

Supporting and Sustaining Professional Development in Computational Thinking: A Four-Year Case Study in Colombia

Purdue Polytechnic Research Colloquium

The Research

Colloquium brings experts to present different perspectives on national and global challenges. In doing so, they pose problems to the Polytechnic Research community that need to be solved and spark new conversations that develop interdisciplinary research ideas.

WHEN: October 28, 2022
12:00-1:00pm

WHERE: KNOY 202

This event is sponsored by the Future Work and Learning Research Impact Area.

<https://polytechnic.purdue.edu/office-of-research/impact-areas/future-work-and-learning>

Co-Leads: Luciana Debs and Vetrica Byrd



Techies focus on

three Strategic Research Impact Areas that stimulate multi-disciplinary collaboration using socio-technical approaches. Three areas - one goal: **Impact global grand challenges.**



Camilo Vieira, Ph.D.
Assistant Professor
Department of Education
Universidad del Norte (UniNorte; Barranquilla-Colombia)

Dr. Vieira will present the lessons learned from a four-year iterative evaluation of an ongoing national effort to integrate Computational Thinking (CT) across the Colombian k-12 education system using a gender lens. Starting with a situated teacher training strategy, the program has expanded to three main strategies:

- (1) Teacher training, offering two online courses and promoting an online community of practice
- (2) Integrating a mobile app with CT learning activities that are contextualized in Colombian ecosystems into classroom environments
- (3) Consolidating CT teaching/learning practices at the institutional level across eight dimensions, including leadership, teaching practices, teacher education, gender, diversity, and impact.

Dr. Vieira will discuss how this project has iteratively evolved, the project outcomes, and the lessons learned from this process. This project is made possible thanks to an alliance between the Colombian Ministry of Technology, the Colombian Ministry of Education, and the British Council Colombia.

Bio:

Camilo Vieira, Ph.D., is an assistant professor in the Department of Education at Universidad del Norte (UniNorte; Barranquilla-Colombia) and a Fulbright Visiting Scholar in the Department of Curriculum, Instruction and Special Education at the University of Virginia. He holds a BSc. in Systems Engineering and a Master's Degree in Engineering from Universidad Eafit (Colombia); and a Ph.D. in Technology with a specialization in Computational Sciences and Engineering from Purdue University (Indiana-US). Dr. Vieira completed a postdoctoral experience at Purdue University in information visualization, and he has been working at UniNorte since 2019, where he coordinates the research group Informática Educativa. He investigates how to support student complex learning and how instructors teach complex topics, particularly in computing and engineering education. He also explores how to use computational methods to understand educational phenomena.