

Invited workshops

Wheeler, L., Abbot, S., & Henry, D. (October 20, 2022). Creating a Strategic Plan for SoTL at your Center/Institution. An invited workshop for the Virginia Educational Development Consortium, Online.

Wheeler, L. (October 3, 2021). Let's get SoTLing! An introduction to the Scholarship of Teaching and Learning. An invited workshop for the Center for Teaching and Learning Excellence, Virginia Commonwealth University, Online.

Wheeler, L. & Kaldor, E. (April 26, 2019). *Creative Strategies to Advance your Research in Educational Development.* An invited webinar for POD Live, POD Network, Online.

Cunningham, K. & **Wheeler, L.** (February 26, 2017). *Supporting instructors of gateway courses: Tools and techniques for Teaching excellences program and/or center leaders.* An invited workshop for the Annual Gateway Course Experience Conference, Las Vegas, NV.

Wheeler, L. (February 10, 2017). *Classroom observations: Using COPUS as a formative tool.* A workshop for the Center for Teaching and Learning Excellence. Tennessee Tech, Cookeville, TN.

Wheeler, L. (July 13, 2016). *A Workshop for Faculty Developers in using COPUS for faculty observations.* A workshop for the Center for Faculty Innovation, James Madison University, Harrisonburg, VA.

Peer Reviewed Presentations & Workshops

Educational Development Pre-Conference Workshops

Abbot, S., **Wheeler, L.**, & Lukes, L. (May, 2022). *Planning SoTL Educational Development Initiatives.* A pre-conference workshop for the International Consortium of Educational Development annual conference, Arhaus, Denmark.

Lukes, L., Baum, L., Brantmeier, E., Case, K., Henry, D., Taggart, J., Wells, M., & **Wheeler, L.** (November, 2021). *Planning SoTL Faculty Development Initiatives During Uncertain Times.* A pre-conference workshop for the POD Network virtual conference, Online

Lukes, L., Baum, L., Brantmeier, E., Case, K., Dauterive, J., Filer, K., Henry, D., Taggart, J., Wells, M., & **Wheeler, L.** (January, 2021). *Creating a Strategic Plan for SoTL at Your Center/Institution.* A pre-conference workshop for the POD Network annual conference, Online.

Higher Education & Educational Development Presentations

Wheeler, L. & Taggart, J. (Submitted). *Doing Double Duty: Collecting SoTL Program Data for Assessment & Scholarship*. A research presentation for the POD Network annual conference, Pittsburg, PA.

Eyler, J., Cavanagh, S. R., **Wheeler, L.**, & Lemons, M. (Submitted). *Assessment, Feedback, & Grading in Introductory Biology: Current State of Play.* A research presentation for the POD Network annual conference, Pittsburg, PA.

Manson, J., Reedy, A., & **Wheeler, L.** (Submitted). *Increasing Data Literacy in Introductory Biology Through Short Data Analysis Activities.* A poster for the Ecology Society of America's annual conference, Portland, OR.

Apostolellis, P., **Wheeler, L.**, & Mandeltort, L. (Accepted). *Assessing the Impact of Feedback on Student Learning Using e2Logos: a Novel Grading Tool for Online Student Reports.* A poster for the annual Innovation and Technology in Computer Science Education (ITiCSE), Turku, Finland.

Wheeler, L., Santos, N., & Garibay, J. (February, 2023). *Social Justice and Sense of Belonging in STEM.* A presentation for the annual Conference in Higher Education Pedagogy. Blacksburg, VA.

Caulkins, J., Cardamone, C., **Wheeler, L.,** Kaldor, E., & Grupp, L. (November, 2022). Connect, reflect, write, repeat: A professional practice promoting well-being. An interactive session for the annual POD Network Conference, Seattle, Washington.

Flaming, A., Andreoli, J., Fournier, E., Hakala, C., Taggart, J., **Wheeler, L.,** Smith, A., & Hawkins, G. (November, 2022). POD Writes: Re-connecting through the scholarship of educational development. A POD sponsored session for the annual POD Network Conference, Seattle, Washington.

Case, K., Lukes, L., Henry, D., **Wheeler, L.,** & Wells, M. (November, 2022). Strategic SoTL Program Planning Tools for Educational Developers Engaging Faculty. A poster for the annual POD Network Conference, Seattle, Washington.

Little, D., Kaldor, E., **Wheeler, L.**, Caulkins, J., Grupp, L. (May, 2022). *Fractal Reflection: A Novel EdDev Research Methodology.* A presentation for the annual International Consortium of Education Development (ICED) conference, Aarhus, Denmark.

Dickens, E., Taggart, J., & **Wheeler, L.** (May, 2022). *Leveraging Institutional Data to Improve Equity and Justice.* A workshop for the International Consortium of Educational, Developers (ICED) conference, Aarhus, Denmark.

Lukes, L., Baum, L., Brantmeier, E., Case, K., Henry, D., Taggart, J., Wells, M., & **Wheeler, L.** (May, 2022). *Planning SoTL Educational Development Initiatives.* Paper for the International Consortium of Educational, Developers (ICED) conference, Aarhus, Denmark.

Wheeler, L., Henry, D., & Baum, L. (February, 2022). *SoTL Collaboratory: A 4-VA Funded Community of Practice for Faculty Developers.* A presentation for the Conference on Higher Education Pedagogy, Blacksburg, VA.

Landy, K., Little, D., **Wheeler, L.**, Tapp, S., Flaming, A., Caulkins, J., & Kaldor, E. (November, 2021). *Contexts for Agency: Leveraging Fractal Reflection Through and Beyond Crisis.* A live interactive session for the POD Network annual conference, Online.

Streifer, A., **Wheeler, L.**, & Gravett, E. (November, 2021). *Student Perceptions of Instructors' Race and Gender.* A pre-recorded presentation for the POD Network annual conference, Online.

Bach, D., Mandeltort, L., Taggart, J., **Wheeler, L.**, & Williams, C. (September, 2021). *Understanding Barriers and Supports for Building Sustainable, Relationship-Rich Academic Environments.* A presentation for the Coalition for Life Transformative Education annual conference, Online.

Marbach-Ad, G., Thompson, K., Sheehan, P., **Wheeler, L.**, Ghent, C., & Bortiatynski, J. (April, 2021). *Exploring Students' Values and Classroom Experiences across a Consortium of Four Universities.* A pre-recorded presentation for the National Association for Research in Science Teaching annual conference, Online.

Wheeler, L., Cruz, L., & Flaming, A. (November, 2020). *Developing Communities Through the Scholarship of Educational Development.* A pre-recorded POD sponsored session for the POD Network annual conference, Online.

Sheehan, P., Ghent, C., Bortiatynski, J., Marbach-Ad, G., Thompson, K., & **Wheeler, L.** (June, 2020). *Student Values and Experiences Across a Consortium of Universities: Sharing Data with Faculty and Administration to Inform Change.* A virtual presentation for the Network of STEM Education Centers annual conference, Online.

Wheeler, L., Cruz, L., Flaming, A., & Dickens, E. (Accepted, 2020). *Dexterity as Discipline: Framing the Future of the Scholarship of Educational Development.* A workshop for the International Consortium of Educational Development annual conference. Because of the global COVID-19 pandemic, this presentation could not be given as intended.

Sturtevant, H., & **Wheeler, L.** (Accepted, 2020). *Understanding Faculty Use of EBIPs in Chemistry Education: Barriers and Dissatisfaction.* A paper for the Biennial Conference on Chemical Education. Because of the global COVID-19 pandemic, this presentation could not be given as intended.

Ma, H., Guadagni, G., & **Wheeler, L.** (February, 2020). *Teaching Methods Course for Engineering TAs.* A presentation for the Conference in Higher Education Pedagogy annual conference, Blacksburg, VA.

Wheeler, L., Palmer, M., Giering, J., & Hunger, G. (January, 2020). *Lessons Learned from a Pilot Learning Assistants Program in Chemistry and Math.* A poster presentation for the Association of American Universities STEM Network annual conference, Washington, D.C.

Wheeler, L., Cruz, L., & Walsh, K. (November, 2019). *Connecting to and Through the Scholarship of Educational Development.* A POD Sponsored session for the POD Network annual conference, Pittsburgh, PA.

Wheeler, L., Sloane, J., & Sturtevant, H. (November, 2019). *Spark: Transforming STEM Education through Teaching Assistant Pedagogical Support.* A poster for the POD Network annual conference, Pittsburgh, PA.

Sloane, J., & **Wheeler, L.** (November, 2019). *Pilot Learning Assistant Program: Exploring the Impact on Learning Assistants.* A presentation for the POD Network annual conference, Pittsburgh, PA.

Sturtevant, H., & **Wheeler, L.** (July, 2019). *Student Perceptions of GTAs in an Inquiry-Based General Chemistry Laboratory: An Exploratory Study of the Impact of a Teaching Methods Course.* A poster for the Chemistry Education Research Graduate Student Postdoc Professional Development annual conference, Oxford, OH.

Sloane, J.D., **Wheeler, L.B.**, & Manson, J.S. (July, 2019). *Teaching Nature of Science in General Biology: Impacts on Students' Acceptance of Evolution.* A presentation for the Society for the Advancement of Biology Education Research annual conference, Minneapolis, MN.

Thompson, K., Marbach-Ad, G., **Wheeler, L.**, Ghent, C., Campbell, J., Malcos, J., & Bortiatynski, J. (June, 2019). *Developing a Collaborative by Extending a Research Project.* A presentation for the Network of STEM Education Centers annual conference, Omaha, NE.

Wheeler, L. (May, 2019). *Making Small Changes to Introductory and/or Large-Enrollment Courses that Bring Context into our Classrooms.* A presentation for the annual Innovations in Pedagogy Summit, Charlottesville, VA.

Mumba, F., Ochs, L. & **Wheeler, L** (April, 2019). *Developing Chemistry Teaching Assistants' Pedagogical Orientations Towards Inquiry Instruction.* A paper presentation for the American Educational Research Association annual conference, Toronto, Canada.

Sturtevant, H. & **Wheeler, L.** (November, 2018). *Faculty Barriers: Exploring Factors Impeding the Use of Evidence-Based Practices.* A presentation for the POD Network annual conference, Portland, OR.

Wheeler, L.B. & Bach. D. (November, 2018). *Making Assessment Matter: Linking Interventions, Instructional Practices, and Academic Achievement.* A presentation for the POD Network annual conference, Portland, OR.

Flaming, A.B., Cruz, L., **Wheeler, L.B.**, & Dickens, E. (November, 2018). *Next Generation Scholarship of Educational Development (SoED): Leveraging the Disciplines*. A presentation for the POD Network annual conference, Portland, OR.

Sturtevant, H. & **Wheeler, L.** (July, 2018). *Student Perceptions of GTAs in an Inquiry-Based General Chemistry Laboratory: An Exploratory Study of the Impact of a Teaching Methods Course.* A presentation for the Biennial Conference on Chemical Education, South Bend, IN.

Ridgway, J. **Wheeler, L.**, & Sturtevant, H. (June, 2018). *STEM Teaching Assistants: Two Models for Supporting TAs in Learning, Valuing, and Implementing Evidence-based Instructional Practices*. A roundtable session for the National STEM Education Centers annual conference, Columbus, OH.

Helmke, B., Zunder, B., **Wheeler, L.** & Kressin, L. (May, 2018). *Creating an Inclusive Environment for Collaboration in Active Learning Classrooms*. A workshop for the annual Innovations in Pedagogy Summit, Charlottesville, VA.

Mulvey, B.K., **Wheeler, L.B.**, Maeng, J.L., & Bell, R.L. (January, 2018). *STEM Graduate Students' Changes in Nature of Science Conceptions in a Teaching Methods Course.* A paper presentation for the Association for Science Teacher Education annual conference, Baltimore, MD.

Wheeler, L.B., & Connors, K.C. (October, 2017). *Impact of Educational Development Interventions: A Mixed-Methods Comparative Study*. A presentation for the POD Network annual conference, Ontario, Canada.

Wheeler, L.B., & Gonczi, A.L. (January, 2017). *Ability Beliefs of Students in an Undergraduate Chemistry Inquiry Context: Their Role in Mediating Student Attitudes and Learning.* A paper presentation for the Association for Science Teacher Education annual conference, Des Moines, IA.

St. Claire, T., Maeng, J., **Wheeler, L.**, & Bell, R (January, 2017). *Mixed-Methods Analysis of Science Teacher Educator Professional Development Practices.* A paper presentation for the Association for Science Teacher Education annual conference, Des Moines, IA.

Wheeler, L.B., Palmer, M., Connors, K. (November, 2016). *Development and Implementation of Observational Studies to Assess Classroom Practices.* A presentation for the POD Network annual conference, Louisville, KY.

Wheeler, L.B., & Palmer, M. (May, 2016). *Creating syllabi for courses you'll love to teach & students will love to take*. A presentation for the annual Innovations in Pedagogy Summit, Charlottesville, VA.

Wheeler, L.B., & Clark, C. (May, 2016). *Supporting Graduate Teaching Assistants: Making Learning About Teaching Visible.* A presentation for the annual Innovations in Pedagogy Summit, Charlottesville, VA.

Wheeler, L.B., Maeng, J.L., Chiu, J.L., & Bell, R.L. (April, 2016). *Do Teaching Assistants Matter? Assessment of Teaching Assistants Impact on Student Outcomes in a General Chemistry Laboratory*. A

paper presentation for the National Association for Research in Science Teaching annual conference, Baltimore, MD.

Wheeler, L.B., Chiu, J.L., Maeng, J.L., & Bell, R.L. (January, 2016). *Inquiry-Based Professional Development For General Chemistry Laboratory Teaching Assistants: Changes in Teaching Assistants' Knowledge, Beliefs and Confidence*. A paper presentation for the Association for Science Teacher Education annual conference, Reno, NV.

Palmer, M.P., **Wheeler, L.B.**, & Aneece, I.P. (November, 2015). *Not Your Granddaddy's Syllabus: Investigating Student Perceptions of Course Syllabi.* A presentation for the POD Network annual conference, San Francisco, CA.

St.Claire, T.L., Maeng, J.L., Bell, R.L., & **Wheeler, L.B.** (April, 2015). *Exploring Science Education Faculty Attitudes Toward Standardized Testing,* A paper presentation for the National Association for Research in Science Teaching annual conference, Chicago, IL.

Wheeler, L.B., Maeng, J.L., & Whitworth, B.A. (April, 2015). *Assessing a Professional Development for Teaching Assistants in a Project-Based Guided Inquiry General Chemistry Lab*. A paper presentation for the National Association for Research in Science Teaching annual conference, Chicago, IL.

St.Claire, T.L., Maeng, J.L., Bell, R.L., & **Wheeler, L.B.** (January, 2015). *Science Education Faculty Vexations and Ventures with Standardized Testing*. A paper presentation for the Association for Science Teacher Education annual conference, Portland, OR.

Wheeler, L.B., Maeng, J.L., & Whitworth, B.A. (July, 2014). *Teaching Assistant Role and Perceptions: Assessment of Professional Development to Support Project-Based, Guided Inquiry Approach in General Chemistry Labs*. An oral presentation for the Annual IUPAC International Conference on Chemistry Education, Toronto, Canada.

Wheeler, L.B., Maeng, J.L., & Whitworth, B.A. (March, 2014). *Assessing a Professional Development for Teaching Assistants Implementing a Project-Based Guided-Inquiry Approach to General Chemistry Laboratories*. A poster for the annual Curry Research Conference, Charlottesville, VA.

St. Clair, T., **Wheeler, L.B.**, & Maeng, J.L. (January. 2014). *Outcomes of the Science Education Faculty Academy Professional Development.* A paper presentation for the Association for Science Teacher Education annual conference, San Antonio, TX.

Wheeler, L.B., Barnhill, B., Lariviere, C., & Grisham, C. (November, 2013). *Implementation of a Project-Based Guided Inquiry Approach to General Chemistry Labs*. An oral presentation for the Southeast Regional Meeting of the American Chemical Society, Atlanta, GA.

K-12 Education Presentations

Wheeler, L., Navy, S. Maeng, J.L. & Whitworth, B.A. (April, 2019). *Classroom Observation Protocol for Engineering Design (COPED): Instrument Development, Validation, and Implications for Use*. A paper presentation for the National Association of Research in Science Teaching annual conference, Baltimore, MD.

Maeng, J.L., Edmondson, E., Gonczi, A., & **Wheeler, L.B.** (January, 2019). *Problem-Based Learning: A Context to Support Student and Teacher Learning and Integration of Literacy, NOS and Inquiry Instruction*. A paper presentation for the Association for Science Teacher Education annual conference, Savannah, GA.

Wheeler, L.B., Navy, S., Maeng, J.L., & Whitworth, B.A. (January, 2018). *Development and Validation of the Classroom Observation Protocol for Engineering Design (COPED)*. A paper presentation for the Association for Science Teacher Education annual conference, Baltimore, MD.

Maeng, J.L., Whitworth, B.A., Dubois, S., & **Wheeler, L.B.** (January, 2017). *Incorporating Engineering Design into Elementary Science Instruction: Frequency, Content, and Process.* A paper presentation for the Association for Science Teacher Education annual conference, Des Moines, IA.

Whitworth, B. A., Maeng, J. L., **Wheeler, L. B.**, & Chiu, J. L. (April, 2016). *A Foundational Study of the District Science Coordinators' Role in Supporting Science Instruction.* A paper presentation for the National Association for Research in Science Teaching annual conference, Baltimore, MD.

Maeng, J.L., **Wheeler, L.B.**, & Gonczi, A.L. (November, 2015). *Using Simulations and Inquiry to Teach Nature of Science.* A presentation for the Virginia Association of Science Teachers annual conference, Chantilly, VA.

Whitworth, B.A., Maeng, J.L., **Wheeler, L.B.**, & Chiu, J. L. (January, 2015). *Critical Factors Impacting the Role of a District Science Coordinator*. A paper presentation for the Association for Science Teacher Education annual conference, Portland, OR.

Maeng, J.L. & **Wheeler, L.B.** (November, 2014). *Inquiry Inquiries: Differentiation & Scientific Practices*. A presentation at the Virginia Association of Science Teachers annual meeting, Roanoke, VA.

Whitworth, B. A., Maeng, J. L., **Wheeler, L. B.**, & Chiu, J. L. (April, 2014). *Understanding The Critical Role of a District Science Coordinator.* A poster for the National Association of Research in Science Teaching annual conference, Pittsburg, PA.

Gonczi, A. L., Bell, R. L., Maeng, J. L., & **Wheeler, L. B.** (March, 2013). *Analysis of Instructional Computer Simulation Use by Elementary and Secondary Teachers.* A poster for the National Association of Research in Science Teaching annual conference, San Juan, PR.

Wheeler, L. B., Whitworth, B.A., Maeng, J.L., & Bell, R.L., (March, 2013). *Understanding and Scaffolding Inquiry: A Tale of Three Teachers.* A poster for the National Association of Research in Science Teaching annual conference, San Juan, PR.

Wheeler, L. B., Maeng, J.L., Bell, R.L., & Whitworth, B.A. (February, 2013). *Secondary Science Teachers' Understanding and Practices of the Levels of Inquiry.* A poster for the annual Curry Research Conference, Charlottesville, VA.

Wheeler, L.B., Bell, R.L., & Whitworth. B.A. (January, 2013). *Three Teachers' Implementation of Inquiry*

in the Secondary Science Classroom. A paper presentation for the Association of Science Teacher Educators annual conference, Charleston, SC.

Gonczi, A.L., Bell, R.L., Maeng, J.L, & **Wheeler, L.B.** (January, 2013). *VISTA and Gizmos™: Analysis of Simulation Use in Science Instruction.* A paper presentation for the Association of Science Teacher Educators annual conference, Charleston, SC.

Wheeler, L.B., Whitworth, B.A., Barry, L., Chase, A., Tuska, A., Verner, M. Maeng, J.L. & Bell, R.L. (November, 2012). *Differentiating inquiry.* A presentation at the Virginia Association of Science Teachers annual conference, Williamsburg, VA.

Smetana, L.K., Bell, R. L., & **Wheeler, L.B.** (March, 2012). *Simulating Science in the Physical and Earth Science Classroom.* A paper presentation at the National Science Teachers Association annual conference, Indianapolis, IN.

Germunson, A., **Wheeler, L. B.**, Bell, R.L., Gardner, C., Peairs, J., Newman, M., & Lee-Park, J. (November, 2011). *CSI: Crime Scene Inquiry.* A presentation at the Virginia Association of Science Teachers annual conference, Roanoke, VA.

Cunningham, J., **Buford, L.**, Justus, C., O'Conner, E., Zafrane, D., Farquhar, H., Smetana, L., & Bell, R.L. (November, 2007). *CSI: Collaborative Science Inquiry.* A presentation at the Virginia Association of Science Teachers annual conference, Williamsburg, VA.

Grants

Funded National Grants

Leadership team member. Roksa, J., Columbus, L., Giering, J., **Wheeler, L.**, Densberger, K., John, K., Morgan, K., Hunger, G., & Barker, S. *HHMI IE3 UVA.* ($8.07M, funded total for Learning Community 3; $517,500 to UVA; November 2022-May 2028). Inclusive Excellence 3 grant, Howard Hughes Medical Institute.

Co-Principal Investigator. Ghent, C., Marbach-Ad, G., Bortiatynksi, J., & **Wheeler, L**. ($10,000, funded; October 2018-August 2019). *RECCUSE: REgional Consortium for Change in Undergraduate STEM Education through data-driven faculty professional development.* Research Action Cluster (RAC), Network of STEM Education Centers.

Co-Principal Investigator. Palmer, M., **Wheeler, L**., Hunger, G., & Giering, J. ($20,000, funded; 2017-2019). *Pilot Implementation of a peer instruction model for gateway STEM instructors.* Mini Grant Program, Association of American Universities.

Co-Principal Investigator. Mumba, F., **Wheeler, L**., Bychkov, M., Cronmiller, C., & Tai, R. ($599,484, funded; July 25, 2016-July 25, 2019, award 1626249). *Developing teaching assistants? Pedagogical knowledge of inquiry science teaching and instructional leadership skills, and assessing the impact on student learning.* Improving undergraduate STEM Education (IUSE), National Science Foundation.

Funded Regional Grants

Co-Principal Investigator. Lukes, L. Brantmeier, E., Case, K., Filer, K., Wells, M., **Wheeler, L.**, & Taggart, J. ($26,980, funded total for VT, GMU, VCU, JMU, UVA; $5,000 to UVA; August 2021-May 2022). *Energizing Scholarship of Teaching and Learning (SoTL) production in Virginia through the development of a regional community of practice for SoTL faculty developers.* 4-VA Grant extension funding, University of Virginia.

Co-Principal Investigator. Lukes, L. Brantmeier, E., Case, K., Filer, K., Wells, M., **Wheeler, L.**. ($45,000, funded total for VT, GMU, VCU, JMU, UVA; $5,000 to UVA; November 2020-May 2021). *Energizing Scholarship of Teaching and Learning (SoTL) production in Virginia through the development of a regional community of practice for SoTL faculty developers.* 4-VA Grant, University of Virginia.

Co-Principal Investigator. Magliaro, S., Newbill, P., Byers, A., Cresawn, K. O., Edmondson, E., Jones, R., Maeng, J. L., Seshaiyer, P., Webb, A., & **Wheeler, L.**. ($44,481, funded total for VT, GMU, VCU, JMU, UVA; $5,000 to UVA; March 2019-March 2020). *Development of a blueprint for the Virginia STEM ecosystem.* 4-VA Grant, University of Virginia.

Principle Investigator. **Wheeler, L.**, & Harsh, J. ($20,650, funded total for UVA & JMU; $15,650, funded to UVA; May 2017-May 2019). *Development and implementation of UTA teaching methods courses*. Exploratory Grant, 4-VA.

Funded Internal Institution Grants

Co-Principal Investigator. Garibay, J., Berne, R., & **Wheeler, L.** ($60,000, funded; May 2022-May 2023). *Race in the stem curriculum? Exploring the educational impact of science and engineering courses integrating issues of racial inequality*. Three Cavaliers (3C), University of Virginia.

Co-Principal Investigator. Inkelas, K., **Wheeler, L.**, Redwine, M., & Levine, A. ($141,173, funded; April 2019-August 2022). *Tools to transform student experiences in the classroom.* Jefferson Trust Grant, University of Virginia.

Co-Principal Investigator. Inkelas, K., **Wheeler, L.**., & Levine, A. ($60,000, funded; October 2018-September 2019). *Development of a classroom observation protocol to improve college teaching and Learning*. Three Cavaliers (3C), University of Virginia.

Co-Principal Investigator. Inkelas, K., **Wheeler, L.**, Redwine, M. ($10,000, funded; June 2018-June 2019). *ROCA and DOTS: Tools to improve college teaching.* Curry IDEAs*,* University of Virginia.

Co-Principal Investigator. Ma, H., Guadagni, G. & **Wheeler, L.** ($89,088, funded; April, 2017-August 2019). *Teaching methods course for engineering TAs*. Jefferson Trust Grant, University of Virginia.

Principle Investigator. **Wheeler, L.**, Murphy, E.M., Cronmiller, C., & Bychkov, M. ($31,500, unfunded; June 1, 2016-May 31, 2017). *Technology integration into a cross-disciplinary teaching course for science TAs.* Learning Technologies Incubator Grant, University of Virginia.

Principal Investigator. **Wheeler, L.**, Murphy, E.M., & Bychkov, M.A. ($57,532, funded; May 1, 2016-December 31, 2017). *Development and implementation of an interdisciplinary graduate student teaching seminar in science.* Jefferson Trust Grant, University of Virginia.

Principle Investigator. **Wheeler, L.** ($2,420, funded; August 25, 2015-May 25, 2016). *Using technology to tailor instruction in a project-based chemical foundations course.* Learning Technologies Incubator Grant, University of Virginia.

Co-Principal Investigator. Grisham, C.M., Hall, T.E., Holt, J.J., Mills, A.L., & **Wheeler, L.** ($10,725, funded; August 25,2015-May 25, 2016). *Further development of "introduction for coding" courses for undergraduates*. Learning Technologies Incubator Grant, University of Virginia.

Co-Principal Investigator. Grisham C.M. & **Wheeler, L.** ($33,500, funded; May 1, 2014-August 25, 2015). *Team-based guided inquiry laboratories for introductory chemistry students.* Jefferson Trust Grant, University of Virginia.

Unfunded Grants

Co-Principal Investigator. Palmer, M. & **Wheeler, L.** ($171,000, un-funded; June 2022-July 2024). *Data liberation: Improving equity, student learning and engagement through evidence-based decisions.* Jefferson Trust Grant, University of Virginia.

Co-Principal Investigator. Cruz, L., Smitherman, M., & **Wheeler, L.** ($50,000, un-funded; June 2020-June 2021). *Educational development in an age of crisis: Research on compassionate change in higher education.* Research Grants on Education: COVID-19 Related Special Grant Cycle, Spencer Foundation.

Co-Principal Investigator. Newbill, P., Magliaro, S., Byers, A., Cresawn, K. O., Edmondson, E., Jones, R., Maeng, J. L., Seshaiyer, P., Webb, A., & **Wheeler, L.** ($50,000, un-funded; January 2020-January 2021). *The role of higher education in the development and implementation of Virginia's statewide STEM Network.* Conference Grant Program, Spencer Foundation.

Principle Investigator. **Wheeler, L.**, Palmer, M.P., & Trella, P ($496,784, unfunded; July 2018-July 2021). *Teaching to careers: Training in evidenced based pedagogy as innovation for the development of diverse STEM career paths.* Innovations in Graduate Education (IGE), National Science Foundation.

Co-Principal Investigator. Harman, W. D., **Wheeler, L.**, Gonczi , A. L., & Grisham, C. M. ($299,925, unfunded; July 1, 2016-July 1, 2018). *Mindsets in undergraduate chemistry laboratories.* Improving Undergraduate STEM Education, National Science Foundation.

Consulting & Evaluation

2021-2023 *Transforming Assessment, Feedback, and Grading in Undergraduate Biology Education*, *Simmons College*
Advisory board member for 1-year National Science Foundation funded grant project for research on assessment and grading practices in the U.S..

Summer 2019 *CLICK Virtual Exchange*, *Gazelle International*
Provided feedback and a roadmap for re-designing online faculty workshops to better support the CLICK Virtual Exchange program.

Summer 2018 *GenCyber Teacher Camp, University of Virginia*
Led evaluation of 1-year National Security Agency funded grant project to identify the success of the week-long immersive camp on teachers' confidence in and intention to implement cybersecurity topics in their classrooms.

Summer 2018 *SciComm Program*, *University of Virginia*
Led formal evaluation of 1-year National Science Foundation funded grant project to assess the impact of a year-long program on STEM graduate students' communication skills

2016-2018 *Elementary Literacy in STEM (ELIS)*, *University of Virginia & Virginia Commonwealth University*
Led formal evaluation of 3-year Virginia Department of Education funded grant project to assess the effectiveness of science professional development on elementary teacher and student outcomes.

2014-2015 *Advanced Research Computing Services*, *University of Virginia*
Designed and implemented assessment of newly designed computer programming course to determine impact of flipped classroom approach on student confidence and ability to program.

SERVICE

University Service

University Committees

- Committee member – *Committee on Evaluating Teaching*, Office of the Provost, UVA, 2022-present.
- Subcommittee chair – *University Teaching & Learning Technology (UTLT) Committee*, Office of the Provost, UVA, 2021-present.
- Reviewer – *4-VA Grant Proposals*, Office of the Provost, UVA, 2021.
- Committee Member & Reviewer – *Graduate Teaching Awards,* Office of Graduate & Postdoctoral Affairs, UVA, 2020.
- Core planning & implementation team – *Course Evaluations working group,* UVA, 2020.
- Committee Member – *Blue Course Evaluation Implementation*, UVA, 2019-2020.
- Committee Member – *Data Governance*, UVA, 2019.
- Advisory Board Member - *Educational Innovation Program*, School of Engineering and Applied Sciences at UVA, 2018-2019.
- Undergraduate research judge – *Undergraduate Research Network Symposium*, UVA, 2018.
- Committee Member – *Graduate Studies Committee,* Chemistry Department at UVA, 2017-2018.

- Committee Member – *Advocacy Committee*, Chemistry Department at UVA, 2016-2017.
- Committee Member & Reviewer – *Graduate Teaching Awards*, Graduate School for the Arts & Sciences at UVA, 2016.
- Committee Member – *Undergraduate Studies Committee,* Chemistry Department at UVA, 2015-2016.
- Committee Member – *Assessment Committee*, Chemistry Department at UVA, 2014-2016
- Graduate Student Representative – *Curry Program Review Committee,* Curry School at UVA, 2013-2014.
- Academic Affairs Chair – *Ed Council*, Curry School at UVA, 2013-2014.
- Proposal Committee Chair – *Curry Research Conference*, Curry School at UVA, 2013-2014.
- Alumni Representative - *Advisory Committee*, Forensic Science Department at VCU, 2007-2008.

Dissertation Committees

- Annika Kraft, Chemical Education, University of Virginia, 2023.
- Ann McAlister, Science Education, University of Virginia, 2020-2022.
- Lu Shi, Chemical Education, University of Virginia, 2022.

Professional Service

Professional Organization Committees

- Chair– *Scholarship Committee*, Professional & Organizational Development, 2018-2020.
- Committee Member – *COACHE Partnership Taskforce,* Professional & Organizational Development, 2018
- Committee Member – *Professional Development Committee*, Association for Science Teacher Education, 2017-2020.
- Sub-committee co-chair – *Scholarship Committee*, Professional & Organizational Development, 2016-2018.
- Committee Member – *Membership Committee,* Professional & Organizational Development, 2015-2017.
- Graduate Student Representative - *Publications Committee*, Association for Science Teacher Education, 2013
- Committee Member - *Principal's Advisory Committee*, Rockbridge County High School, 2009-2011.
- Committee Member - *Governor's School Selection Committee*, Rockbridge County High School, 2009-2011.
- Committee Member - *Jefferson Scholars Selection Committee*, Rockbridge County High School, 2010.

Conference Organization

- Menges Award reviewer, *POD Network Conference*, 2020, 2021.

- Roommate coordinator, *POD Network Conference*, 2018, 2019.
- Strand coordinator, *College & University Science Education strand,* Association for Science Teacher Education, 2016, 2017.
- Presider, *Annual national conference*, Association for Science Teacher Education, 2012-2018.
- Program Coordinator Co-chair – *Curry Research Conference,* Curry School at UVA, 2012-2013.
- Executive and founding member - *Forensic Science Student Club*, Forensic Science Department at VCU, 2002-2003.

Reviewing & Editing

Editor roles

- Guest Editor – *Education Sciences*, 2023
- Editor-in-Chief - *To Improve the Academy*, 2021-2023
- Associate Editor – *To Improve the Academy*, 2019-2021

Editorial Board Member

- Journal of Mathematics and Science: Collaborative Explorations, 2019-2022
- Journal of Research in Science Teaching, 2018-2021
- Journal of Science Teacher Education, 2016-2019

Invited Reviewer

- Science Education, 2019-present
- Journal of Engineering Education, 2019-present
- International Journal for STEM Education, 2019-present
- Virginia Journal of Science Education, 2018-present
- International Journal of Scholarship of Teaching and Learning, 2018-present

Manuscript Reviewer

- Journal of Research in Science Teaching, 2017-present
- Journal of Chemical Education, 2016-present
- Journal of Science Teacher Education, 2016-present
- Chemical Education Research and Practice, 2015-present
- Journal of College Science Teaching, 2015-present
- International Journal of Science Education, 2014-present

Conference Proposal Reviewer

- Professional & Organizational Development, 2016-2021
- National Association for Research in Science Teaching, 2013-2020
- Association for Science Teacher Education, 2013-2018
- Curry Research Conference, 2012

Textbook Editing & Book Reviews

- Book Reviewer for *American Chemical Society*, 2019.

- Chemistry textbook editor for *McGraw-Hill*, 2013.
- Co-editor for *Chemical Principals in the Laboratory 8th ed.*, Chemistry Department at UVA, 2008.
- Book Reviewer for *American School Board Journal*, 2007.

K-12 Service

Professional Development Workshops & Programs

- *Everyday Science: Integrating Nature of Science into the Preschool Classroom.* A 90-minute workshop for Millstone of Ivy Preschool. Ivy, VA. November 7th, 2017.
- *Simplifying Inquiry Instruction.* With Randy Bell, Jenn Maeng, Brooke Whitworth, and Amanda Gonczi. Helped implement 1-day workshop for teachers. Prince William County Public Schools, In-Service Training. August 31, 2011.
- *Introducing Middle School Students to Careers in Forensic Science Through After School Investigations.* With Cindy Shorter. NEXT After School Program, Rockbridge County High School. 2008
- *Utilizing Crime Scene Investigation to Teach Middle School Students Science.* UVA's Curry School Summer Enrichment Program (SEP). July, 2006.

Other K-12 service

- Science Fair Judge - *Virginia Piedmont Regional Science Fair*, 2013.
- Science Fair Judge - *Fairfield Elementary School*, 2009-2011.

Memberships

- Professional & Organizational Development Network
- Association for Science Teacher Education
- National Science Teachers Association
- National Association of Research in Science Teaching
- Royal Society of Chemistry
- American Chemical Society