

# PHILLIP ANDREW BODA, Ph.D.

University of Illinois Chicago | Chicago, IL

## INVITED KEYNOTES AND COLLOQUIA SCHOLARLY PRESENTATIONS

- (2023) **Community-Policy Participatory Partnerships: Advancing Analyses of Environmental Justice by Design.** Keynote given at the Institute of Mathematical and Statistical Innovation at the University of Chicago.
- (2022) **Epistemic (De)Centering, Positionality, and Proximal Engagements as Researchers.** Graduate Seminar: EDER 619 - *Special Topics in Educational Leadership (Inclusion)*  
University of Calgary
- (2022) **Navigating Post-Secondary STEM Pathways as an Intersectional Scholar of Color**  
Graduate Seminar: *Biological Sciences Colloquium*  
University of Illinois at Chicago
- (2021) **Disability Critical Race Theory's Margins: Designing for Disciplinary Liberation**  
Doctoral Seminar: *Transforming Learning Environments.*  
University of California, San Diego
- (2021) **Critical Science Agency: On Becoming, Belonging, and being Beloved**  
Teacher Credential – Bachelorette: *Literacy in the Content Areas.*  
Alfred University
- (2021) **Critical Studies in the Learning Sciences: Centering Disability and Intersectionality**  
Doctoral Seminar: *Critical Sociocultural Theories of Learning.*  
Old Dominion University

## RESEARCH FELLOW APPOINTMENTS

- 2022            **American Association for the Advancement of Science (AAAS).** Entry Point!  
2022            **Gregory S. Fehribach Center.** Ezekiel Health.

## BOOKS

2.     Boda, P. A. (Ed.). (2024). *Educational injustice among margins and centers: Theorizing critical futures.* New York, NY: Peter Lang.
1.     Boda, P. A. (Ed.). (2019). *Essays on exclusion: Our critical, collective journey toward equity in education.* New York, NY: DIO Publishers.

## PUBLICATIONS (Peer-reviewed; \*Invited)

25.     Boda, P. A., & McGee, S. (Accepted). Race, gender, and AP Computer Science Principles: Pursuing equity while broadening participation in Chicago. *JRST.*

24. \*Summers, L. & Boda, P. A. (In Press). Post-secondary STEM beyond 'What is': Engaging the possibility of disability. *Journal of Postsecondary Education & Disability*.
23. Boda, P. A. (In Press). Dreaming of Disability-as-Possibility as a Humanistic STEM Education Futurity. *Science Education*.
22. Boda, P. A., Bathia, S., Gerard, L., & Linn, M. C. (In Press). Designing for Learning Across Disciplines: Leveraging Graphs to Improve Knowledge Integration in Science. *Instructional Science*.
21. Boda, P. A., Fusi, F., Miranda, F., Palmer, G. J., Flax-Hatch, J., Siciliano, M., ... & Cailas, M. (2023). Environmental Justice through Community-Policy Participatory Partnerships. *Journal of Environmental Protection*, 14(8), 616-636.
20. Boda, P. A. (2023). On the methodological and epistemological power of epistemic (de)centering as a reflexive praxis of resistance toward Disability Justice. *Qualitative Research Journal*. Online first. <https://doi.org/10.1108/QRJ-05-2022-0072>
19. Boda, P. A. (2022). Identity making as a colonization process, and the power of Disability Justice to cultivate intersectional disobedience. *Education Sciences*, 12(7), 1-15. Doi: [10.3390/educsci12070462](https://doi.org/10.3390/educsci12070462)
18. Boda, P. A. Nusbaum, E., & Kulkarni, S. (2022). From 'what is' toward 'what if' through intersectionality: Problematizing ableist erasures and coloniality in racially-just research. *International Journal of Research and Method in Education*.
17. Boda, P. A., James, K., Sotelo, J., Uttal, D., & McGee, S. (2021). Racial and gender disparities in elementary mathematics. *School Science and Mathematics*, 122, 36-53.
16. \*Kulkarni, S., Nusbaum, E., & Boda, P. A. (2021). DisCrit at the margins of teacher education: Informing curriculum, visibilization, and disciplinary integration. *Race, Ethnicity, and Education*, 24, 654-70. <http://dx.doi.org/10.1080/13613324.2021.1918404>
15. Boda, P. A., & McGee, S. (2021). Broadening participation and success in AP CSA: Predictive modeling from three years of data. In *Proc. ACM Tech. Sym. Comp. Sci. Ed. (SIG CSE'21)*. ACM, Virtual Event, USA. <https://doi.org/10.1145/3408877.3432421>
14. Brown, B., Boda, P. A., Ribay, K., Wilsey, M., & Perez, G. (2021). A technological bridge to equity: How VR designed through culturally relevant principles impact students' appreciation of science. *Learning, Media, and Technology*.
13. Boda, P. A., & Brown, B. (2020b). Designing for relationality in virtual reality: Context-specific learning as a primer for content relevancy. *Journal of Science Education and Technology*, 29, 691-702. doi: 10.1007/s10956-020-09849-1
12. Boda, P. A., Bathia, S., & Linn, M. C. (2021). Longitudinal impact of interactive science activities: Developing, implementing, and validating a graphing integration inventory. *Journal of Research in Science Teaching*, 58, 225-248. doi: 10.1002/tea.21653
11. Brown, B., Perez, G., Ribay, K., Boda, P. A., & Wilsey, M. (2020). Teaching culturally relevant science in virtual reality: "When a problem comes, you can solve it with science." *Journal of Science Teacher Education*, 32, 7-38.
10. Boda, P. A., & Brown, B. (2020a). Priming urban learners' attitudes toward the relevancy of science: A mixed-methods study testing the importance of context. *Journal of Research in Science Teaching*, 57, 567-596. doi: 10.1002/tea.21604
9. Brown, B., Ribay, K., Perez, G., Boda, P. A., & Wilsey, M. (2019). A virtual bridge to cultural access: Culturally relevant virtual reality and its impact on science students. *International Journal of Technology in Education and Science*. Online First.

8. Boda, P. A. (2019c). The conceptual and disciplinary segregation of disability: A phenomenography of science education graduate student learning. *Research in Science Education*. (Online first). doi: 10.1007/s11165-019-9828-x
7. Boda, P. A. (2019b). Investigating power and agency in singular diversity-requirement education courses: Moving beyond content analysis to engage with critical praxis analysis. *Critical Education*, 10(15), 1-20. doi: 10.14288/ce.v10i15.186428
6. \*Boda, P. A. (2019a). Conceptualizing the margins in science education: The limits of multicultural analyses. *Cultural Studies of Science Education*, 14, 493-514.
5. Brown, B., Boda, P. A., Lemmi, C., & Monroe, X. (2018). Moving culturally relevant pedagogy from theory to practice: Exploring teachers' application of culturally relevant education in science and mathematics. *Urban Education*, 54, 775-803.
4. Boda, P. A., & Weiser, G. (2018). Using POGILs and blended learning to challenge preconceptions of student ability in introductory chemistry. *Journal of College Science Teaching*, 48(1), 60-67.
3. Boda, P. A. (2018b). Culture as inter- and intra-personal mediator: Considering the notion of conceptual porosity and its connection to culture as a concept. *Cultural Studies of Science Education*, 13, 1-24. doi:10.1007/s11422-017-9853-x
2. Boda, P. A. (2017). Less hope, more paint: On the political war being waged in urban contexts. *The Educational Forum*, 4, 391-403. doi: 10.1080/00131725.2017.1350234
1. Khisamutdinov, E. F., Shamaev, A. E., Karabaeva, K. E., Mereshchenko, A. S., Panov, M. S., Boda, P. A., ... & Wilson, R. M. (2015). A pyrene dihydrodioxin with pyridinium "arms": A photochemically active DNA cleaving agent with unusual duplex stabilizing and electron trapping properties. *Journal of Photochemistry and Photobiology A: Chemistry*, 307, 131-146. doi: 10.1016/j.jphotochem.2015.03.017

### **PUBLICATIONS (Book chapters; \*Invited)**

8. \*Boda, P. A. (Accepted). How do we disrupt the labeling of disability and difference as deficit in urban schools? In S. R. Steinberg & E. Adjapong (Eds.), *19 Urban questions: Teaching in the city* (3<sup>rd</sup> Ed.). New York, NY: Peter Lang.
7. \*Boda, P. A. (Accepted). Disabled by design: Dreaming the future of DBER through intersectional disobedience. In *Handbook of Equity-Orient Discipline-based STEM Education Research*. Springer Nature.
6. Boda, P. A. (2023). Disability-as-possibility: Leveraging technology for Design-based Inclusive Science (DISc). In *Theoretical and Practical Teaching Strategies for K-12 Science Education in the Digital Age*. IGI Global.
5. Kulkarni, S., Nusbaum, E. A., & Boda, P. A., (2023). DisCrit at the margins of teacher education: Informing curriculum, visibilization, and disciplinary integration. In B. A. Ferri, D. J. Connor, & S. A. Annamma (Eds.), *Enacting disability critical race theory: From the personal to the global* (pp. ##-##). New York: Routledge. [SI-As-Book].
4. \*Boda, P. A., & Riley Miller, A. (2022). Educational technologies for multicultural science learning: Comparing reform and critical design studies. In M. Atwater (Ed.), *International handbook of research in multicultural science education*. Springer.
3. Boda, P. A., & Svihla, V. (2020). Minding the gap: Lacking technology inquiries for designing instruction to retain STEM majors. In M. J. Bishop, E. Boling, J. Elen, & V.

- Svihla (Eds.), *Handbook of research in educational communications and technology* (pp. 423-436). Springer Publishing. doi: 10.1007/978-3-030-36119-8\_19
2. \*Boda, P. A. (2020). 'More than an educator but a political figure': Disability and critical pedagogy in teacher education. In S. R. Steinberg and B. Down (Eds.), *The SAGE handbook of critical pedagogies* (p. 869-883). London, UK: Sage publishers Ltd. doi: 10.4135/9781526486455.n81
  1. Boda, P. A. (2018a). Exclusion from participation in science: Confessions from an ally on the other side of the fence. In M. Koomen, S. Kahn, C. Atchison, & T. Wild (Eds.), *Toward inclusion of all learners through science teacher education* (pp. 301-311). Sense/Brill Publishing. doi: 10.1163/9789004368422\_033

### **PUBLICATIONS (^Open Access Research, Grant Reports, and Commentaries; \*Invited)**

8. ^Johnson, L., Boda, P., Miranda, F., Cailas, M., Porter, E., Becerra, M., Fusi, F., Liang, J., Siciliano, M., & Sambanis, A. (2022). MCVD: The Image of an Overburdened Community (Version 1). University of Illinois at Chicago. <https://doi.org/10.25417/uic.21215198.v1>
7. ^Fusi, F., Miranda, F., Siciliano, M., Sambanis, A., Boda, P., Derrible, S., Becerra, M., Liang, J., & Cailas, M. (2022). Proximity-to-Hazard Dashboard: Visualizing Environmental Justice Conditions of Overburdened Communities Untitled Item (Version 1). University of Illinois at Chicago. <https://doi.org/10.25417/uic.21181108.v1>
6. ^Becerra, M., Liang, J., Siciliano, M., Fusi, F., Miranda, F., Sambanis, A., Boda, P., Derrible, S., & Cailas, M. (2022). Putting the Environment back in "Environmental Justice": A Two-Dimensional Approach for Area Identification. (Version 1). University of Illinois at Chicago. <https://doi.org/10.25417/uic.20469177.v1>
5. Boda, P. A. (2021, February). *Moving from digital apartheid toward abolitionist futures in computer science: A broadening participation and success story from Chicago public schools* [Blog]. The Learning Partnership. Retrieved from: <https://www.jointhepartnership.net/2021/02/moving-from-digital-apartheid-toward-abolitionist-futures-in-computer-science-a-broadening-participation-and-success-story-from-chicago-public-schools/>
4. ^Boda, P. A. & McGee, S. (2021, February). *Supporting teachers for computer science reform: Lessons from over 20,000 students in Chicago* [Research Brief]. The Learning Partnership. <https://doi.org/10.51420/brief.2021.1>
3. Boda, P. A., & Li, Y. (2017). Modeling Instruction™ leadership workshop evaluation. Grant report presented to The Simons Foundation for STEMteachersNYC. NYC, NY.
2. Boda, P. A., & Li, Y. (2015). Modeling the model and challenging pedagogical concepts: Evaluation of the summer Modeling Instruction™ workshops by STEMteachersNYC. Grant report presented to The Simons Foundation for STEMteachersNYC. NYC, NY.
1. \*Boda, P. A. (2015). PDK emerging leaders speak out. *Phi Delta Kappan*, 96(7), 79.

### **PAPER PRESENTATIONS (\*Invited)**

25. \*Boda, P. A. (2023). *Engaging with Disability in DBER scholarship through Intersectional Disobedience*. In Symposium, *Equity Considerations for Post-Secondary*

- STEM Education*. Presented at *NARST: A worldwide organization for improving science teaching and learning through research international conference*, Chicago, IL.
24. Boda, P. A., Bathia, S., & Linn, M. C. (2023). *The Cumulative Benefits of Graph-Science Knowledge Integration*. Paper presented for *American Education Research Association* conference, Chicago, IL.
  23. Boda, P. A., Harrison, E., & Linn, M. (2022). Supporting middle school students to integrate graph data with physical science content. Paper presented at *NARST: A worldwide organization for improving science teaching and learning through research international conference*, Vancouver, BC.
  22. \*Boda, P. A. (2022). Design-based liberation: Disobedient dreaming to dispossess hegemonic grammars. *University of Illinois at Chicago, College of Education Research Day*. Chicago, IL.
  21. \*Boda, P. A. (2022). Dreaming of disobedient designs and liberatory grammars in the Learning Sciences. *Learning Sciences Research Institute (LSRI) Invited Speaker Series*: University of Illinois at Chicago.
  20. Boda, P. A., & Brown, B. (2020). Relevance for whom, and how? A design-based research iteration leveraging context-specific virtual reality 360 videos. Paper accepted for *American Education Research Association (AERA) Conference*, San Francisco, CA. <http://tinyurl.com/tzfqns3> (Conference Canceled)
  19. Boda, P. A. (2019). Culturally relevant virtual reality learning: Bridging cultures, content, and contexts. Paper presenter in symposium at *NARST: A worldwide organization for improving science teaching and learning through research international conference*, MD.
  18. Ribay, K., Perez, G., Brown, B., Boda, P. A., & Aleman, D. (2018). Using culturally relevant virtual reality to connect science to community. Paper presented at *American Education Research Association (AERA) Conference*, Toronto, Canada.
  17. Boda, P. A. (2018). Taking another look at 'practice what we preach': Studying critical praxis in a multicultural teacher education context. Paper presented at *American Education Research Association* conference, New York, NY.
  16. Boda, P. A. (2018). Implications of inclusive science education research for pre-service science teacher education. Symposium presented at *NARST: A worldwide organization for improving science teaching and learning through research conference*, Atlanta, GA.
  15. Boda, P. A. (2018). Beyond an ethics of economic support: Poverty as proxy for perceptions of cultural bias based on race. Paper presented at *Association for Science Teacher Education (ASTE) International Conference*, Baltimore, MD.
  14. \*Boda, P. A. (2017). Science, education and ability: The exclusion we co-create. Paper presented at *NARST-sponsored session at the National Science Teachers Association (NSTA)*. Los Angeles, CA.
  13. Boda, P. A. (2016). Studying diverse science education concept growth, dependency, and use through prototype, exemplar, and context theories. Paper presented at the Annual International *EARLI Conference: Phenomenography and Variation Theory SIG*, Gothenburg, Sweden.
  12. \*Boda, P. A. (2016). Inside and outside: Subaltern hip-hop identity formation and authentic experience. Invited paper session ("You Ain't Gotta Lie to Kick it": Exploring Teacher Identity in Hip-hop Education") at *American Education Research Association (AERA) Conference*, Washington, D.C.

11. Boda, P. A., & Olivera, A. (2016). Bridging conceptual change and cognitive neuroscience: A trans-disciplinary model advantageous for studying teacher growth. Paper presented at *American Education Research Association (AERA) Conference*, Washington, D.C.
10. Boda, P. A. (2016). Why science teacher education needs disability studies: A comprehensive research analysis. Paper presented at *NARST: A worldwide organization for improving science teaching and learning through research international conference*, Baltimore, MA.
9. Boda, P. A. (2016). Using POGILs and blended learning to retain physical science students: A preparation to chemistry approach. Paper presented at *American Chemical Society (ACS) National Meeting*, San Diego, CA.
8. Boda, P. A. (2016). The effect of meta-cognitive activity and action on assessment, pedagogy, and curricular choices: An urban science educator's 3-year longitudinal self-study. Paper presented at *Association of Science Teacher Education (ASTE) 2016 International Conference*, Reno, NV.
7. Boda, P. A. (2015). Continuums of complexities for science teacher education: Synergizing learning progression and disability studies in education theoretics. Paper presented at *Association for Science Teacher Education (ASTE) 2015 International Conference*, Portland, OR.
6. Boda, P. A. (2014). Cognitive negotiations of science, culture, and urbanity in a multicultural science education (MSE) graduate course: A quasi-exploratory case study of the geo- and body-politics of knowing. Paper presented at *International Conference on Conceptual Change (ICCC)*, Bologna, Italy.
5. Boda, P. A. (2014). Enacting NGSS on the ground: Learning 'the physical setting' through student inquiry research. Paper presented at *Biennial Conference on Chemical Education (BCCE)*, Allendale, MI.
4. Boda, P. A. (2014). Female science education graduate students' conceptual ecologies: A collective case study of multiculturalism and urbanity. Paper presented at *NARST: A worldwide organization for improving science teaching and learning through research international conference*, Pittsburgh, PA.
3. Boda, P. A. & Rahman, S. (2014). Conceptual change, participatory research, and co-generative dialogues: A single case-study. Paper presented for *Association of Science Teacher Education (ASTE) 2014 International Conference*, San Antonio, TX.
2. Boda, P. A. (2013). Pre-service science teacher narratives: Constructing stories to integrate technology, assessment, and curriculum. Paper presented at *2013 Annual Conference of School Science and Mathematics Association (SSMA)*, San Antonio, TX.
1. Boda, P. A. (2013). Challenging traditional structures of science-specific, inquiry-based pedagogical explications: Beyond monolithic tactics, toward interconnected strategies. Paper presented for *Association of Science Teacher Education (ASTE) International Conference*, Charleston, SC.

#### **RESEARCHER PANELS, WORKSHOPS, AND INTERACTIVE SESSIONS (\*Invited)**

12. Boda, P. A. (2023). *Critically theorizing the margins for reform-based equity in science: A disobedient reckoning*. A pre-conference Workshop facilitated by the Equity and Ethics

- Committee at *NARST: A worldwide organization for improving science teaching and learning through research* international conference, Chicago, IL.
11. Boda, P. A. (2022). *Critical approaches leveraging technology in science education*. Poster presented at *NARST: A worldwide organization for improving science teaching and learning through research* international conference, Vancouver, BC.
  10. Boda, P. A. (2022). Gazing toward liberation: Disrupting the hegemony in our classrooms by design. Wondering session presented at the *International Science Educators for Equity, Diversity, and Social Justice* Conference (SEEDS), Online.
  9. Boda, P. A., Summers, R., Steinberg, S. R., Parker, C. A., Chinn, P. W. U., Chen, Y.-C., Tippins, D. J., Vo, T., Rodriguez, A. J. Adams, J., Tal, T., & Kahn, S. (2019). Embodying collective activism in science education research: Philosophies, praxis, and pragmatics. Administrative symposium at *NARST: A worldwide organization for improving science teaching and learning through research* conference, Baltimore, MD.
  8. Parker, C., Boda, P. A., Liang, L., Lipsitz, K., Atwater, M., Walls, L., Ortega, I., Otulaja, F., Arellanes, F., Lachapelle, C., Avery, L., & Talbot, R. (2018). Symposium – Research Interest Groups (RIGs). Administrative symposium at *NARST*, San Antonio, TX.
  7. Bancroft, S., Azam, S., Choi, S., Saribas, D., Boda, P. A., Mark, S., Raven, S., & Ramos, L. (2018). Re-centering on scientific literacy in an era of science mistrust and misunderstanding. Pre-conference workshop presented for *NARST*, Baltimore, MD.
  6. Rivera Maulucci, M., Mensah, F. M., Parker, C. A., Schwartz, R. S., Boda, P. A., Abd-El- Khalick, F., and Zeidler, D. L. (2017). Methodological, ethical, and identity issues in naming ourselves and others. Administrative symposium at *NARST*, San Antonio, TX.
  5. Lopez, E., Nam-Hwa, K., Tasneem, A., Bancroft, S., Boda, P. A., Alisa Francis, T. K., Sariba, D., and Saiqa, A. (2017). Glocalization and sustainability of science education research and practice. Pre-conference workshop presented at *NARST*, San Antonio, TX.
  4. \*Boda, P. A. (2016). VoiceThread: Instructional uses aligned with differentiated curricular, pedagogical, and assessment tools. Invited workshop at *John Jay Technology Demo Day*. Center for Teaching and Learning, John Jay College, New York, NY.
  3. \*Boda, P. A. (2016). The SAMR model and using novel instructional technology to teach post- secondary students. Invited workshop given for *Online/Digital Teaching Seminars*. Center for Teaching and Learning, John Jay College of Criminal Justice, New York, NY.
  2. Lopez, E., Bancroft, S., Barak, M., Boda, P. A., Francis, T., Kang, N., Quigley, C., Saribas, D., Shaw, J., and White, F. (2016). Toward equity & justice: Scientific literacy as a human right. Pre-conference workshop presented for *NARST*, Baltimore, MD.
  1. Shaw, J., Lopez, E., Boda, P. A., Quigley, C., and White, F. (2015). Becoming next generation science educators in an era of global science education: An equity perspective. Pre- conference workshop presented for the *NARST* Conference, Chicago, IL.

## **AWARDS, FELLOWSHIPS, AND PROFESSIONAL DEVELOPMENT**

### **Fellowships**

- 2021 – 2023 **National Science Foundation Fellow:** *Summer Institute for Advanced Research Methods (SIARM) in STEM Education Research*. University of Chicago.
- 2021 - 2022 **Jhumki Basu Fellow.** *NARST: A worldwide organization for improving science teaching and learning through research*



**Professional Development**

2021 – 2022 **Leadership and Management in Action Program.** UIC/University of Chicago.

**PROFESSIONAL SERVICE**

**American Education Research Association**

Secretary/Treasurer: Disability Studies in Education SIG (2020-2022)

Secretary/Treasurer: The Learning Sciences SIG (2020-2022)

**Phi Delta Kappa (PDK)**

PLT Student and Advanced Degree Support Scholarship Committee

**NARST**

Research Committee Member (2016 – 2019; Chair: 17-19)

Equity and Ethics Committee (Workshop organizer: 2015 – 2018; Member: 2021-2023)

**JOURNAL EDITORIAL ROLES AND REVIEWING (Researcher Journals)**

2021 – 2024 **Editorial Review Board:** *Disciplinary and Interdisciplinary Science Education Research* (Open Access)

2020 – 2023 **Editorial Review Board:** *Journal of Research in Science Teaching*

2018 – 2024 **Editorial Review Board:** *Journal of Science Teacher Education*

2017 – 2023 **Editorial Review Board:** *Contemporary Issues in Technology and Teacher Education* (CITE), General and Science Education Sections.

2023 – Present **Journal Reviewer:** *Whiteness and Education*

2022 – Present **Journal Reviewer:** *Educational Review*

2021 – Present **Journal Reviewer:** *Review of Educational Research*

2021 – Present **Journal Reviewer:** *Mind, Culture, and Activity*

**GRANT HISTORY (Awarded)**

2023 – 2024 **PI: Phillip A. Boda, \$10,000 (no indirect).** *Post-College Career Readiness across Physically Disabled Adults in the Midwest: Exploring the Impact of the Gregory S. Fehribach Center's Internships.* GSF Center: Indiana.

2021 – 2024 **Psychometrician and Statistician, NSF CS-4-All:** Co-generative development of a culturally relevant pedagogical framework for CS and CT in high schools.  
**PI:** George Sirrakos; NSF Award No.: 2122367

**GRANT REVIEWING AND WRITING EXPERIENCES (\*NOT AWARDED)**

**National Science Foundation**

Anonymized **Reviewer:** Grant Proposal Panelist across multiple NSF solicitations

**Spencer Foundation: Reviewer:** Large Grants.