

# UNIVERSITY of HOUSTON PHYSICS

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

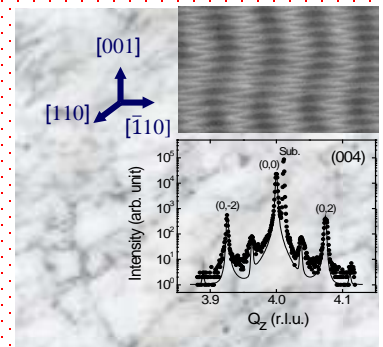


## Educational Research:

Dr. Stokes is involved in educational research which focuses 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.

## 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. **Stokes, D.**, Evans, P. and Craig, C., Developing STEM Teachers through both Informal and Formal Learning Experiences, Search and Research: Teacher Education for Contemporary Context. Editors Juanjo Mena, Ana Garcia Valcarcel, Francisco Garcia-Penalvo and Marta Martin del Pozo, Publisher Ediciones Universidad de Salamanca (July 2017).
2. Craig, C., Evans, P., **Stokes, D.** & Bott, S., Attracting, preparing and retaining teachers in high need areas: A science as inquiry model of teacher education. Chapter in M. Peters, B. Cowie & I. Mentor (Eds.) *A companion to research in teacher education*. New York, NY: Springer Publishing. (2017).
3. **Stokes, D.**, Evans, P., Craig, C., & Bott, S. (2016). Recruitment, Retention and Preparation of Secondary Physics and Chemistry Teachers. *American Physical Society Forum on Education Newsletter* (Fall 2016).
4. Pre-testing and early Intervention in Introductory General Physics I, **Donna W. Stokes**, Rebecca L. Forrest and Carol D. Voight, Publications from the 6<sup>th</sup> International Technology Education and Development Conference, Valencia, Spain (2012).
5. J. H. Li, **D. W. Stokes**, J. C. Wickett, O. Caha, K. E. Bassler, and S. C. Moss J., Effect of strain on the growth of InAs/GaSb superlattices: An x-ray diffraction study *Appl. Phys.* **107**, 123504 (2010).
6. H.J. Haugan, F. Szmulowicz, G.J. Brown, B. Ullrich, S.R. Munshi, S. Elhamri, J.C. Wickett and **D.W. Stokes**, Short Period InAs/GaSb superlattices for mid-infrared photodetectors, *Phys. Stat. Sol.*, **4**, 1702-1706 (2007).

## 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)