Announcing the Final Examination of Daniel Oleynik for the degree of Doctor of Philosophy in Physics

Date: August 12, 2025
Time: 1:00 pm
Room: https://ucf.zoom.us/j/98737497495
Dissertation title: Visibility, Viability, and Voice: A Mixed-Methods Study of Disability in Physics Education and Careers
Abstract:

Students with disabilities exist in physics and physics-related courses. As educators, it is our responsibility to help support them to succeed in physics undergraduate courses as well as give them the tools to succeed in future physics employment opportunities. To analyze the experiences of students, this study takes a double-pronged approach and looks at the perception of both practicing physicists and students about the experiences of undergraduate students with disabilities in physics to highlight differences between how practicing physicists perceive physics students with disabilities versus how physics students with disabilities perceive their own experiences in physics.

The first part of this study examines physics instructors' and mentors' perceptions of career viability for students with disabilities, using the Disability and Physics Career Survey (DPCS) to analyze differences in perceived viability across career and impairment. Utilizing Cochran's Q and McNemar's tests, we identified significant differences in practicing physicists' perceptions of career viability, contingent upon the specific career or impairment. Certain careers and impairments were consistently perceived less favorably than others. We argue that these differences in the perceptions of viability create barriers for disabled students to succeed in physics and negatively affect them when looking for physics-related careers.

The second portion of this study looks at the experiences of undergraduate students in physics with apparent and non-apparent impairments. Highlighting their stories, we find that all students, independent of the transparency of their impairment, have similar suggestions for and/or needs from their professors. We also find that using impairment to define apparent and non-apparent starts from a faulty assumption that some impairments are implicitly apparent or non-apparent. Combining these, we question the differences in perceived viability of physics careers when perception of impairments can itself be faulty

Outline of Studies:
Major: Physics

Educational Career:
M. S. University of Central Florida, Orlando Florida, 2024
B. S. Michigan State University, 2019

Committee in Charge:
Dr. Jacquelyn Chini (Chair)
Dr. Yan Fernandez
Dr. Erin Scanlon
Dr. Michelle Taub (External Committee Member)

Approved for distribution by Dr. Jacquelyn Chini, Committee Chair, on July 28, 2025.

The public is welcome to attend.