








Randi Sims, Ph.D.

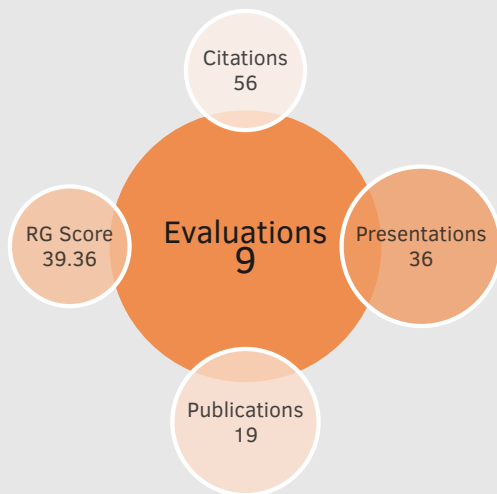
Senior Consultant at
Quality Evaluation Designs

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Bio

Dr. Randi Sims earned her Ph.D. in Engineering and Science Education at Clemson University and is a senior consultant with Quality Evaluation Designs. With 8+ years leading STEM higher-ed program evaluation, she applies qualitative and advanced quantitative methods to advance equity and belonging in research experiences and to design systems that improve student persistence, achievement, and inclusion.

Metrics



Evaluation Experience

Quality Evaluation Designs

Senior Consultant

2025

Student Research on Sweden's Energy Transition

Interdisciplinary international research initiative engaging U.S. students in studying Sweden's clean energy transition to advance understanding of the technological and social dimensions of national sustainability efforts.

- Currently leading evaluation plan to support the efforts of an undergraduate student research initiative.
- Designed evaluation instruments (surveys, interviews).

2024 – 2025

Advocacy Building Campaign for Engineering Education Research

National initiative to elevate the visibility and impact of engineering education research by communicating its value to academic, industry, and policy stakeholders in addressing critical national challenges.

- Developed and led evaluation plan to support the efforts of engineering education researchers nationally.
- Supervised one graduate student.
- Analyzed data and disseminated interim reports.

Quality Evaluation Designs

Junior Consultant

2025

Penn State Acoustics Program

Evaluation for the Penn State Graduate Program in Acoustics.

- Assisted in developing program recommendations to support initiatives within the graduate degree program.
- Led qualitative data collection and analysis; conducted quantitative analysis.

2024

Engineering Education and Research Centers

Evaluation of NSF-supported engineering education conferences using a parallel design to assess outcomes, address stakeholder feedback, and ensure continuity with prior years' evaluation metrics.

- Led quantitative and qualitative analysis and supported data collection.

Independent Consulting

2024 – 2025

Entrepreneurial Mindset and Cultural Wealth in Engineering

- Developed and led research plan.
- Deployed and validated measurement surveys.
- Mentored first-year education researchers from planning through dissemination.

Education

Postgraduate Studies

Fall 2025

Ph.D. in Engineering and Science Education

Clemson, SC

Title: Legitimacy, Learning, and LAUNCH: Exploring Relationships, Community, and Connection in an Undergraduate Research Experience

Supervisor: Dr. Karen High

2020 – 2022

M.S. in Biological Sciences

Clemson, SC

Title: Evaluating the Impact of Research and Outreach Marine Science Programs on Elementary and Undergraduate Students

Supervisor: Dr. Michael Childress

Other Training

Fall 2023

Data Science in Education with R Workgroup

Clemson, SC

Training in advanced statistical techniques contextualized to education research and evaluation using R.

Profiles



Interests

- Organizational Evaluation
- Institutional Evaluation
- Social Data Science
- Survey Development and Validation
- Undergraduate Research

Memberships

American Society Engineering Education
Member

American Evaluation Association
Member

Mentorship

Management

National Brick Research Center

1 full-time employee

4 part-time undergraduate employees

Project Management

Clemson University

4 faculty mentees

3 graduate mentees

3 undergraduate mentees

Research Mentorship

Clemson University

1 graduate mentee

90 undergraduate mentees

References

Dr. Karen High

Advisor – Clemson University

khigh@clemson.edu

Dr. Gary Lichtenstein

Owner – Quality Evaluation Designs

gary@qualityevaluationdesigns.com

Dr. Kristin Frady

Faculty – Clemson University

frady@clemson.edu

Skills

Professional Expertise

Evaluation Planning and Implementation

- Experience building strategic plans for large projects with intersecting stakeholders
- 9 professional evaluations (3 as lead)
- Development of evaluation questions and plans
- Budgetary expertise for multi-million dollar projects
- Report development and dissemination
- Experience with institutional review boards (4 institutions)

Qualitative Research

- 30+ projects utilizing R including the use of advanced predictive, inferential, and descriptive Statistics
- 13 projects utilizing Python for AI integration including machine learning and random forest modeling

Proficient

Grant Proposal Development

- Developed 5 national (2 funded) and 10+ state grant proposals (6 funded)
- Designed research plans (2 national, all state)
- Designed evaluation plans (3 national)
- Developed budgets (2 national, 10+ state)

Programming and Statistics

Advanced

R

- 30+ professional projects
- Tidyverse, haven, ggplot package knowledge
- Advanced visualization techniques
- Predictive, inferential, descriptive statistical analyses

Proficient

Python

- 3 professional and 10+ personal projects
- API's for data collection
- One project utilizing Scikit-learn and TensorFlow
- AI integration including machine learning and random forest modeling

Selected Peer-Reviewed Publications

Journal Articles and Book Chapters

- Payton, T. G., Sims, R. J., Bulik, L. T., & Childress, M. J. (2026). Marine clean-up dives remove more than just marine litter. *Marine Pollution Bulletin*, 226, 119382. <https://doi.org/10.1016/j.marpolbul.2026.119382>
- Watts, K., Sims, Randi, Ko, E., Jensen, K., Bates, R., Lichtenstein, G., & Benson, L. (2023). Peer reviewer training to build capacity in engineering education research. *Australasian Journal of Engineering Education*, 1–22. <https://doi.org/10.1080/22054952.2023.2214459>
- Tallapragada, M., Sims, Randi J., Payton, T. G., Noonan, K. R., Bridgeford, K. E., Smith, K. M., Fuentes, M., Prosser, K. L., & Childress, M. J. (2023). Something Very Fishy (SVF): Avenues of Communication to Inspire Engagement with Climate and Marine Science. In J. G. Burchfield & A. A. Kedrowicz (Eds.), *Teaching communication across disciplines for professional development, civic engagement, and beyond*. Lexington Books
- Sims, Randi, Tallapragada, M., Payton, T. G., Noonan, K., Prosser, K. L., & Childress, M. J. (2021). University Experiences of Marine Science Research and Outreach Beyond the Classroom. *Integrative and Comparative Biology*, 61(3), 1078–1088. <https://doi.org/10.1093/icb/icab104>

Conference Publications

- Sims, Randi, Brewer, S., Fender, L., Maron, K., Dwyer, A., High, K. A., & Van Puymbroeck, M. (2025). Piloting the empowers program: Inaugurating student-centered holistic mentorship for stem practitioners in academia. *Proceedings of the 2025 ASEE Annual Conference & Exposition*. <https://doi.org/10.18260/1-2--57047>
- Yeaman, A., Yuan, X., Lamas-Samanamud, G., Beem, H., Moore, J. M., & Sims, Randi. (2024). WIP: Survey validation to enable investigating community cultural wealth in engineering students' first year experiences (FYE). <https://doi.org/10.18260/1-2--48642>
- Frady, K. K., & Sims, Randi. (2023). A Qualitative Exploration of an Assets-Based Approach to Building Engineering Transfer Student Capital. *2023 IEEE Frontiers in Education Conference (FIE)*, 1–5. <https://doi.org/10.1109/FIE58773.2023.10343352>
- Sims, Randi, Watts, K., Ko, E., Bates, R., Lichtenstein, G., Jensen, K., & Benson, L. (2023). Overlooked, Underlying: Understanding tacit criteria of proposal reviewing during a mock panel review. *2023 ASEE Annual Conference & Exposition Proceedings*

