Rami Masri

PhD. Student,
Computational and Applied Mathematics
Rice University,
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EDUCATION

Rice University, Houston, TX
Ph.D., Computational and Applied Mathematics, May 2022 (expected)
Advisor: Prof. Beatrice Riviere

Rice University, Houston, TX
M.A., Computational and Applied Mathematics, May 2019
Advisor: Prof. Beatrice Riviere
Thesis: Derivation and Numerical Simulation of Oxygen Transport in Blood Vessels.

Lebanese American University, Beirut, Lebanon
B.S., Mathematics, with high distinction, May 2017.

RESEARCH

Rice University, Department of Computational and Applied Mathematics
Modeling and simulation of blood flow and solute transport in vessel networks.
Discontinuous Galerkin methods for nonlinear hyperbolic systems and for nonlinear convection diffusion equations.
2018-present
Advised by: Prof. Beatrice Riviere

TEACHING

Rice University, Department of Computational and Applied Mathematics
Teaching Assistant, CAAM 336: Differential equations in science and engineering, Fall 2019 - Spring 2020
Grader, CAAM 336, Fall 2017 - Spring 2018
Grader, CAAM 453: Numerical Analysis 1, Fall 2018

Lebanese American University, Department of Mathematics
Teaching Assistant, Introductory calculus courses, Fall 2016 - Spring 2017

PAPERS

"A discontinuous Galerkin method for blood flow and solute transport in one dimensional vessel networks." R. Masri, C. Puelz, B. Riviere. 2020. *submitted*.

"A reduced model for solute transport in compliant blood vessels with arbitrary axial velocity profile." R. Masri, C. Puelz, B.Riviere. 2019. *submitted*. arXiv:1912.09587.

"Derivation and numerical simulation of oxygen transport in blood vessels." R. Masri. Thesis for degree of Master of Arts, Rice University. 2019.

TALKS

"Derivation and simulation of a reduced solute transport model in compliant blood vessels with a general velocity field." Accepted in SIAM Life Sciences, 2020. Presentation. June 2020.

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

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

HONORS AND AWARDS

Fulbright Winner, 2017

Full Merit Scholarship, Lebanese American University, 2015-2017

National Public Speaking Contest Winner, English Speaking Union, 2016

COMPUTER SKILLS
Languages: Python, C, C++.
Software: MATLAB, LaTeX, FEniCS.

MEMBERSHIPS SIAM

LANGUAGES English, Arabic