

Rami Masri

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- EDUCATION**
- Ph.D., Computational and Applied Mathematics**, May 2022 (expected)
Rice University, Houston, TX
Advisor: Prof. Beatrice Riviere
- Graduate Certificate in Teaching and Learning**, December 2022 (expected)
Rice University Center of Teaching Excellence, Houston, TX
- M.A., Computational and Applied Mathematics**, May 2019
Rice University, Houston, TX
Advisor: Prof. Beatrice Riviere
Thesis: Derivation and Numerical Simulation of Oxygen Transport in Blood Vessels.
- B.S., Mathematics**, with high distinction, May 2017
Lebanese American University, Beirut, Lebanon.
- RESEARCH**
- Numerical analysis of discontinuous Galerkin methods**
Incompressible Navier–Stokes equations, 2020–present
Elliptic problems with a Dirac line source, 2019–present
Nonlinear convection diffusion equations, 2019–2020
- Mathematical modeling**
Blood flow and solute transport in vessel networks, 2018–2019
- TEACHING**
- Teaching Assistant**
CAAM 336, Differential equations in science and engineering
Rice University, Department of Computational and Applied Mathematics
Fall 2021; Fall 2019–Spring 2020
MTH 101–102, Introductory calculus courses
Lebanese American University, Department of Computer Science and Mathematics
Fall 2016–Spring 2017
- PAPERS**
- R. Masri, C. Liu, B. Riviere. A discontinuous Galerkin pressure correction scheme for the incompressible Navier-Stokes equations: stability and convergence. *Submitted*, 2021.
- R. Masri, C. Puelz, B. Riviere. A discontinuous Galerkin method for blood flow and solute transport in one dimensional vessel networks. *Communications on Applied Mathematics and Computation*, 2021.
- R. Masri, C. Puelz, B. Riviere. A reduced model for solute transport in compliant blood vessels with arbitrary axial velocity profile. *International Journal of Heat and Mass Transfer*, 2019.
- R. Masri. Derivation and numerical simulation of oxygen transport in blood vessels. *Thesis for degree of Master of Arts, Rice University*, 2019.
- TALKS**
- One dimensional models of solute transport and blood flow: derivation and numerical simulation. *SIAM Conference on Computational Science and Engineering*, March 2021.

Derivation and simulation of blood flow and solute transport models in one dimensional vessel networks. *SIAM Texas Louisiana Annual Meeting*, October 2020.

Derivation and simulation of a reduced solute transport model in compliant blood vessels with a general velocity field. *Accepted in SIAM Life Sciences*, June 2020. Cancelled due to Covid.

Discontinuous Galerkin methods for blood flow and solute transport models. *Finite Element Rodeo at Baylor University*, March 2020.

Reduced models of blood flow and solute transport. *Departmental Graduate Student Seminar at Rice University*, January 2020.

AWARDS

Student Travel Award: SIAM CSE, 2021.

Alan Weiser Memorial Travel Award, Rice University, 2020.

Fulbright Winner, U.S. Embassy in Beirut, 2017.

Full Merit Scholarship, Lebanese American University, 2015-2017.

National Public Speaking Contest Winner, English Speaking Union, 2016.

SERVICE

Graduate Liason

Center of Teaching Excellence, Fall 2021

COMPUTER SKILLS

Languages: Python, C, C++.

Software: MATLAB, L^AT_EX, FEniCS.

MEMBERSHIPS

SIAM

LANGUAGES

English, Arabic