

## PIT-UN AFFINITY AREAS: MEASURING IMPACT, ENSURING EQUITY, SUSTAINABILITY & GROWTH

### Session Title: PIT Pedagogy, Curriculum, and Career Pipelines: Exploring inclusive practices and opportunity gaps

#### Discussion Leaders

- Robert Domanski, Director of Higher Education, [NYC Government - Tech Talent Pipeline](#)
- Kendra Krueger, STEM Outreach and Education Manager, [ASRC Illumination Space](#)
- Shawn Rhea, Director of Media Relations and Community Outreach for the Sciences, [ASRC Illumination Space](#)
- Arber Ruci, Entrepreneur-in-Residence, [New York NSF I-Corps Hub at CUNY](#)
- Luke Waltzer, Director, [Teaching and Learning Center at the CUNY Graduate Center](#) and the [STEM Pedagogy Institute](#)

#### Conversation Prompts

1. What are the hallmarks that characterize an inclusive institution of higher education? What are they for particular academic departments on a campus? To what extent can (or should) pedagogy, curriculum, and career outcomes be used as measurable benchmarks?
2. What is one of the most innovative or radical courses or teaching models that you've encountered related to PIT? What kind of intersectional or culturally relevant pedagogies are they utilizing?
3. What are the challenges you've experienced in innovating new pedagogies or curriculum? What are resources needed or strategies for implementing these new innovations?

#### Resource List

- Alvarado, C., Dodds, Z., & Libeskind-Hadas, R. (2012). "Increasing Women's Participation in Computing at Harvey Mudd College. *ACM Inroads*, 3(4), 55-64. <https://doi.org/10.1145/2381083.2381100>
- Domanski, R. (2019, June). "The A.I. Pandora: Linking Ethically-challenged Technical Outputs to Prospective Policy Approaches". In *Proceedings of the 20th Annual International Conference on Digital Government Research* (pp. 409-416). <https://doi.org/10.1145/3325112.3325267>
- O'Neil, C. (2016). *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy*. Broadway Books.

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#### Resource List

- Avraamidou, L. Science identity as a landscape of becoming: rethinking recognition and emotions through an intersectionality lens. *Cult Stud of Sci Educ* 15, 323–345 (2020).  
<https://doi.org/10.1007/s11422-019-09954-7>
- Johnson, Angela, and Samantha Elliott. "Culturally relevant pedagogy: a model to guide cultural transformation in STEM departments." *Journal of microbiology & biology education* 21.1 (2020): 05.  
DOI: <https://doi.org/10.1128/jmbe.v21i1.2097>
- Lausch, S., & Rossetto, K. (2022). (Re)discovering interpersonal relationships and self-authorship in STEM Graduate school through mindfulness. *Journal of Social and Personal Relationships*, 0(0).  
<https://doi.org/10.1177/02654075221123964>
- Adams, J. D. (2020). Designing Frameworks for Authentic Equity in Science Teaching and Learning: Informal Learning Environments and Teacher Education for STEM, *Asia-Pacific Science Education*, 6(2), 456-479. doi: <https://doi.org/10.1163/23641177-BJA10016>
- Watters, Audrey. "A Hippocratic Oath for Ed-Tech." *Hack Education*.  
<http://hackeducation.com/2015/01/21/hippocratic-oath> .
- Gilliard, Chris, and Hugh Culik. "Digital Redlining, Access, and Privacy." *Common Sense Education*, May 24, 2016. <https://www.commonsense.org/education/articles/digital-redlining-access-and-privacy>.
- Killpack, T. L., & Melón, L. C. (2016). Toward inclusive STEM classrooms: what personal role do faculty play?. *CBE—Life Sciences Education*, 15(3), es3. <https://doi.org/10.1187/cbe.16-01-0020>
- Canfield, K. & Menezes, S. (2020). The State of Inclusive Science Communication: A Landscape Study. Metcalf Institute, University of Rhode Island, Kingston, RI. 77 pp.  
<https://www.dropbox.com/s/gl1ajhcd5im6u50/State-of-Inclusive-SciComm-2020.pdf?dl=0>
- Using AI for Social Good. Example of PIT-like project that is supported by NSF I-Corps, NSF Partnership for Innovation and Empire State Development  
<https://futurumcareers.com/using-ai-and-computer-science-as-a-force-for-social-good>
- ARMSAINTS: An AR-based Real-time Mobile System for Assistive Indoor Navigation with Target Segmentation <https://ieeexplore.ieee.org/document/9802970/>

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### **Additional Links**

- NSF Innovation Corps - grants to university faculty interested in commercialization of their PIT research <https://beta.nsf.gov/funding/initiatives/i-corps/about-teams>
- NSF Partnership for Innovation (PFI) grants to develop technology products from university research labs <https://beta.nsf.gov/funding/initiatives/pfi/funding>
- NSF SBIR, known as America's Seed fund. Grants of \$275k to \$1mm to develop and commercialize faculty and graduate student led innovations <https://seedfund.nsf.gov/>