LORENZO RIVA

255 Hurley Hall, Notre Dame, IN 46556
lriva@nd.edu

EDUCATION

Ph.D in Mathematics   Fall 2020 - Present
University of Notre Dame, Notre Dame, IN

B.S. in Mathematics, B.S. in Physics   Fall 2017 - Spring 2020
Creighton University, Omaha, NE
Honors Program, Phi Beta Kappa

TEACHING EXPERIENCE

Teaching Assistant   Fall 2021 - Present
Department of Mathematics, University of Notre Dame, Notre Dame, IN
Courses: Calculus I

Tutor (mathematics, physics)   Fall 2018 - Spring 2020
EDGE Center, Creighton University, Omaha, NE

Undergraduate Teaching Assistant   Fall 2017 - Spring 2020
Department of Mathematics, Creighton University, Omaha, NE
Courses: Calculus I, II, III, Linear Algebra and Differential Equations,
            Introduction to Abstract Mathematics, Mathematical Statistics I.

PUBLICATIONS

1. *Low regularity of non-$L^2(\mathbb{R}^n)$ local solutions to gMHD-alpha systems*, with Nathan Pennington,
   Electron. J. Differential Equations 2020(54), 2020. (arXiv)

RESEARCH EXPERIENCE

Generalized MHD-α equations, with Nathan Pennington   Summer 2019
Creighton University, Omaha, NE

Expanded on Pennington's previous work on the magneto-hydrodynamic system of equations with
rough initial conditions, ultimately obtaining local solutions of integrability for $p \neq 2$ and low regularity. Funded by the Ferlic Summer Undergraduate Research Scholarship.

Feynman Operational Calculus, with Lance Nielsen   Summer 2018
Creighton University, Omaha, NE

Used Nielsen's evolution equation for the disentangled exponential to obtain particular examples of
Feynman-Kac formulas with different operators, and derived some associated differential equations.
Funded by the Honors Summer Undergraduate Research Fellowship.

SEMINARS & CONFERENCES, AS ATTENDEE (◇) AND AS PRESENTER (♦)

- ♦ 13. Graduate Student Topology Seminar (GSTS), University of Notre Dame, 2021.
  Talk: *Kérékjartó's theorem*.

- ◇ 12. Motivic Homotopy week, Graduate Summer School at Park City Mathematics Institute (PCMI),
  online, 2021.

- ◇ 11. Graduates Reminisce Online On Topology (GROOT), online, 2021.

- ♦ 10. Graduate Student Topology Seminar (GSTS), University of Notre Dame, online, 2021.
  Talk: *An introduction to model categories and homotopy limits*.

- ◇ 9. Graduate Student Topology and Geometry Conference (GSTGC), online, 2021.

- ◇ 8. Binghamton University Graduate Conference in Algebra and Topology (BUGCAT), online, 2020.

- ◆ 7. General Contributed Session on Analysis, Joint Mathematics Meetings (JMM), 2020.
  Talk: *Low Regularity Non-$L^2(\mathbb{R}^n)$ Local Solutions to the gMHD-α System*.

- ◆ 6. Iowa Section Mathematics Meeting, 2019.
  Talk: *Low Regularity Non-$L^2(\mathbb{R}^n)$ Local Solutions to the gMHD-α System*.

- ◆ 5. Mathfest, 2019.
  Talk: *Low Regularity Non-$L^2(\mathbb{R}^n)$ Local Solutions to the gMHD-α System*.

- ◆ 4. Undergraduate Poster Session, Joint Mathematics Meetings (JMM), 2019.
  Poster: *Feynman Operational Calculus and the Evolution Equation*.

- ◆ 3. Iowa Section Mathematics Meeting, 2018.
  Talk: *Feynman Operational Calculus and the Evolution Equation*.

- ◆ 2. Mathfest, 2018
  Talk: *Feynman Operational Calculus and the Evolution Equation*.

- ◇ 1. Joint Mathematics Meetings (JMM), 2018.

SERVICE

Instructor   Spring 2021 - Present
Forever Learning Institute, South Bend, IN

1. Beginning Origami, Spring and Fall 2021

Instructor   Fall 2020 - Spring 2021
Riverbend Math Circles at Notre Dame, Notre Dame, IN

HONORS

Creighton University
Mary Hawver Scholarship for High Academic Standing in Mathematics   Fall 2019 - Spring 2020
Ferlic Summer Undergraduate Research Fellowship   Summer 2019
Honors Summer Undergraduate Research Fellowship   Summer 2018