JASON G. FLEMING
Principal Consultant, Seahorse Coastal Consulting, LLC

Seahorse Coastal Consulting, LLC   Phone: 252-726-6323
3103 Mandy Ln   Mobile: 252-269-0962
Morehead City, NC 28557   E-mail: jason.fleming@seahorsecoastal.com

Role in the Center of Excellence:
Lead Developer and Operator of the ADCIRC Surge Guidance System (ASGS), ADCIRC Development Coordinator, Founder and Co-Instructor of annual ADCIRC Boot Camp Training Events.

Professional Preparation:
> Youngstown State University, Mechanical Engineering, B.E. Cum Laude, 1994
> Texas A&M University, Mechanical Engineering, M.S., 1997
> North Carolina State University, Mechanical Engineering, Ph.D., 2002

Appointments:
> 2006 – pres, Co-Founded Seahorse Coastal Consulting, LLC;
> 2006 – pres, Lead Developer of ADCIRC Surge Guidance System;
> 2005 – pres, ADCIRC Development Coordinator;
> 2002 – 2005, Postdoctoral Researcher, National Institute of Water and Atmospheric Research, Christchurch, New Zealand;
> 2002, ADCIRC Postdoctoral Associate at the Institute of Marine Science at the University of North Carolina at Chapel Hill;
> 1999-2002, Research Technician, Institute of Marine Science at the University of North Carolina at Chapel Hill;

Publications:

2019   A Thomas, JC Dietrich, TG Asher, M Bell, BO Blanton, JH Copeland, AT Cox, CN Dawson, JG Fleming, RA Luettich (2019). "Influence of Storm Timing and Forward Speed on Tide-Surge Interactions during Hurricane Matthew." *Ocean Modelling*, 137, 1-19, DOI: 10.1016/j.ocemod.2019.03.004.

2019   Musinguzi, A.; Akbar, M.K.; Fleming, J.G.; Hargrove, S.K. "Understanding Hurricane Storm Surge Generation and Propagation Using a Forecasting Model, Forecast Advisories and Best Track in a Wind Model, and Observed Data—Case Study Hurricane Rita." *J. Mar. Sci. Eng.* 2019, 7, 77.

2018   R Cyriac, JC Dietrich, JG Fleming, BO Blanton, C Kaiser, CN Dawson, RA Luettich. "Variability in Coastal Flooding Predictions due to Forecast Errors during Hurricane Arthur." *Coastal Engineering*, 137(1), 59-78. DOI: 10.1016/j.coastaleng.2018.02.008

2017   Akbar, M.K.; Luettich, R.A.; Fleming, J.G.; Aliabadi, S.K. "CaMEL and ADCIRC Storm Surge Models—A Comparative Study." *J. Mar. Sci. Eng.* 2017, 5, 35.

2015   Suh, S.W., Lee, H.Y., Kim, H.J. and J.G. Fleming. "An efficient early warning system for typhoon storm surge based on time-varying advisories by coupled ADCIRC and SWAN" *Ocean Dynamics* (2015) 65: 617. https://doi.org/10.1007/s10236-015-0820-3

2013   Dresback, K.M., J.G. Fleming, B.O. Blanton, C. Kaiser, J.J. Gourley, E.M. Tromble, R.A. Luettich, Jr., R.L. Kolar, Y. Hong, S. Van Cooten, H.J. Vergara, Z.L. Flamig, H.M. Lander, K.E. Kelleher, K.L. Neumunatis-Monroe, "Skill Assessment of a Real-Time Forecast System Utilizing a Coupled Hydrologic and Coastal Hydrodynamic Modeling During Hurricane Irene (2011)", *Continental Shelf Research*, 71(2013):78-94, DOI: 10.1016/j.csr.2013.10.007.

2013   JC Dietrich, CN Dawson, JM Proft, MT Howard, G Wells, JG Fleming, RA Luettich Jr, JJ Westerink, Z Cobell, M Vitse, H Lander, BO Blanton, CM Szpilka, JH Atkinson (2013). "Real-Time Forecasting and Visualization of Hurricane Waves and Storm Surge Using SWAN+ADCIRC and FigureGen." *Computational Challenges in the Geosciences, The IMA Volumes in Mathematics and its Applications*, 156:49-70, DOI: 10.1007/978-1-4614-7434-0_3.

2012   J.C. Dietrich, C.J. Trahan, M.T. Howard, J.G. Fleming, R.J. Weaver, S. Tanakae, L. Yu, R.A. Luettich Jr, C.N. Dawson, J.J. Westerink, G. Wells, A. Lu, K. Vega, A. Kubach, K.M. Dresback, R.L. Kolar, C. Kaiser, R.R. Twilley, "Surface Trajectories of Oil Transport along the Northern Coastline of the Gulf of Mexico", *Continental Shelf Research*, 41(1), 17-47, DOI:10.1016/j.csr.2012.03.015

2012   Blanton, B., J. McGee, J. Fleming, C. Kaiser, H. Kaiser, H. Lander, R. Luettich, K. Dresback, R. Kolar, 2012, "Urgent computing of storm surge for North Carolina's coast", *Proceida Computer Science* 9 (2012) 1677-1686.

2008   Fleming, J.G., C.W. Fulcher, R.A. Luettich, B.D. Estrade, G.D. Allen, H.S. Winer, "A Real Time Storm Surge Forecasting System Using ADCIRC", M.Spaulding [ed], *Coastal Modeling X*, 893-912, DOI:10.1061/9780784409909.

2005   Reynolds-Fleming, J.V., J.G. Fleming "Coastal Circulation within the Banks Peninsula Region, New Zealand", *New Zealand Journal of Marine and Freshwater Research*, 39(1), 217-225.

2002   Reynolds-Fleming, J.V., J.G. Fleming "A Portable, Autonomous Vertical Profiler for Estuarine Applications", *Estuaries*, 25(1), 142-147.

Synergistic activities:

- Private sector consulting work including improvement of existing ADCIRC models for diverse applications and technical support for coastal engineers to develop and refine ADCIRC meshes.
- Conducting customized, on-site ADCIRC training events sponsored by private sector consulting firms for internal capacity building.
- Ongoing subcontract with the Louisiana Coastal Protection and Restoration Authority (CPRA) to develop and operate the ADCIRC Surge Guidance in real time on their behalf on the High Performance Computing resources at LSU during tropical cyclones to provide guidance to CPRA Operations. Products used to brief high level officials including the Governor.