

Miraj Chamara Samarakkody

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🌐 mirajcs.github.io

Research Interest

Minimal surfaces, generalized elastic curves, and applications of differential geometry in mathematical physics, biology, and data science. Also, I'm interested in formalizing differential geometry problems with Lean 4.

Education

Texas Tech University, TX.

Fall 2021 - Spring 2024

Ph.D. in Mathematics, May, 2025.

Advisors: Dr. Hung Tran (Chair), Dr. Álvaro Pámpano (Co-chair).

University of Peradeniya, Sri Lanka.

2014-2018

B.Sc. (Honors) Special in Mathematics.

Advisor: Dr. Shelton Perera.

Professional Experiences

- **Assistant Professor** **Spring 2025 - Present**
Department of Mathematics and Computer Science, Tougaloo College, MS.
- **Graduate Part-Time Instructor** **Fall 2024**
Department of Mathematics & Statistics, Texas Tech University, TX.
- **Research Assistant** **Spring 2022 - Summer 2024**
Mentors: Dr. Hung Tran and Dr. Álvaro Pámpano.
Department of Mathematics & Statistics, Texas Tech University.
- **Graduate Teaching Assistant** **Fall 2021**
Department of Mathematics & Statistics, Texas Tech University.
- **Lecturer** **2019 - Fall 2021**
Department of Mathematics, University of Moratuwa, Sri Lanka.

Short Visits

- **Research Mentor** **Summer 2025**
Virtual Math Circle, Department of Mathematics, Louisiana State University.

Languages

- **English** - Excellent Proficiency.
- **Sinhala** - Native Proficiency.

Technical Skills

C, \LaTeX , Julia, Python, Mathematica, Matlab, Blender, Microsoft Office, Adobe Illustrator and Adobe Premier Pro.

Teaching

Tougaloo College

- **MAT221 - Calculus I**; Fall 2025, Spring 2026
- **MAT222 - Calculus II**; Spring 2025, Spring 2026
- **MAT316 - Differential Equations**; Fall 2025
- **MAT326 - Introduction to Probability**; Fall 2025
- **MAT414 - Modern Algebra**; Spring 2025
- **MAT426 - Advanced Calculus**; Spring 2025, Fall 2025
- **MAT429 - Complex Variables**; Spring 2026
- **MAT434 - Theory of Mathematical Statistics**; Spring 2025, Spring 2026

Texas Tech University

- **MATH 1452 - Calculus II with Applications**; Fall 2024

Grants

- **PI**, SCALE Program (Partnership with Purdue University), \$73,094.77.
Project: Microelectronic Workforce Development Project for Radiation-Hardening.

Fellowships

- **Dr. Shelby Hildebrand Graduate Math Fellowship** - Texas Tech University. 2023-2024
Amount: \$10,000
- **AT & T Graduate Fellowship** - Texas Tech University 2021-2025
Amount: \$16,000

Awards and Honors

- **Create Possible Scholarship** - Texas Tech University. 2022
- **University Prize for Academic Excellence** - University of Peradeniya 2018
- **Peradeniya University Alumni Australia Victoria Chapter Scholarship for Academic Excellence in Mathematics** 2015

Presentations

Conference Talks

- “*Closed p -Elastic Curves in 2-Space Forms*,” AMS Sectional Meeting (Meeting No: 1198), University of Texas, San Antonio, September 14-15, 2024.
- “*Closed p -Elastic Curves in Spheres of Lorentz-Minkowski Space*,” Texas Analysis and Mathematical Physics Symposium, Texas A&M University, February 10, 2024.
- “*Geometric Behavior of a Certain Class of Quotients of Finite Blaschke Products*,” ICMME, Post Graduate Institute of Science, University of Peradeniya, March, 2019

Posters

- “*Closed p -Elastic Curves in 2-Space Forms*,” Texas Geometry and Topology Conference (68th Meeting), Texas A&M University, College Station, November 8-10, 2024.

Seminars

- “*On Some Variational Problems in Curves and Surfaces*”- Probability, Differential Geometry and Mathematical Physics Seminar, Texas Tech University (January 21st, 2025).
- “*On Some Variational Problems in Differential Geometry*”- Probability, Differential Geometry and Mathematical Physics Seminar, Texas Tech University (November 01st, 2023).
- “*Minimal Surfaces*”-Probability, Differential Geometry and Mathematical Physics Seminar, Texas Tech University (November 02nd, 2022)

Publications

- A. Pámpano, M. Samarakkody, H. Tran, “*Closed p -Elastic Curves in Spheres of \mathbb{L}^3* ,” JMAA, 542(2):129147, 2025.
- S.R.S.M.C. Samarakkody, P.G.R.S. Ranasinghe, A.A.S. Perera, “*Geometric Behavior of a Certain Class of Quotients of Finite Blaschke Products*,” ICMME, Post Graduate Institute of Science, University of Peradeniya, Vol. 1. (2019).

Leadership and Community Involvement

- “**Commission on Animal Care – Institutional Review Board (IRB)**,” *Member*,
Tougaloo College. 2025-2026
- “**Kincheloe Research Symposium**,” *Judge*, Tougaloo College.
- “**Summer Chess Camp 2024**,” *Counselor*, Texas Tech University.
- “**Art & Humanities Conference 2023**,” *Judge*, Texas Tech University.
- “**Math Circle 2023-2024**,” *Mentor*, Department of Mathematics & Statistics, Texas Tech University.

Memberships in Professional Societies

- Member of **American Mathematical Society**. 2021-2025
- Member of **SIAM TTU Chapter**. 2021-2025