**M. Nicholas J. Moore**

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**Education and Professional Preparation**

University of Tennessee, Knoxville Mathematics B.S. 2005

University of North Carolina, Chapel Hill Mathematics Ph.D. 2010

**Employment and Appointments**

2014-present Assistant Professor of Mathematics Tallahassee, FL

and Associate of the Geophysical Fluid

Dynamics Institute, FSU

2010-2014 Associate Research Scientist and New York, NY

Visiting Assistant Professor,

Courant Institute, NYU

**Products**

***5 most relevant products, beginning from the most relevant***

McCurdy, M., Moore, M. N. J., Wang, X. (2019). Convection in a coupled fluid-porous media system. Submitted to *SIAM Journal on Applied Mathematics* and under review. Preprint available at arXiv:1901.02925.

Quaife, B. and Moore, M. N. J. (2018). A boundary integral equation method for erosion of a porous medium in 2D Stokes flow. *Journal of Computational Physics*, **375**, 1-21.

Moore, M. N. J. (2017). Riemann-Hilbert problems for the shapes formed by bodies dissolving, melting, and eroding in fluid flows. *CPAM*, **70**(9), 1810-1831.

Huang, J. M., Moore, M. N. J., & Ristroph, L. (2015). Shape dynamics and scaling laws for a body dissolving in fluid flow. *Journal of Fluid Mechanics*, **765**, R3.

Moore, M. N. J., Ristroph, L., Childress, S., Zhang, J., and Shelley, M.J. (2013) Self-similar evolution of a body eroding in a fluid flow. *Phys. Fluid*, **25**, 116602.

Selected as **Editor’s Pick**.

Ristroph, L., Moore, M.N.J., Childress, S., Shelley, M.J., and Zhang, J. (2012) Sculpting of an erodible body by flowing water. *PNAS*, **48**, 19606-19609.

***Other Products***

Majda, A. J., Moore, M. N. J., Qi, D. (2019). Statistical dynamical model to predict extreme events and anomalous features in shallow water waves with abrupt depth change. *PNAS*, **116**(10), 3982-3987.

Bolles, C. T., Speer, K., Moore, M. N. J. (2019). Anomalous wave statistics induced by abrupt depth change. *Physical Review Fluids*, **4**(1), 011801.

Gray, L. J., Jakowski, J., Moore, M. N. J., Ye, W. (2019) Boundary integral analysis for non-homogeneous, incompressible Stokes flows. Accepted in *Advances in Computational Mathematics*.

Khazmutdinova, K., Nof, D., Tremaine, D., Ye, M., Moore, M. N. J. (2019). A minimal model for predicting ventilation rates of subterranean caves”. Submitted to *Journal of Cave and Karst Science* and under review. arXiv preprint arXiv:1808.10478.

Moore, M. N. J. (2017) A fast Chebyshev method for simulation flexible-wing propulsion. *Journal of Computational Physics*, 345, 792-817.

**Synergistic Activities**

1. Contributed interview and research material for an educational video published by CPALMS - the State of Florida's official source for standards information and course descriptions for K-12 education.

2. Actively involved in organizing and chairing mini-symposia, including at the SIAM SEAS meeting in March 2016 and the upcoming SIAM CSE meeting in Feb 2017.

3. Actively involved in undergraduate research at FSU: (a) co-directing the undergraduate research program at the Geophysical Fluid Dynamics Institute; (b) served on the review panel for the IDEA grant at FSU (for undergraduate research).

4. Referee for top journals in the field, including: *Science, Physical Review Letters, Journal of Fluid Mechanics, Physics of Fluids, SIAM Journal on Applied Mathematics, Physical Review E, Journal of Hydrology, European Journal of Mechanics - B/Fluids.*