Diego A. Polanco-Lahoz

Ph.D. Candidate, Systems and Engineering Management
Industrial, Manufacturing and Systems Engineering
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EDUCATION

Texas Tech University, Lubbock, TX

Ph.D. in Systems and Engineering Management (Expected May 2026)
Dissertation: "Leveraging Resilience Analysis Grid (RAG) and Functional Resonance Analysis Method (FRAM) for Assessing Organizational Resilience Potential in Higher Education Institutions"
Advisors: Dr. Jenifer Cross (Chair), Dr. Changwon Son, Dr. Mario Beruvides, Dr. Jon McNaughtan

Pontificia Universidad Católica de Valparaíso, Valparaíso, Chile

B.S. and M.S. in Industrial Engineering (Licenciado en Ciencias de la Ingeniería & Ingeniero Civil Industrial) *Magna Cum Laude.*

RESEARCH INTERESTS

- Performance measurement and organizational assessment
- Engineering Education
- Process improvement tools and methodologies
- Engineering design teams
- Human Factors Engineering

PROFILE SUMMARY

Diego Alejandro Polanco Lahoz is a Ph.D. student in Systems and Engineering Management at Texas Tech University, with expected graduation in May 2026. His research, supported by the National Science Foundation, focuses on Engineering Research Identity formation using qualitative and quantitative methodologies. Diego brings experience as a Business Analyst and Research Assistant, skilled in Python, R, Java, SQL, Tableau, and Power BI.

ACADEMIC APPOINTMENTS AND TEACHING EXPERIENCE

Distinguished Graduate Fellow, Research Assistant, and Teaching Assistant:
Texas Tech University, 2021–Present

Research Assistant and Teaching Assistant:
Pontificia Universidad Católica de Valparaíso, 2014-2021

REFEREED JOURNAL PUBLICATIONS

Tham, J., Polanco-Lahoz, D.A., Hanson, M., Cross, J., Beruvides, M. (to be published, finished in April 2025). Professionalizing Researchers: Mapping and Visualizing Doctoral Engineering Student Identity Development Through User Experience (UX) Methods. *IEEE Transactions on Professional Communication*.

Jensen, P. H., Cross, J., & Polanco-Lahoz, D. A. (2024). COVID-19's impact on lean programs and implementation in energy-based utilities. *The TQM Journal*, *36*(6), 1724-1755. https://doi.org/10.1108/TQM-08-2023-0269

Tapia-Ubeda, F.J., Isbej-Muga, J.A., Polanco-Lahoz, D.A. (2021). Greening factor framework integrating sustainability, green supply chain management, and circular economy: The Chilean Case. *Sustainability, 13(24), 13575*. **https://doi.org/10.3390/su132413575**

REFEREED CONFERENCE PUBLICATIONS (presenter underlined)

Tham, J., Cross, J., Beruvides, M., Polanco Lahoz, D., Hasan, M. R., Cargile Cook, K. (2024). A symbiotic relationship: Combining user experience methods and systems theory to understand engineering doctoral students' professional identity development. *Proceedings of the 2024 IEEE International Professional Communication Conference (ProComm),* Pittsburgh, PA, July 14-17, 2024.

Polanco Lahoz, D., Cross, J., Cargile Cook, K., Beruvides, M., Tham, J., Hasan, M. R.** (2024). Board 435: Work in progress: Preliminary findings from NSF award no. 2205033 – research initiation: Mapping identity development in doctoral engineering students. *Proceedings of the 2024 American Society for Engineering Education (ASEE) Annual Conference & Exposition*, Portland, OR, June 23-26, 2024.

Polanco Lahoz, D., Cross, J. (2024). Organizational Resilience in the Context of Higher Education Institutions: A Systematic Literature Review. *Proceedings of the 2024 American Society for Engineering Education (ASEE) Annual Conference & Exposition*, Portland, OR, June 23-26, 2024.

Beruvides, M., Polanco Lahoz, D., Hasan, M. R., Tham, J., Cross, J. (2024). Integrating UX journey mapping with systems theory behavior over time graphs to explore the complexities of identity formation. *Proceedings of the 2024 Institute of Industrial and Systems Engineers (IISE) Annual Conference*, Montreal, Canada, May 18-21, 2024. (Presented by PhD student Annika Sprung).

Cross, J., Beruvides, M., Polanco Lahoz, D., Hasan, M. R., Tham, J., Cargile Cook, K. (2024). From conventional wisdom to evidence-based practice: Validation of programmatic design decisions in engineering doctoral education. *Proceedings of the 2024 American Society for Engineering Education Gulf-Southwest Section Conference,* Canyon, TX, March 10-12, 2024.

Cargile Cook, K., Cross, J., Beruvides, M., Carrion Anampa, F., Polanco Lahoz, D. (2023). Mapping Change in Professional Identity Growth in Doctoral Engineering Students. *Proceedings of the 2023 IEEE International Professional Communication Conference (ProComm),* Ithaca, NY, July 17-20, 2023.

Polanco Lahoz, D., Cross, J. (2023). Board 99: Systematic Literature Review on Organizational Resilience in the Context of Higher Education Institutions. *Proceedings of the 2023 American Society for Engineering Education (ASEE) Annual Conference & Exposition*, Baltimore, MD, June 25-28, 2023.

Cargile Cook, K., Carrion Anampa, F., Polanco Lahoz, D., Cross, J., Beruvides, M. (2023). Applying User Experience (UX) Methods to Understand Identity Development in Doctoral Engineering Students. *Proceedings of the 2023 American Society for Engineering Education (ASEE) Annual Conference & Exposition,* Baltimore, MD, June 25-28, 2023.

Polanco Lahoz, D., Carrion Anampa, F., Cross, J., Cargile Cook, K., Beruvides, M. (2023). Self-perceptions Regarding Researcher Identity Development in Engineering Doctoral Students: Preliminary Results. *Proceedings of the 2023 Institute of Industrial and Systems Engineers (IISE) Annual Conference,* New Orleans, LA, May 20-23, 2023.

RESEARCH EXPERIENCE AND PROJECTS

NSF RIEF Project: Mapping Identity Development in Doctoral Engineering Students
Research Assistant
Texas Tech University
2022–Present

GRANTS, FELLOWSHIPS, AND AWARDS

• Phi Kappa Phi Honor Society, Texas Tech University – February 2025
• Alpha Pi Mu Honor Society, Texas Tech University – October 2024

TEACHING EXPERIENCE

Courses at Pontificia Universidad Católica de Valparaíso
- • Introduction to Industrial Engineering (From Fall 2015 to Fall 2019) – On Campus
- • Economic Analysis 2 (From Spring 2019 to Fall 2020) – On Campus
- • Engineering Ethics (From Spring 2018 to Spring 2019) – On Campus
- • Engineering Financing (Spring 2020) – Off Campus
- • Leadership (Spring 2020 and Fall 2020) – Off Campus

CONFERENCES AND PRESENTATIONS

• Mastering Organizational Resilience – TTU INFORMS Workshop, 2025
• Mapping Identity Development – PUCV Seminar, 2024
• Applying UX Methods to Understand Identity Development – ASEE 2023
• Systematic Literature Review on Organizational Resilience – ASEE 2023
• Self-perceptions Regarding Researcher Identity – IISE 2023

PROFESSIONAL SERVICE
• Reviewer for IISE, ASEE, ASEM, and ProComm (2023–2025)
• Reviewer for Engineering Management Journal (EMJ) (2025)

RESEARCH METHODS AND TECHNICAL SKILLS
• Methods: SLR, survey analysis, interview coding, UX methods (journey mapping, usability testing, A/B testing, focus groups), factor analysis
• Software: Excel (incl. VBA), R, SPSS, Python, Tableau, Power BI
• Languages: Spanish (Native), English (Native), Portuguese (Professional), French (Basic)

REFERENCES
Dr. Jennifer Cross – Texas Tech University (jennifer.cross@ttu.edu)
Dr. Mario Beruvides – University of Miami (mgb51@miami.edu)
Dr. Kelli Cargile Cook – Texas Tech University (kelli.cargile-cook@ttu.edu) – (806) 834-2883
Dr. Jason Tham – Texas Tech University (jason.tham@ttu.edu)
Dr. Changwon Son – Texas Tech University (changwon.son@ttu.edu)