Dana Ferranti

Contact Information

Address
6823 St. Charles Avenue
Tulane University,
New Orleans, Louisiana 70118

✉ E-mail
dferranti@tulane.edu
Website
djferranti.github.io

Research interests

- Computational methods for low Reynolds number fluid dynamics.
- Emergence of sychronization in fluid-solid body interactions.

Education

Tulane University, New Orleans, LA — 2017–2023 (expected)

- PhD in Mathematics department.
- Advisor: Dr. Ricardo Cortez.

Clark University, Worcester, MA. — 2010–2014

- BA, Mathematics and computer science.

Research Experience

- **Tulane University** — 2017-present
  Center for Computational Science in Mathematics Department.
  - Extending the method of regularized stokeslets by using exact integration over triangulated surfaces. Using minimal models of interacting bodies in viscous flows to study the dynamical differences that arise in models that incorporate weak inertia versus those that assume the fluid inertia is negligible.
- **Massachusetts General Hospital** — 2016–2017
  Physics Research in Department of Radiation Oncology.
  - Using theoretical models to demonstrate the value of prior knowledge in determining causal relationships in complex networks, with applications to machine learning in medicine.
  - Advisor: Dr. David Craft.

Teaching Experience

As instructor

- Probability & Statistics I (Math 1110). — Spring 2023
  Elementary probability theory and statistics
- Introduction to Applied Math (Math 2240). — Fall 2021
  Ordinary differential equations for engineers/physicists

As teaching assistant

- Introduction to Applied Math (Math 2240). — 2019, 2020, 2021
- Linear algebra (Math 3090). — 2020
- Calculus I (Math 1210). — 2017, 2019
- Calculus II (Math 1220). — 2018, 2020
- Calculus III (Math 2210). — 2018

Service and Outreach

- President of AMS Graduate Student Chapter — 2019-2021
- Mathematics department tea time organizer — 2018-2022
- Treasurer of AMS Graduate Student Chapter — 2017-2019
- Member of Inclusivity in Mathematics Task Force at Tulane (IMTF) — 2020-present

Talks

- *Regularized Stokeslet Surfaces* Scientific Computing Around Louisiana (March 11, 2023)
- *Regularized Stokeslet Surfaces*
  Math for All in NOLA (February 25,2023)
- *An Extension to the Method of Regularized Stokeslets*
  Special session on Recent Developments in Numerical Methods for PDEs, Joint Math Meetings 2023 (January 4,2023)
- *Computational Modeling of Bodies Immersed in Viscous Fluids*
  Hunter College Applied Math Seminar (November 3,2022)

Conferences

- Joint Math Meetings in Boston, MA (January 2023)
- SIAM Annual Meetings in Pittsburgh, PA (July 2022)
- Blackwell-Tapia Conference at IMSI in Chicago, IL (Nov 2021)
- Math for All in New Orleans (2020 and 2021)
- Scientific Computing Around Louisiana (2018, 2019, 2023)

References

Dr. Ricardo Cortez
Tulane University