

UNIVERSITY of HOUSTON PHYSICS

Dr. Donna Stokes
Associate Professor and
Undergraduate Academic Advisor
<http://nsmn1.uh.edu/dwstokes/>



Scientific Research:

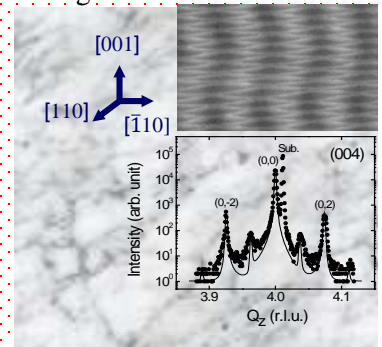
Dr. Stokes' scientific research focuses on understanding the structural and optical properties of semiconductor materials for the development of novel detectors and lasers for infrared applications. She utilizes research tools such as FTIR spectroscopy and X-Ray diffraction to understand the relationship of the nanostructure of materials to its optical response.

Sample Publications:

1. Cheryl J. Craig, Rakesh Verma, **Donna Stokes**, Paige Evans & Bobby Abrol, The influence of parents on undergraduate and graduate students' entering the STEM disciplines and STEM careers, *International Journal of Science Education*, DOI:10.1080/09500693.2018.1431853 (2018).
2. Cheryl J. Craig, JeongAe You., Yali Zou, Rakesh Verma, **Donna Stokes**, Paige Evans, Gayle Curtis, The embodied nature of narrative knowledge: A cross-study analysis of embodied knowledge in teaching, learning, and life knowledge in teaching, learning, and life, *Teaching and Teacher Education*, 71, 329 (2018).
3. Forrest, R.L., **Stokes, D.W.**, Burridge, A.B. and Voight, C.D., Math Remediation Intervention for Student Success in the Algebra-Based Introductory Physics Course, *Physical Review Physics Education Research*, 13, 20137 (2017).
4. Maznev, A. A., Hung, T.-C., Yao, Y.-T., Chou, T.-H., Gandhi, J. S., Lindsay, L., Shin, H. D., **Stokes, D. W.**, Forrest, R. L., Bensaoula, A., Sun, C.-K. and Nelson, K. A., Propagation of THz acoustic wave packets in GaN at room temperature, *Appl. Phys. Lett.*, **112**, 061903 (2018).
5. Forrest, R.L., **Stokes, D.W.**, Burridge, A.B. and Voight, C.D., Math Remediation Intervention for Student Success in the Algebra-Based Introductory Physics Course, *Physical Review Physics Education Research*, 13, 20137 (2017).
6. **Stokes, D.**, Evans, P., Craig, C., & Bott, S., Recruitment, Retention and Preparation of Secondary Physics and Chemistry Teachers. *American Physical Society Forum on Education Newsletter* (Fall 2016).

Educational Research:

Dr. Stokes is involved in educational research which focusses on preparation of Science and Math teachers for secondary education and on physics education research focusing improving student success in physics courses. Her approach utilizes inquiry based teaching and learning strategies for promotion of success in learning communities. She is currently an APS PhysTEC Fellow.



Recent Funding:

1. National Science Foundation, PI, "STEM Scholarship Program with Promotion and Retention of STEM Education through a Networking Team (PARENT) Support," \$1,000,000 (1/1/17 – 12/31/21).
2. National Science Foundation, Co-PI, "University of Houston: Learning through Informal and Formal Experiences," \$1,450,000 (09/01/16-08/31/21)
3. National Science Foundation, Senior Personnel, "Collaborative Research: Understanding Robert Noyce Teacher Scholarship Outcomes in Texas," \$447,763 (07/01/16-06/30/19).
4. National Science Foundation, PI, "Recruitment, Preparation and Retention of STEM Students as High School Teachers," \$ 980,005 (09/01/12 - 08/31/18).
5. University of Houston (TIP), Infusing Advanced Physics Courses with Demonstrations (09/01/16-10/31/17).
6. University of Houston (TIP), PI, "Enhancing Student Engagement in Physics Courses with Hybrid Courses and Social Media ," \$17,000 (9/01/17 - 8/31/18)