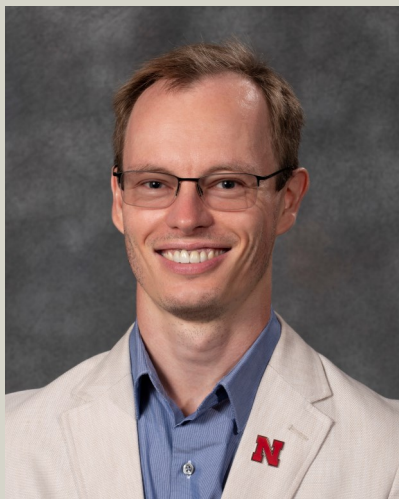


UNL Department of Physics and Astronomy presents:
**Science outside the lab: Alternate career paths for Physics
Ph.D.**

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ABSTRACT

A physics education uniquely prepares students to take on virtually any job they may desire. More importantly, emerging generative AI technologies are expected to boost rather than damp employment of science professionals due to automation of repetitive tasks [1]. This, in turn, will enable scientists to focus in on identifying and solving problems with the ultimate goal of exploring unknown scientific or technological projects. Additional skills in coding, writing, and presenting as well as demonstrated creativity, independence, productivity, and perseverance make a Physics Ph.D. a safe bet for the unforeseeable future.

Starting from my personal opinion what a Physics Ph.D. entails, I will outline U.S. government research budgets [2] that dictate research and career opportunities at universities and national laboratories as well as major national security related initiatives, such as the National Nanotechnology Initiative [3] that funds the Nebraska Center for Materials and Nanoscience [4]. Instead of discussing commonly chosen careers in industry (research and development), academia (very limited number of faculty positions), and national labs (limited number of research technicians and scientists), I will elaborate on the need for STEM educated personnel in non-science and non-tech sectors. This includes software engineer and developer, consultant in private or non-profit companies or for government agencies or congress [5], clerking, and editor/program manager of journals and funding agencies. This excursion will reinforce the awareness of career opportunities and paths for Physics students and conclude with highlighting the annual Science Outside the Lab workshops for graduate students and faculty [6].

[1] Generative AI and the future of work in America (<https://www.mckinsey.com/mgi/our-research/generative-ai-and-the-future-of-work-in-america/>)

[2] American Institute of Physics FYI (<https://ww2.aip.org/fyi>)

[3] National Nanotechnology Initiative (<https://www.nano.gov>)

[4] National Nanotechnology Coordinated Infrastructure (<https://nnci.net>)

[5] American Association for the Advancement of Science Science & Technology Policy Fellowships (<https://www.aaas.org/programs/science-technology-policy-fellowships>)

[6] Science Outside the Lab workshops (<https://nnci.net/science-outside-lab>)