

# Miraj Chamara Samarakkody

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🌐 mirajcs.github.io

## Research Interest

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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

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

## Technical Skills

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C, L<sup>A</sup>T<sub>E</sub>X, Julia, Python, Mathematica, Matlab, Blender, Microsoft Office, Adobe Illustrator and Adobe Premier Pro.

## Teaching

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### 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

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

## Fellowships

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- **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

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- **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

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

## Publications

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- 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

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- “**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

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