PERSONAL INFORMATIONs

Carl T. Friedrichs Last updated: August 2025

Chesapeake Bay National Estuarine Research Reserve in Virginia (CBNERR-VA), and
Batten School of Coastal & Marine Sciences (formerly School of Marine Science (SMS)),
Virginia Institute of Marine Science (VIMS), William & Mary (W&M)
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EDUCATION

Ph.D., 1993	M.I.T./Woods Hole Oceanographic Institution Joint Program, Oceanography
1986-1987	Visiting Student, Clare College, Cambridge University, Physics
B.A., 1986	Summa Cum Laude, Amherst College, Geology.

ACADEMIC POSITIONS

2019-present	Associate Director & Research Coordinator, CBNERR-VA, VIMS, W&M
2016-present	Loretta & Lewis Glucksman Professor, Batten School/SMS/VIMS, W&M
2006-present	Professor of Marine Science, Batten School/SMS/VIMS, William & Mary
2018-2020	Chair, Department of Physical Sciences, SMS/VIMS, William & Mary
2010-2016	Chair, Department of Physical Sciences, SMS/VIMS, William & Mary
2006-present	Professor, School of Marine Science, SMS/VIMS, William & Mary
2001-2006	Associate Professor, SMS/VIMS, William & Mary
1996-2001	Assistant Professor, SMS/VIMS, VIMS, William & Mary
1993-1996	Visiting Assistant Professor, SMS/VIMS, William & Mary
1993	Post-Doctoral Investigator, Woods Hole Oceanographic Institution

HONORS, PRIZES AND AWARDS

2024	Gubernatorial Appointee to Chesapeake Bay Program Scientific & Technical Advisory Committee. Awarded by Virginia Governor Glenn Youngkin
2017	SERDP Munitions Response Project of the Year Award
2016	William & Mary Glucksman Eminent Scholar Award
2013	INTERCOH Mehta Award for Advancements in Cohesive Sediment Research
2010	William & Mary Plumeri Award for Faculty Excellence
2008	Commonwealth of Virginia Outstanding Faculty Award
2005	William & Mary Alumni Fellowship Award for Teaching
2001-2004	William & Mary Class of 1964 Distinguished Professorship
2000	White House Presidential Early Career Award for Scientists and Engineers
2000	National Science Foundation Division of Ocean Sciences CAREER Award
1992	Woods Hole Oceanographic Institution Ocean Ventures Fund Research Award
1987-1990	Office of Naval Research Graduate Fellowship

PUBLICATIONS (Articles, Books, Downloadable Reports)

Peer-reviewed articles

Cox, C.E., K.M. Dorgan, N. Stark, A. Rodriguez-Marek, G. Massey, C. Friedrichs, and M.R. Rahman, in review. Seasonal changes in the impact of infauna on sediment physical properties.

Reinl, K.L., R.P. Dunn, K.A. Cressman, T. Collins, J.L. DeBose, C.T. Friedrichs, A.R. Helms, C. Kinkade, J.L. Krask, D.B. Parrish, H.N. Nicklay, J. Ridge, D.M. Sanger, J.A. Cianci-Gaskill, N.G. Dix, T.M. Grothue, S.E. McMurray, and P.C. Peter, in review. In situ observations reveal continental-scale warming, oxygen decline, and eutrophication in U.S. estuaries.

Rahman, M.R., A. Rodriguez-Marek, N. Stark, G. Massey, C. Friedrichs, and K.M. Dorgan, 2025. Probabilistic classification of near-surface shallow-water sediments using a portable free-fall penetrometer. Journal of Geotechnical and Geoenvironmental Engineering. https://doi.org/10.1061/JGGEFK.GTENG-13486

Turner, J.S., C.T. Friedrichs, D. Parrish, and K. Fall, 2025. Chesapeake Bay water clarity: challenges and successes. Annual Review of Marine Science. https://doi.org/10.1146/annurev-marine-040224-120528 (PDF w/ supplemental material included at https://bit.ly/4mWa8bE)

Perkey, D.W., S.J. Smith, K.A. Fall, D.R.N. Tarpley, and C.T. Friedrichs, 2024. Production and abundance of macro-aggregate bed clasts from cohesive beds. Journal of Sedimentary Research. https://doi.org/10.2110/jsr.2023.040

Testa, J.M., W. Liu, W.R. Boynton, D. Breitburg, C. Friedrichs, M. Li, D. Parrish, M. Trice, and D.C. Brady, 2024. Physical and biological controls on short-term variations in dissolved oxygen in shallow waters of a large temperate estuary. Estuaries and Coasts. 47: 1456–1474. https://doi.org/10.1007/s12237-024-01372-5

Turner, J.S., K.A. Fall, and C.T. Friedrichs, 2022. Clarifying water clarity: a call to use metrics best suited to corresponding research and management goals in aquatic ecosystems. Limnology and Oceanography. 8: 388-397. Letters. https://doi.org/10.1002/lol2.10301

Wright, C.L., C.T. Friedrichs, and G.M. Massey, 2022. Controls on sediment bed erodibility in a muddy, partially-mixed tidal estuary. Frontiers in Earth Science, 10: 805130. https://doi.org/10.3389/feart.2022.805130

Fall, K.A., C.T. Friedrichs, G.M. Massey, D.G. Bowers, and S.J. Smith, 2021. The importance of organic content to fractal floc properties in estuarine surface waters: Insights from video, LISST, and pump sampling. Journal of Geophysical Research: Oceans, 126: e2020JC016787. https://doi.org/10.1029/2020JC016787

Turner, J.S., C.T. Friedrichs, and M.A.M. Friedrichs, 2021. Long-term trends in Chesapeake Bay remote sensing reflectance: implications for water clarity. Journal of Geophysical Research: Oceans, 126: e2021JC017959. https://doi.org/10.1029/2021JC017959

Turner, J.S., P. St-Laurent, M.A.M. Friedrichs, and C.T. Friedrichs, 2021. Effects of reduced shoreline erosion on Chesapeake Bay water clarity. Science of the Total Environment https://doi.org/10.1016/j.scitotenv.2021.145157 [90]

Bowers, D.G., E.M. Roberts, A.M. Hoguane, K.A. Fall, G.M. Massey, and C.T. Friedrichs, 2020. Secchi disk measurements in turbid water. Journal of Geophysical Research: Oceans. 125: e2020JC016172. https://doi.org/10.1029/2020JC016172

Perkey, D.W., S.J. Smith, K.A. Fall, G.M. Massey, C.T. Friedrichs, and E.M. Hicks, 2020. Impacts of muddy bed aggregates on sediment transport and management in the tidal James River, VA. ASCE Journal of Waterway, Port, Coastal and Ocean Engineering. 146(5). https://doi.org/10.1061/(ASCE)WW.1943-5460.0000578

Bilici, C., N. Stark, C.T. Friedrichs, and G.M. Massey, 2019. Coupled sedimentological and geotechnical data analysis of surficial sediment layer characteristics in a tidal estuary. Geo-Marine Letters, 39: 175-189. https://doi.org/10.1007/s00367-019-00565-3

Tarpley, D.R.N., C.K. Harris, C.T. Friedrichs, and C.R. Sherwood, 2019. Tidal variation in cohesive sediment distribution and sensitivity to flocculation and bed consolidation in an idealized, partially-mixed estuary. Journal of Marine Science and Engineering. 7(334): 1-27. https://doi.org/10.3390/jmse7100334

Turner, J.S., M.L. Kellogg, G.M. Massey, and C.T. Friedrichs, 2019. Minimal effects of oyster aquaculture on local water quality: examples from southern Chesapeake Bay. PLoS ONE, 14(11): e0224768. https://doi.org/10.1371/journal.pone.0224768

Bever, A.J., M.A.M. Friedrichs, C.T. Friedrichs, and M.E. Scully, 2018. Estimating hypoxic volume in the Chesapeake Bay using two continuously sampled oxygen profiles. Journal of Geophysical Research: Oceans, 123: 6392–6407. https://doi.org/10.1029/2018JC014129

Olabarrieta, M., W.R. Geyer, G. Coco, C.T. Friedrichs, and Z. Cao, 2018. Effects of density driven flows on the long-term morphodynamic evolution of funnel-shaped estuaries. Journal of Geophysical Research: Earth Surface, 123: 2901-2924. https://doi.org/10.1029/2017JF004527

Zhou, Z., L.Y. Chen, I. Townend, C. Friedrichs, and G. Coco, 2018. Revisiting the relationship between tidal asymmetry and tidal embayment morphology: a comparison between 1D and 2D tidal flow models. Journal of Coastal Research, SI 85: 151-155. https://doi.org/10.2112/SI85-031.1

Rennie, S.E., A. Brandt, and C.T. Friedrichs, 2017. Initiation of motion and scour burial of objects underwater. Ocean Engineering, 131: 282-294. https://doi.org/10.1016/j.oceaneng.2016.12.029

Colden, A.M., K.A. Fall, G.M. Cartwright, and C.T. Friedrichs, 2016. Suspension and deposition of sediment across subtidal oyster reefs of varying orientation to flow: implications for restoration. Estuaries and Coasts, 39: 1435-1448. https://doi.org/10.1007/s12237-016-0096-y [80]

Friedrichs, C.T., S.E. Rennie, and A. Brandt, 2016. Self-burial of objects on sandy beds by scour: A synthesis of observations. In: J.M. Harris, R.J.S. Whitehouse, and S. Moxon (eds.), Scour and Erosion. CRC Press, p. 179-189. https://bit.ly/2mH5rZN

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Fall, K.A., C.K. Harris, C.T. Friedrichs, J.P. Rinehimer, and C.R. Sherwood, 2014. Model behavior and sensitivity in an application of the cohesive bed component of the Community Sediment Transport Modeling System for the York River Estuary, VA. Journal of Marine Science and Engineering, 2: 413-436. https://doi.org/10.3390/jmse2020413

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Smith, S.J., and C.T. Friedrichs, 2011. Size and settling velocities of cohesive flocs and suspended sediment aggregates in a trailing suction hopper dredge plume. Continental Shelf Research, 31 (10S): S50-S63. https://doi.org/10.1016/j.csr.2010.04.002

Bearman, J.A., C.T. Friedrichs, B.E. Jaffe, and A.C. Foxgrover, 2010. Spatial trends in tidal flat shape and associated environmental parameters in South San Francisco Bay. Journal of Coastal Research, 26: 342-349. https://doi.org/10.2112/08-1094.1

Friedrichs, C.T., 2010. Barotropic tides in channelized estuaries. In: A. Valle-Levinson (ed.), Contemporary Issues in Estuarine Physics, Cambridge University Press, Cambridge, UK, pp. 27-61. https://doi.org/10.1017/CBO9780511676567.004

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Fugate, D.C., C.T. Friedrichs, and L.P. Sanford, 2007. Lateral dynamics and associated transport of sediment in the upper reaches of a partially mixed estuary, Chesapeake Bay, USA. Continental Shelf Research, 27: 679-698. https://doi.org/10.1016/j.csr.2006.11.012

Hill, P.S., J.M. Fox, J.S. Crockett, K.J. Curran, C.T. Friedrichs, W.R. Geyer, T.G. Milligan, A.S. Ogston, P. Puig, M.E. Scully, P.A. Traykovski and R.A. Wheatcroft, 2007. Sediment delivery to the seabed on continental margins. In: C.A. Nitrouer, J.A. Austin, M.E. Field, J.H. Kravitz, J.P.M. Syvitski, and P.L. Wiberg (eds.), Continental-Margin Sedimentation: From Sediment Transport to Sequence Stratigraphy, IAP Special Publication 37, Blackwell Publishing, Oxford, pp. 49-100. https://doi.org/10.1002/9781444304398.ch2

McAnally, W.H., C. Friedrichs, D. Hamilton, E. Hayter, P. Shrestha, H. Rodriguez, A. Sheremet, and A. Teeter, 2007. Management of fluid mud in estuaries, bays and lakes, part I: present state of understanding on character and behavior. ASCE Journal of Hydraulic Engineering, 133: 9-22. https://doi.org/10.1061/(ASCE)0733-9429(2007)133:1(9)

McAnally, W.H., A. Teeter, D. Schoellhamer, C. Friedrichs, D. Hamilton, E. Hayter, P. Shrestha, H. Rodriguez, A. Sheremet, and R. Kirby, 2007. Management of fluid mud in estuaries, bays and lakes, part II: measurement, modeling and management. ASCE Journal of Hydraulic Engineeringm 133: 23-38. https://doi.org/10.1061/(ASCE)0733-9429(2007)133:1(23)

Parsons, J.D., C.T. Friedrichs, P.A. Traykovski, D. Mohrig, J. Imran, J.P.M. Syvitski, G. Parker, P. Puig, J.L. Buttles, and M.H. Garcia, 2007. The mechanics of sediment gravity flows. In: C.A. Nittrouer, J.A. Austin, M.E. Field, J.H. Kravitz, J.P.M. Syvitski, and P.L. Wiberg (eds.), Continental-Margin Sedimentation: From Sediment Transport to Sequence Stratigraphy, IAP Special Publication 37, Blackwell Publishing, Oxford, pp. 275-338. https://doi.org/10.1002/9781444304398.ch6

Pratson, L.F., C.A. Nittrouer, P.L. Wiberg, M.S. Steckler, J.B. Swenson, D.A. Cacchione, J.A. Karson, A.B. Murray, M.A. Wolinsky, T.P. Gerber, B.L. Mullenbach, G.A. Spinelli, C.S. Fulthorpe, D.B. O'Grady, G. Parker, N.W. Driscoll, R.L. Burger, C. Paola, D.L. Orange, M.E. Field, C.T. Friedrichs, and J.J. Fildelez, 2007. Seascape evolution on clastic continental shelves and slopes. In: C.A. Nitrouer, J.A. Austin, M.E. Field, J.H. Kravitz, J.P.M. Syvitski, and P.L. Wiberg (eds.), Continental-Margin Sedimentation: From Sediment Transport to Sequence Stratigraphy, IAP Special Publication 37, Blackwell Publishing, Oxford, pp. 339-380. https://doi.org/10.1002/9781444304398.ch7 [50]

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Edited volumes

Pedocchi, F., and C.T. Friedrichs, editors, 2019. Topical Collection on the 14th International Conference on Cohesive Sediment Transport, Ocean Dynamics, Vol 69, https://doi.org/10.1007/s10236-020-01399-9

Friedrichs, C.T., and A. Valle-Levinson, editors, 2002. Physics of Estuaries and Seas, Continental Shelf Research, Vol. 22, Nos. 18-19, p. 2611-2818. https://doi.org/10.1016/S0278-4343(02)00116-4

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Aubrey, D.G. and C.T. Friedrichs, editors, 1996. Buoyancy Effects on Coastal Dynamics. American Geophysical Union, Washington, D.C., 359 p. https://isbnsearch.org/isbn/9780875902678

Non-peer-reviewed conference proceedings articles

Rahman, R. M., Hunstein, E., Rodriguez-Marek, A., Stark, N., Massey, G., Friedrichs, C., Dorgan, K. M., & Cox, C. (2024). Sediment characterization based on portable free fall penetrometer measurements using a deep neural network. In T. M. Evans, N. Stark, & S. Chang (Eds.), Geo-Congress 2024 (pp. 354–363). American Society of Civil Engineers. https://doi.org/10.1061/9780784485347.036

Cox, C. E., Dorgan, K. M., Stark, N., Massey, G., Rodriguez-Marek, A., Friedrichs, C., Hunstein, E., & Rahman, M. R. (2023). Investigating the influence of biogenic processes on seabed properties in the York River estuary, Chesapeake Bay. In P. Wang, E. Royer, & J. Rosati (Eds.), Coastal Sediments 2023 (pp. 1082–1094). World Scientific. https://doi.org/10.1142/9789811275135_0099

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Cartwright, G.M., C.T. Friedrichs, and P.D. Panetta, 2012. Dual use of a sediment mixing tank for calibrating acoustic backscatter and direct Doppler measurement of settling velocity. OCEANS 2012, Institute of Electrical and Electronics Engineers, 7 p. https://doi.org/10.1109/OCEANS.2012.6405026 http://bit.ly/3TQivIL

Panetta, P.D., L.G. Bland, G.M. Cartwright, and C.T. Friedrichs, 2012. Acoustic scattering to measure dispersed oil droplet size and sediment particle size. OCEANS 2012, Institute of Electrical and Electronics Engineers, 9 p. https://doi.org/10.1109/OCEANS.2012.6405103 http://bit.ly/4mbyq0o

Cartwright, G.M., C.T. Friedrichs, and L.P. Sanford, 2011. In situ characterization of estuarine suspended sediment in the presence of muddy flocs and pellets. In: P. Wang, J.D. Rosati, and T.M. Roberts (eds.), Coastal Sediments 2011, World Scientific, p. 642-655. https://doi.org/10.1142/9789814355537_0049 http://bit.ly/4o2SmEh

Kraatz, L.M., A.D. Skarke, A.C. Trembanis, and C.T. Friedrichs, 2011. Approaches for quantifying seabed morphology: techniques for utilizing rotary sonar systems. In: P. Wang, J.D. Rosati, and T.M. Roberts (eds.), Coastal Sediments 2011, World Scientific, p. 1060-1073. https://doi.org/10.1142/9789814355537_0080

Cartwright, G.M., C.T. Friedrichs, P.J. Dickhudt, T. Gass, and F.H. Farmer, 2009. Using the acoustic Doppler velocimeter (ADV) in the MUDBED real-time observing system. OCEANS 2009, Institute of Electrical and Electronics Engineers, p. 1428-1436. https://doi.org/10.23919/OCEANS.2009.5422146 http://bit.ly/3GYAZ6P

Smith, S.J., and C.T. Friedrichs, 2007. A mass-balance, control-volume approach for estimating vertical sediment flux and settling velocity within dredge plumes. In: N.C. Kraus and J.D. Rosati (eds.), Coastal Sediments 2007, American Society of Civil Engineers, p. 2382-2393. https://doi.org/10.1061/40926(239)187 http://bit.ly/3GV9Vp9

Stamey, B., W. Smith, K. Carey, D. Garbin, F. Klein, H. Wang, J. Shen, W. Gong, J. Cho, D. Forrest, C. Friedrichs, W. Boicourt, M. Li, M. Koterba, D. King, J. Titlow, E. Smith, A. Siebers, J. Billet, J. Lee, D. Manning, G. Szatkowski, D. Wilson, P. Ahnert, and J. Ostrowski, 2007. Chesapeake Inundation Prediction System (CIPS): A regional prototype for a national problem. OCEANS 2007, Institute of Electrical and Electronics Engineers, p. 753-762. https://apps.dtic.mil/sti/pdfs/ADA518173.pdf

Bower, G.R., M.D. Richardson, K.B. Briggs, P.A. Elmore, C.S. Kennedy, D.R. Naar, S.D. Locker, P. Howd, A.C. Hine, B.T. Donahue, J. Brodersen, M. Wolfson, T.F. Wever, R. Luehder, C.T. Friedrichs, A.C. Trembanis, S. Griffin, J. Bradley, and R.H. Wilkens, 2004. Mine burial by scour: results from the Gulf of Mexico experiments. Proceedings of the 6th International Symposium on Technology and the Mine Problem, Naval Postgraduate School, Monterey, CA, 9-13 May, 10 p. http://bit.ly/3IGUfpY

Richardson, M.D., E.F. Braithwaite, S. Griffin, J. Bradley, C.T. Friedrichs, A.C. Trembanis, and P. Traykovski, 2004. Real-time characterization of mine scour burial at the Martha's Vineyard Coastal Observatory. Proceedings of the 6th International Symposium on Technology and the Mine Problem, Naval Postgraduate School, Monterey, CA, 9-13 May, 6 p. http://bit.ly/4lQETOn

Battisto, G.M., and C.T. Friedrichs, 2003. Monitoring suspended sediment plume formed during dredging using ADCP, OBS, and bottle samples. In: R.A. Davis, A. Sallenger, and P. Howd (eds.), Coastal Sediments 2003, 14 p. https://doi.org/10.1142/5315

Friedrichs, C.T., L.H. Brasseur, M.E. Scully, and S.E. Suttles, 2003. Use of backscatter from acoustic Doppler current profiler to infer eddy diffusivity of sediment and bottom stress. R.A. Davis, A. Sallenger, and P. Howd (eds.), Coastal Sediments 2003, 14 p. https://doi.org/10.1142/5315 http://bit.ly/46o5sWq

Fugate, D.C., and C.T. Friedrichs, 2003. Versatility of the Sontek ADV: measurements of sediment fall velocity, sediment concentration, and TKE production from wave contaminated velocity data. In: R.A. Davis, A. Sallenger, and P. Howd (eds.), Coastal Sediments 2003, 14 p. https://doi.org/10.1142/5315 http://bit.ly/40uoPcx

Lee, G., C.E. Vincent, C.T. Friedrichs, and W.B. Dade, 2003. New approach for reference concentration. In: R.A. Davis, A. Sallenger, and P. Howd (eds.), American Society of Engineers, Coastal Sediments 2003, 14 p. https://doi.org/10.1142/5315

Battisto, G.M., C.T. Friedrichs, H.C. Miller and D.T. Resio, 1999. Response of OBS to mixed grain-size suspensions during SandyDuck '97. In: N.C. Kraus and W.G. McDougal (eds.), Coastal Sediments 1999, American Society of Civil Engineers, ISBN: 978-0-7844-0436-2, p. 297-312. http://bit.ly/3IzABfI

Friedrichs, C.T., and L.D. Wright, 1998. Wave effects on inner shelf wind drag coefficients. In: B. Edge and J. Hemsley (eds.), Ocean Wave Measurement and Analysis, American Society of Engineers, ISBN 978-0-7844-0346-4, p. 1033-1047. https://www.researchgate.net/publication/393915899

GRANTS AND CONTRACTS (as VIMS lead PI)

Jul 2024 - Jun 2025, "2024-2025 Water quality monitoring for Bay water quality standards assessment." Virginia Department of Environmental Quality. C.T. Friedrichs, Principal Investigator, $384,500.

Jul 2023 - Jun 2024, "2023-2024 Water quality monitoring for Bay water quality standards assessment." Virginia Department of Environmental Quality. C.T. Friedrichs, Principal Investigator, $384,500.

Aug 2022 - Dec 2025, "Quantifying munitions mobility and burial in riverine environments." Strategic Environmental Research and Development Program via Subcontract through U.S. Naval Research Laboratory, C.T. Friedrichs, VIMS Principal Investigator, $145,300.

Jul 2022 - Jun 2023, "2022-2023 Water quality monitoring for Bay water quality standards assessment." Virginia Department of Environmental Quality. C.T. Friedrichs, Principal Investigator, $366,150.

Jul 2021 - Jun 2022, "2021-2022 Water quality monitoring for Bay water quality standards assessment." Virginia Department of Environmental Quality. C.T. Friedrichs, Principal Investigator, $366,150.

Jul 2020 - Jun 2021, "2020-2021 Water quality monitoring for Bay water quality standards assessment." Virginia Department of Environmental Quality. C.T. Friedrichs, Principal Investigator, $366,150.

Oct 2018 - Jul 2019, "Evaluation of environmental concerns in Buchanan Creek." Virginia Department of Environmental Quality. C.T. Friedrichs, Principal Investigator, $250,000.

Jul 2016 - Sep 2019, "Parameterized process models for underwater munitions expert system." Strategic Environmental Research and Development Program. C.T. Friedrichs, Principal Investigator, $96,387.

Apr 2015 - Apr 2020, "Interactions of estuarine physics, sediment, and organic matter in determining suspended particle properties, their spatial and temporal distribution, and resulting water clarity." National Science Foundation, Division of Ocean Sciences. C.T. Friedrichs, Principal Investigator, $691,150.

Jun 2014 - Feb 2017, "Empirical investigation of the factors influencing marine applications of electromagnetic induction." Strategic Environmental Research and Development Program via Subcontract through U.S. Naval Research Laboratory. C.T. Friedrichs, VIMS Principal Investigator, $174,790.

Apr 2011 - Mar 2016, "Improved observation, analysis and modeling of fine sediment dynamics in turbid, biologically active coastal environments." National Science Foundation, Division of Ocean Sciences. C.T. Friedrichs, Principal Investigator, $644,025.

Jun 2011 - May 2015, "Collaborative research: the role of wind in estuarine dynamics." National Science Foundation, Division of Ocean Sciences. C.T. Friedrichs, VIMS Principal Investigator, $193,820.

Mar 2012 - Feb 2014, "Simple parameterized models for predicting mobility, burial and re-exposure of underwater munitions." Strategic Environmental Research and Development Program. C.T. Friedrichs, Principal Investigator, $84,700.

May 2013 - Nov 2013, "Acoustic assessment of subsea chemical dispersant efficacy." BOERMRE Technology Assessment & Research Program via Subcontract through Applied Research Associates, Inc. C.T. Friedrichs, VIMS Principal Investigator, $76,478.

Dec 2011 - Feb 2013, "BOEMRE oil particle sizing." BOERMRE Technology Assessment & Research Program via Subcontract through Applied Research Associates, Inc. C.T. Friedrichs, VIMS Principal Investigator, $64,547.

Jan 2009 - Dec 2011, "Collaborative research: A real-time and rapid response observing system for the study of physical and biological controls on muddy seabed deposition, reworking and resuspension." (Supplement) National Science Foundation, Division of Ocean Sciences. C.T. Friedrichs, Principal Investigator, $388,872.

Jun 2010 - June 2011, "A super-regional testbed to improve models of environmental processes on the U.S. Atlantic and Gulf of Mexico coasts." NOAA US-IOOS Coastal and Ocean Modeling Testbed. C.T. Friedrichs, VIMS Principal Investigator, $879,717.

Nov 2009 - Apr 2010, "Ultrasonic in-situ characterization of tank waste." Department of Energy via Subcontract through Luna Innovations Inc. C.T. Friedrichs, VIMS Principal Investigator, $25,000.

Jan 2006 - Dec 2008, "Collaborative research: A real-time and rapid response observing system for the study of physical and biological controls on muddy seabed deposition, reworking and resuspension." National Science Foundation, Division of Ocean Sciences. C.T. Friedrichs, Principal Investigator, $1,946,500.

Jun 2006 - May 2008, "Development of morphological models for South San Francisco Bay." U.S. Geological Survey, Western Coastal and Marine Geology Program. C.T. Friedrichs, Principal Investigator, $50,106.

Feb 2007 - Dec 2007, "Morphodynamics of tidal flat coastlines." Office of Naval Research, Marine Geosciences Program, C.T. Friedrichs, Principal Investigator, $57,861.

Dec 2004 - Nov 2007, "Reformulation of mine scour equations using observations from MBP field sites." Office of Naval Research, Marine Geosciences Program. C.T. Friedrichs, Principal Investigator, $63,469.

Oct 2002 - Sep 2007, "TIDE: Trophic cascade and interacting control processes in a detritus-based aquatic ecosystem." National Science Foundation, Division of Environmental Biology. C.T. Friedrichs, VIMS Principal Investigator, $205,000.

Sep 2006 - Aug 2007, "Detection and prediction of hazards in ports, bays and the littoral zone: a lower Chesapeake Bay test bed (expansion)." Office of Naval Research, Processes and Prediction Division. C.T. Friedrichs, Principal Investigator, $1,724,000.

Oct 2004 - Sep 2006, "Chesapeake Bay observing cooperative expansion and integration demonstration: VIMS/CBNERRVA component." National Oceanic and Atmospheric Administration, National Marine Fisheries Service, C.T. Friedrichs, Principal Investigator, $111,099.

Oct 2003 - Sep 2006, "Development of a sediment transport model for the Chesapeake Bay: Supporting physical data." US Army Corps, Engineer Research and Development Center. C.T. Friedrichs, VIMS Principal Investigator, $248,619.

Mar 2000 - Feb 2005, "CAREER: Sediment dynamics of a microtidal partially-mixed estuary." National Science Foundation, Division of Ocean Sciences. C.T. Friedrichs, Principal Investigator, $499,978.

Dec 2002 - Sep 2004, "Forecasting scour related mine burial using a parameterized model." Office of Naval Research, Marine Geosciences Program. C.T. Friedrichs, Principal Investigator, $99,660.

Oct 2002 - Sep 2003, "Upscaling simple models for energetic shelf sediment transport." Office of Naval Research, Marine Geosciences Program. C.T. Friedrichs, Principal Investigator, $19,627.

Aug 2001, "Oyster shell dredge monitoring" Virginia Marine Resources Commission. C.T. Friedrichs, Principal Investigator, $6,100.

Nov 2000 - Oct 2004, "Collaborative proposal: How do estuarine turbidity maxima entrap particles, retain zooplankton, and promote recruitment of fish?" National Science Foundation, Division of Ocean Sciences. C.T. Friedrichs, Principal Investigator, $217,512.

Oct 2000 - Sep 2002, "Integration of an analytical model for shelf sediment deposition into SEDFLUX." Office of Naval Research, Geology and Geophysics Program. C.T. Friedrichs, Principal Investigator, $99,790.

Oct 2000 - Sep 2001, "A review of the present knowledge of mine burial." Office of Naval Research, Geology and Geophysics Program. C.T. Friedrichs, Principal Investigator, $8,624.

Jul 2000 - Sep 2000, "Characterization of turbidity and suspended sediment size distribution in support of along-shore sediment flux measurement during storms, Duck, NC (Expansion)." Waterways Experiment Station, U.S. Army Corps of Engineers. C.T. Friedrichs, Principal Investigator, $19,151.

Oct 1998 - Sep 2000, "Bottom boundary layer processes associated with fine sediment accumulation: Application to STRATAFORM." Office of Naval Research, Geology and Geophysics Program. C.T. Friedrichs, Principal Investigator, $99,968.

Apr 1999 - Sep 1999, "Characterization of turbidity and suspended sediment size distribution in support of along-shore sediment flux measurement during storms, Duck, NC (Expansion)." Waterways Experiment Station, U.S. Army Corps of Engineers. C.T. Friedrichs, Principal Investigator, $43,703.

Feb 1996 - Jan 1999, "Cross-shoreface suspended sediment transport: A response to the intersection of nearshore and shelf processes." National Science Foundation, Division of Ocean Sciences. C.T. Friedrichs, Principal Investigator, $239,806.

Jul 1998 - Sep 1998, "Characterization of turbidity and suspended sediment size distribution in support of along-shore sediment flux measurement during storms, Duck, NC." Waterways Experiment Station, U.S. Army Corps of Engineers. C.T. Friedrichs, Principal Investigator, $21,202.

Mar 1997 - Jan 1998, "Pump sampling and quantitative analysis of suspended sand and turbidity in support of the sensor insertion system, Duck, NC." Coastal Engineering Research Center, U.S. Army Corps of Engineers. C.T. Friedrichs, Principal Investigator, $15,183.

PROFESSIONAL SERVICE

Editorial board services

2019-present, Journal of Marine Science and Engineering, Editorial Board
1998-present, Continental Shelf Research, Editorial Board
2011-2018, Estuaries and Coasts, Associate Editor
2002-2008, American Geophysical Union, Books Board

Membership on research steering committees and on advisory committees outside Ches. Bay region

2023-present, System-Wide Monitoring Program Synthesis Workgroup, National Estuarine Research Reserve System, National Oceanic and Atmospheric Administration.

2020-present, Submerged Aquatic Vegetation Workgroup, National Estuarine Research Reserve System, National Oceanic and Atmospheric Administration.

2019-present, Coastal and Ocean Acidification Workgroup, National Estuarine Research Reserve System, National Oceanic and Atmospheric Administration.

2004-present, Coastal and Environmental Research Committee, Southeastern University Research Association.

1996-present, Steering Committee, Physics of Estuaries and Coastal Seas International Biennial Conference Series.

2015-2023, Steering Committee, INTERCOH International Cohesive Sediments Biennial Conference Series.

2021-2022, System-Wide Monitoring Program Metabolism Workgroup, National Estuarine Research Reserve System, National Oceanic and Atmospheric Administration.

2015-2017, Coastal Master Plan Science and Engineering Board, Coastal Protection and Restoration Authority of Louisiana.

2014-2019, Mehta Award Subcommittee, International Conference on Cohesive Sediment Transport Processes (INTERCOH).

2013 Technical Expert, Key Uncertainties Related to Diverted Fresh Water, Nutrients and Sediment, The Water Institute of the Gulf.

2013, Chair of Pritchard Award Subcommittee, Coastal and Estuarine Research Federation.

2012-2014, Executive Committee, National Science Foundation Community Surface Dynamics Modeling System.

2009-2014, Chair of Chesapeake Focus Research Group, National Science Foundation Community Surface Dynamics Modeling System.

2007-2013, Core Team, Marine Working Group, National Science Foundation Community Surface Dynamics Modeling System.

2004-2007, Program Advisory Council, 19th Biennial Conference of the Estuarine Research Federation, Providence, RI.

2004-2005, Co-chair of Scientific Program for Poster Presentations and Conference Organizing Committee Member, 18th Biennial Conference of the Estuarine Research Federation, Norfolk, VA.

2004-2005, Steering Committee, Middle Atlantic Bight Physical Oceanography and Meteorology Conference Series.

2003-2006, American Society of Civil Engineers Task Committee on Management of Fluid Mud in Estuaries, Bays and Lakes.

2003-2004, Co-chair, Coastal Benthic Exchange Dynamics Workshop Organizing Committee, National Science Foundation Coastal Ocean Processes (CoOP) Program.
2002-2008, Scientific Steering Committee, National Science Foundation Coastal Ocean Processes Program.
2002-2003, Extended Program Committee, 17th Biennial Conference of the Estuarine Research Federation, Seattle, WA.
1994-2001, American Society of Civil Engineers Task Committee on Physical Processes in Tidal Wetland Enhancement and Restoration.

Membership on Virginia/regional advisory service committees/groups (Overlapping past 10 years)

2024-present, Virginia Gubernatorial Appointee, Scientific and Technical Advisory Committee (STAC), Chesapeake Bay Program (CBP), EPA/NOAA. https://bit.ly/4aUFNF6
2024-present, Submerged Aquatic Vegetation Workgroup, CBP, EPA/NOAA. https://bit.ly/4ht3pD7
2021-present, Bay Oxygen Research Group, CBP, EPA/NOAA. https://bit.ly/3CJ1KKn
2021-present, Hypoxia Collaborative Team, CBP, EPA/NOAA. https://bit.ly/4gxh5LV
2019-present, Criteria Assessment Protocol Workgroup, CBP, EPA/NOAA. https://bit.ly/3ExOFEw
2019-present, Data Integrity Workgroup, CBP, EPA/NOAA. https://bit.ly/4hP36SC
2018-present, EPA/NOAA CBP Integrated Trends Analysis Team, CBP, EPA/NOAA. https://bit.ly/411scXO
2018-present, Board of Directors, Mid-Atlantic Regional Association Coastal Ocean Observing System (MARACOOS). https://bit.ly/43ESMbT
2016-present, Modeling Workgroup, CBP, EPA/NOAA. https://bit.ly/4hP36SC
2019-2021, Quantifying the impacts of past and future climate and eutrophication on the dynamics of dissolved oxygen in the shallow waters of Chesapeake Bay. STAC Synthesis Team, CBP, EPA/NOAA. https://bit.ly/4kC1tcS
2019-2020, Strategic Planning Committee, MARACOOS.
2016-2019, Steering Committee/Co-Chair, Understanding and Explaining 30 Years of Water Clarity Trends in Chesapeake Bay's Tidal Waters, STAC Workgroup, CBP, EPA/NOAA. https://bit.ly/4n5pStd
2015-2018, STAC Liaison, Integrated Trends Analysis Team/Integrated Monitoring Networks Workgroup, CBP, EPA/NOAA.
2015-2018, STAC Liaison, Scientific Technical Assessment and Reporting Team, CBP, EPA/NOAA.
2015-2018, STAC Liaison, Water Quality Goal Implementation Team, CBP, EPA/NOAA.
2015-2018, STAC Liaison, Watershed Technical Workgroup, CBP, EPA/NOAA.
2015-2017, Steering Committee, Integrating and Leveraging Monitoring Networks to Support the Assessment of Outcomes in the Chesapeake Bay Watershed Agreement, STAC Workgroup, CBP, EPA/NOAA. https://bit.ly/45TxDMp
2015-2016, Steering Committee, Conowingo Reservoir Infill and Its Influence on Chesapeake Bay Water Quality, STAC Workgroup, CBP, EPA/NOAA. https://bit.ly/3HwlKSL
2011-2016, STAC Liaison, Modeling Workgroup, EPA/NOAA Chesapeake Bay Program.
2010-2018, Scientific and Technical Advisory Committee (STAC), EPA/NOAA Chesapeake Bay Program.
2009-2016, Steering Committee, Chesapeake Community Modeling Program, Chesapeake Research Consortium/NOAA Chesapeake Bay Program.

University-wide governance activities

2023-2025, William & Mary Faculty Hearing Committee
2020-2025, William & Mary Personnel Policy Committee (Alternate Rep, July 2023-present)
2020-2025, William & Mary Procedural Review Committee (Alternate Rep, July 2023-present)
2015-2025, University Library Committee (Chair 2022-2023)
2022-2023, W&M Faculty Misconduct Informal Investigation Committee (Chair)
2022, Search Committee for Vice Provost for Academic Affairs
2022, Search Committee for estuarine and coastal numerical modeling professor
2021, W&M Executive Transition Team for VIMS/SMS Dean & Director
2020-2021, Chair, Search Committee for VIMS/SMS Dean & Director
2020, William & Mary Virginia Outstanding Faculty Award Committee

2019-2020, William & Mary Strategic Planning Steering Committee (W&M SPSC)
2019-2020, Co-chair, W&M SPSC Research and Innovation Subcommittee
2018-2019, Chair, Search Committee for tenure-track physical oceanographer
2017-2018 William & Mary Virginia Outstanding Faculty Award Committee
2017 William & Mary Leadership Initiative
2016-2019, William & Mary Faculty Assembly
2016-2019, William & Mary Faculty Committee on Planning and Resources
2016-2019, William & Mary Faculty Affairs Committee
2015-2016, Search Committee for tenure-track professor in the field of marine biological science
2013-2014, Search Committee for two tenure-track professors in the field of marine physiology/ecology
2011-2012, Search Committee for two tenure-track marine geologists
2011-2012, Search Committee for tenure-track physical oceanographer
2011 Evaluation Committee for Dean of School of Marine Science
2008-2009, Search Committee for William & Mary Provost
2008, William & Mary Virginia Outstanding Faculty Award Committee
2008-2016, William & Mary Faculty Compensation Board
2006-2007, Search Committee for visiting assistant professor in statistics
2006-2007, Evaluation Committee for Vice Provost for Research and Graduate Professional Studies
Aug 2006, Attendee at Provost's Chesapeake Bay Initiative Retreat
1999-2000, Search Committee for tenure-track geological oceanographer
1996-1997, Search Committee for tenure-track numerical modeler
1995, Search Committee for visiting assistant professor in geological oceanography
1995, Reader for John Modi, a blind graduate student in Applied Sciences Department, William & Mary

SMS/Batton School/VIMS governance activities

2019-present, Research Coordinator & Associate Director of CBNERR-VA
2023-2025, VIMS Branding & Logo Committee
2023-2024, Dean & Director's Ad Hoc Research Advisory Group
2023-2024, VIMS Faculty Evaluation Committee
2023-2024, VIMS Faculty Success Implementation Ad Hoc Committee
2022-2023, VIMS AGU Bridge Framework Development Team for Historically Marginalized Students
2022-2023, Co-Lead, VIMS Organizational Design Team
2022, Search Committee for VIMS web applications developer
2022, Search Committee for VIMS field & laboratory technician
2021-2022, Lead, Strategic Planning for VIMS Organizational Structure
2021, VIMS Bay Data Strategic Planning Committee
2021, VIMS Financial Strategic Planning Committee
2020-2022, Junior Faculty Mentoring Program, Mentor for VIMS Assistant Professors
2018-2020, Chair, VIMS Department of Physical Sciences
2018-2020, Chair & Center Directors Committee
2018-2020, SMS Catalogue Committee
2018-2020, Space and Facilities Planning Committee
2017, Ad Hoc VIMS Chancellor Professorship Committee
2016-2019, Chair, VIMS Faculty Council
2016-2018, Junior Faculty Mentoring Program, Mentor for two VIMS Assistant Professors
Mar, Apr, Jun 2016, hosted SCHEV, SACSCOC and W&M BoV tours of CHSD lab
2015-2018, VIMS Research Scientist Review Committee
2014-2015, VIMS Strategic Planning Steering Committee
2013-2016, VIMS Nominations and Elections Committee
2011-2016, Maynard Nichols Fellowship Award Committee
2010-2020, VIMS Administrative Council
2010-2016, SMS Catalogue Committee

2010-2016, Space and Facilities Planning Committee
2010-2016, Chair, VIMS Department of Physical Sciences
2010-2016, Chair & Center Directors Committee
2010-2014, VIMS Productivity Committee
2010, Ad Hoc VIMS Copier Program Review Committee
2008-2009, Ad Hoc Committee on Alternative Faculty Contract Models
2007-2010, Best Student Paper Award Committee
2007-2008, VIMS Strategic Planning Steering Committee
2005-2010, Vice Chair, VIMS Department of Physical Sciences
2004-2010, Co-chair, VIMS Quantitative Skills Committee
2004-2010, Advisory Committee for the Analytical Services Center
2002-2005, Physical Sciences Department representative to Faculty Council
2001-2002, Physical Sciences Department alternate to Faculty Council
2000-2010, Chair, VIMS Student Research Grant Committee
1999, Chair, Education Strategic Planning Workgroup, including retreats in May and October
1999, Brooke Hall/Davis Hall Replacement Building Committee
1997-2001, Physical Sciences Department alternate to Academic Council
1997-1998, Physical Sciences Department World-Wide-Web Subcommittee
1996-2010, VIMS Student Research Grant Committee

CONTRIBUTIONS TO EDUCATION

Graduate students (as Major/Co-Major Advisor or Capstone Advisor

David Parrish, seeking Ph.D. at Batten School/VIMS, W&M. Topic: "On combining in situ and remote sensing observations to improve assessment of shallow water clarity in Virginia's tidal waters."
Graduated 2025, M.A., Stephanie Letourneau, Batten School/VIMS, W&M. Topic: "Growing and improving: recommendations for Chesapeake Bay SAV Watchers, a volunteer monitoring program" (Capstone Co-Advisor with S. Nuss).
Graduated 2024, M.A., Amy Nicholson, Batten School/VIMS, W&M. "Accessibility and inclusivity in marine science education: A suite of collaborative marine science lesson plans" (Capstone Co-Advisor with S. Nuss).
Graduated 2022, Ph.D., David Perkey, SMS/VIMS. "Importance of muddy bed aggregate processes in cohesive sediment dynamics associated with sediment management projects."
Graduated 2021, Ph.D., Jessica Turner, SMS/VIMS. "Water clarity and suspended particle dynamics in the Chesapeake Bay: local effects of oyster aquaculture, regional effects of reduced shoreline erosion, and long-term trends in remotely sensed reflectance" (Co-Major Advisor with M. Friedrichs).
Graduated 2021, M.S., Cristin Wright, SMS/VIMS. "Controls on estuarine sediment bed erodibility: insights from the York River Estuary" (Co-Major Advisor with G. Massey).
Graduated 2020, Ph.D., Kelsey Fall, SMS/VIMS. "Influence of suspended particle size and composition on particle image processing, estuarine floc fractal properties, and resulting estuarine light attenuation."
Graduated 2020, Ph.D., Danielle Tarpley, SMS/VIMS. "Temporal variability in cohesive sediment dynamics in a partially mixed estuary, the York River Estuary, Virginia, USA: a numerical study developed from observations" (Co-Major Advisor with Courtney Harris).
Graduated 2013, Ph.D., Grace Cartwright, SMS/VIMS. "Application of acoustics and optics for the characterization of suspended particulate matter within an estuarine observing system."
Graduated 2013, Ph.D., Lindsey Kraatz, SMS/VIMS. "Acoustic and sedimentological investigations of seabed conditions and related bio-physio-geological parameters in a tidally energetic, fine-grained environment: York River Estuary, Virginia."
Graduated 2013, M.S., Carissa Wilkerson, SMS/VIMS. "Analysis of extreme water levels in the Lower Chesapeake Bay" (Co-Major Advisor with J. Brubaker).

Graduated 2012, M.S., Kelsey Fall, SMS/VIMS, "Relationships among fine sediment settling and suspension, bed erodibility, and particle type in the York River estuary, Virginia" (Co-Major Advisor with M. Friedrichs).
Graduated 2011, Ph.D., S. Jarrell Smith, SMS/VIMS. "Fine sediment dynamics in dredge plumes."
Graduated 2009, M.S., Amy Foxgrover, SMS/VIMS, "Quantifying the overwash component of barrier island morphodynamics: Onslow Beach, NC" (Co-Major Advisor with J. McNinch).
Graduated 2009, Ph.D., Yanxia Ma, SMS/VIMS. "Continental shelf sediment transport and depositional processes on an energetic active margin: the Waiapu River shelf, New Zealand" (Co-Major Advisor with C. Harris).
Graduated 2008, M.S., Joshua Bearman, SMS/VIMS. "Factors controlling tidal flat morphology in South San Francisco Bay between the 1890s and 2005."
Graduated 2008, M.S., Patrick Dickhudt, SMS/VIMS. "Controls on erodibility in a partially mixed estuary: York River, Virginia."
Graduated 2007, M.S., Lynsey LeMay, SMS/VIMS. "The impact of drainage ditches on salt marsh flow patterns, sedimentation and morphology: Rowley River, Massachusetts."
Graduated 2005, Ph.D., Malcolm Scully, SMS/VIMS. "The interaction between stratification, circulation, and sediment transport in a partially-mixed estuary."
Graduated 2004, M.S., Heidi Romine, SMS/VIMS. "Documenting the suspended and bottom sediment dynamics of a two estuarine turbidity maximum system using 7Be and 234Th" (Co-Major Advisor with S. Kuehl).
Graduated 2004, Ph.D., Arthur Trembanis, SMS/VIMS. "Complex inner shelf environments: Observations and modeling of morphodynamics and scour processes" (Co-Major Advisor with D. Wright).
Graduated 2002, Ph.D., David Fugate, SMS/VIMS. "Estuarine suspended aggregate dynamics and characteristics."
Graduated 2001, M.S., Malcolm Scully, SMS/VIMS. "Application of an analytical model for gravity-driven sediment transport and deposition to the Eel River shelf" (Co-Major Advisor with D. Wright).
Graduated 2000, M.S., Grace Battisto, SMS/VIMS. "Field measurement of mixed grain size suspension under waves."
Graduated 2000, Ph.D., Guan-Hong Lee, SMS/VIMS. "Across-shelf sediment transport modeling and its application to storms at Duck, North Carolina" (Co-Major Advisor with D. Wright).
Graduated 1996, Ph.D., Linda Frizzell-Makowski, SMS/VIMS. "Temporal variability in the pycnocline in the mid-Chesapeake Bay" (Co-Major Advisor with D. Wright).

Graduate student committee service (non-chair)

Nathan Shunk, seeking Ph.D. at Batten School/VIMS, W&M. "On examining the exchange across seasonally present fronts found in upwelling bays in California." Major Advisor P. Mazzini.
Graduated 2025, Ricardo Utzig Nardi, M.S. at Batten School/VIMS, W&M. Marine heatwaves in U.S. estuaries: impacts of climate change, climate variability, and connectivity with the coastal ocean. Major Advisor P. Mazzini.
Graduated 2025, Emma Wilkinson, M.S. at Batten School/VIMS, W&M. "Verifying a reduced complexity 2D estuarine model with 3D model output: a comparative analysis between hydrodynamics and water quality. " Major Advisor M. Brush.
Graduated 2024, Tyler Messerschmidt, M.S., Batten School/VIMS, W&M. "Drivers of elevation change in a retreating coastal forest." Major Advisor M. Kirwan.
Graduated 2023, Nathan Shunk, M.S., SMS/VIMS, W&M. "Subsurface Structure and Impacts of Marine Heatwaves in the Chesapeake Bay." Major Advisor P. Mazzini.
Graduated 2023, Kyle Hinson, Ph.D., SMS/VIMS, W&M. "Impacts and uncertainties of climate change on the Chesapeake Bay." Major Advisor M. Friedrichs.
Graduated 2022, Ryan Beecroft, Ph.D., University of Queensland, Australia. "Fine sediment transport mechanisms in a shallow subtropical embayment - a coastal response to extreme flooding." Major Advisor R. Cossu.

Graduated 2022, Fernanda Maciel, Ph.D., W&M. Universidad de la República, Uruguay. "Satellite remote sensing of water quality applications in optically complex coastal waters: The case of the Río de la Plata estuary." Major Advisor F. Pedocchi.

Graduated 2022, Spencer Marquardt, M.S., University of New Hampshire. Resolving the role of surface pressure gradients on short cylinders in nearshore environments. Major Advisor D. Foster.

Withdrew 2021, Elisa Aitoro, seeking M.S. at SMS/VIMS, W&M. On sediment induced stratification in the northern Gulf of Mexico. Major Advisor C. Harris.

Graduated 2021, Matthew Fair, M.S., SMS/VIMS, W&M. "Sediment transport and trapping on the Ayeyarwady and Martaban continental shelf." Major Advisor C. Harris.

Graduated 2021, Laur Ferris, Ph.D., SMS/VIMS, W&M. "Across-scale energy transfer in the Southern Ocean." Major Advisory D. Gong.

Graduated 2021, Shantelle Landry, M.S., SMS/VIMS, W&M. "Recruitment and post-settlement mortality of the soft-shell clam, *Mya arenaria*." Major Advisor R. Seitz.

Graduated 2021, Kristen Sharpe, M.S., SMS/VIMS, W&M. "The role of zooplankton community composition in fecal pellet carbon production in the York River Estuary, Chesapeake Bay." Major Advisor D. Steinberg.

Graduated 2020, Daniel Coleman, Ph.D., SMS/VIMS. "The role of suspended sediment in assessing coastal wetland vulnerability." Major Advisor M. Kirwan.

Graduated 2020, Lindsey Nelson, M.S., SMS/VIMS. "Genetic and morphological assessment of population structure of the clearnose skate (*Rostroraja eglanteria*) from the Western North Atlantic Ocean." Major Advisor J. McDowell.

Graduated 2019, Brent Law, Ph.D. at Dalhousie University. "Quantifying transport of aquaculture particulate wastes." Major Advisor P. Hill.

Graduated 2018, John Gray, M.S. at College of Marine Science, University of South Florida. "The stability of sand waves in a tidally-influenced shipping channel, Tampa Bay, Florida. Major advisor D. Naar.

Graduated 2018, Itchika Sivaipram, Ph.D. at SMS/VIMS. "Crab larval abundance and settlement patterns in a changing Chesapeake Bay". Major Advisor L. Schaffner.

Graduated 2017, Isaac Irby, Ph.D. at SMS/VIMS. "Using water quality models in management: a multiple model assessment, analysis of confidence, and evaluation of climate change impacts". Major Advisor M. Friedrichs.

Graduated 2017, Julia Moriarty, at SMS/VIMS. "The role of seabed resuspension on oxygen and nutrient dynamics in coastal systems: a numerical modeling study". Major Advisor C. Harris, Co-Major Advisor, M. Friedrichs.

Graduated 2017, Megan Wood, Ph.D. at SMS/VIMS. "Junvenile blue crab (*Callinectes sapidus*) response to altered nursery habitat". Major Advisor R. Lipcius.

Graduated 2016, Haixing Wang, M.S. at SMS/VIMS. "On shelf-slope water mass exchanges near Norfolk Canyon and Washington Canyon in Mid-Atlantic Bight". Major Advisor D. Gong.

Graduated 2015, Emily French, M.S. at SMS/VIMS. "Z. marina and R. maritime in the Chesapeake Bay: effects of recent seagrass species change on habitat structure and function". Major Advisor K. Moore.

Graduated 2015, Xioateng Shen, Ph.D. at SMS/VIMS. "Modeling flocculation and deflocculation processes of cohesive sediments". Major Advisor J. Maa.

Graduated 2014, Justin Birchler, M.S. at SMS/VIMS. "Sediment deposition and reworking: a modeling study using isotopically tagged sediment classes". Major Advisor C. Harris.

Graduated 2014, Miguel De Lucas Pardo, Ph.D. Delft University of Technology. "Effect of biota on fine sediment transport processes: a study of lake Markermeer". Major Advisor J. Winterwerp.

Graduated 2013, Matthew Freedman, M.S. at SMS/VIMS. "Distribution and impacts of invasive bivalve *Corbicula fluminea* in tidal freshwater York River tributaries". Major Advisor L. Schaffner.

Graduated 2013, Haley Garrison, M.S. at SMS/VIMS. "Effects of episodic turbulence on diatoms, with comments on the use of evens blue stain for live-dead determinations." Major Advisor K. Tang.

Graduated 2013, Giulio Mariotti, Ph.D. at Geology Department, Boston University. "Morphodynamics of shallow coastal bays." Major Advisor S. Fagherazzi.

Graduated 2013, Hadley Mcintosh, M.S. at SMS/VIMS. "Composition, sources, and age of dissolved and particulate organic matter in the Delaware River and estuary". Major Advisor E. Canuel.

Graduated 2013, R. Garrik Secrist, M.S. at SMS/VIMS. "Food availability and utilization for cultured hard clams." Co-Major Advisors M. Luckenbach, I. Anderson.

Graduated 2012, Theresa Davenport, M.S. at SMS/VIMS. "The consequences of shoreline modification for near-shore communities in Chesapeake Bay, USA: a before-after impact study." Major Advisor R. Seitz.

Graduated 2012, Daniel Maxey, M.S. at SMS/VIMS. "Shedding light on the estuarine coastal filter: the relative importance of benthic microalgae in shallow photic systems." Major Advisor I. Anderson.

Graduated 2012, Julia Moriarty, M.S. at SMS/VIMS. "Transport and fate of sediment on the Waipaoa River continental shelf: implications for the formation and reworking of flood deposits." Major Advisor C. Harris.

Graduated 2012, Noelle Relles, Ph.D. at SMS/VIMS. "A case study in the effectiveness of marine protected areas (MPA's): the islands of Bonaire and Curacao, Dutch Caribbean." Major Advisor M. Patterson.

Graduated 2012, Stephanie Salisbury, M.S. at SMS/VIMS. "Dynamics and composition of the extracellular polymeric substances produced by benthic microalgae: an in situ 13C and 15N approach." Major Advisor E. Canuel.

Withdrew 2012, Hilary Stevens, from Ph.D. Program in Geological Sciences Department, University of Delaware. On morphodynamic evolution of fetch limited barrier beaches. Major Advisor A. Trembanis.

Graduated 2012, Sarah Sumoski, M.S. at SMS/VIMS. "Mobile animals as a potential dispersal mechanism in Zostera Marina (eelgrass)." Major Advisor R. Orth.

Graduated 2011, Cassie Bradley, M.S. at SMS/VIMS. "The impacts of shoreline development on shallow-water benthic communities in the Patuxent River, MD." Major Advisor R. Seitz.

Graduated 2011, Kersey Sturdivant, Ph.D. at SMS/VIMS. "The effects of hypoxia on macrobenthic production and function in the lower Rappahannock River, Chesapeake Bay, USA." Co-Major Advisors R. Diaz, R. Seitz.

Withdrew 2011, Payal Dharia, from M.S. Program at SMS/VIMS. On the control of erosion and deposition on larval settlement and recruitment. Major Advisor L. Schaffner.

Graduated 2010, Mick van der Wegen, Ph.D. Delft University of Technology. "Modeling Morphodynamic Evolution in Alluvial Estuaries." Major Advisor J. Roelvink.

Graduated 2010, Katherine Brodie, Ph.D., SMS/VIMS. "Observations of storm morphodynamics using Coastal Lidar and Radar Imaging System (CLARIS): importance of wave refraction and dissipation over complex surf-zone morphology at a shoreline erosional hotspot." Major Advisor J. McNinch.

Graduated 2010, Amber Hardison, Ph.D., SMS/VIMS. "Interactions between macroalgae and the sediment microbial community: nutrient cycling within shallow coastal bays." Major Advisor I. Anderson.

Graduated 2010, Cielomar Rodriguez-Calderon, M.S., SMS/VIMS. "Spatial and temporal patterns in erosional and depositional processes: physical and biological controls in the York River, Chesapeake Bay, VA." Major Advisor S. Kuehl.

Withdrew 2010, Lorraine Brasseur, from Ph.D. program, at SMS/VIMS. On the dynamics of estuarine stratification. Major Advisor J. Brubaker.

Graduated 2009, Juliette Poleto, M.S., SMS/VIMS. "Nutrient loading and system response in the coastal lagoons of the Delmarva Peninsula." Co-Major Advisors I. Anderson, M. Brush.

Graduated 2008, J. Paul Rinehimer, M.S., SMS/VIMS. "Sediment transport and erodibility in the York River estuary: a modeling study." Major Advisor C. Harris.

Graduated 2008, Shih-Nan Chen, Ph.D., Marine and Estuarine Environmental Sciences Program, University of Maryland. "Density- and wind-driven lateral circulation and the associated transport of sediments in idealized, partially mixed estuaries." Major Advisor L. Sanford.

Graduated 2008, Ho Kyung Ha, Ph.D., SMS/VIMS. "Acoustic measurements of cohesive sediment transport: suspension to consolidation." Major Advisor J. Maa.

Graduated 2008, Heidi Wadman, Ph.D., SMS/VIMS. "Controls on continental shelf stratigraphy: Waiapu River, New Zealand." Major Advisor J. McNinch.

Graduated 2007, Jennifer Miselis, Ph.D., SMS/VIMS. "Nearshore morphology and lithology: links to framework geology and shoreline change." Major Advisor J. McNinch.

Graduated 2007, Peng Cheng, Ph.D., Marine Sciences Research Center, State University of New York at Stony Brook. "Modeling sediment transport in estuarine environment: effects of tidal asymmetry, lateral circulation and sediment-induced stratification." Major Advisor R. Wilson.

Graduated 2007, Justin Vandever, M.S., SMS/VIMS. "Acoustic measurement and modeling of waves in estuarine and coastal environments." Major Advisor J. Brubaker.

Graduated 2006, Aaron Bever, M.S., SMS/VIMS. "Physical processes behind delta propagation and flood layer dynamics: Po River, Italy." Major Advisor C. Harris.

Graduated 2005, Jae-Il Kwon, Ph.D., SMS/VIMS. "Simulation of turbidity maximums in the York River, Virginia." Major Advisor J. Maa.

Graduated 2005, Joanne O'Callaghan, Ph.D., Dept. of Environmental Engineering, University of Western Australia. "Tidal and sediment dynamics of a partially mixed, micro-tidal estuary." Major Advisor C. Pattiaratchi.

Graduated 2005, Monica Wolfson, M.S., College of Marine Science, University of South Florida. "Multibeam Observations of Mine Scour and Burial Near Clearwater Florida, Including a Test of the VIMS 2D Burial Model." Major Advisor D. Naar.

Withdrew 2005, Scott Lerberg, seeking Ph.D. at SMS/VIMS. "Benthic secondary production in tidal marsh habitats -- between and within marsh variability along a salinity gradient in the York River subestuary." Major Advisor R. Diaz.

Graduated 2004, M.S., Sarah Davies, SMS/VIMS. "Temporal changes in vegetation patterns at Sweet Hall Marsh." Major Advisor J. Perry.

Graduated 2002, M.S., Scott Marion, SMS/VIMS. "Habitat fragmentation effects on the abundance and production of seagrass-associated fauna." Major Advisor R. Orth.

Graduated 2002, Ph.D., Elizabeth Hinchey, SMS/VIMS. "Linking benthic biology with boundary layer processes and sediment disturbance in the York River estuary." Major Advisor L. Schaffner.

Graduated 2001, Ph.D., Julie Herman, SMS/VIMS. "Sediment budgets, estuarine sediment loads, and wetland sediment storage at watershed scales, York River watershed, Virginia." Major Advisor C. Hershner.

Graduated 2001, Ph.D. William Stockhausen, SMS/VIMS. "The impact of marine reserves on exploited species with complex life histories: a modeling study using the Caribbean spiny lobster in Exuma Sound, Bahamas." Major Advisor R. Lipcius.

Graduated 2000, M.S., Kevin Skunda, SMS/VIMS. "Application of a theoretical model in the analysis of shoreline stability." Major Advisor C. Hershner.

Graduated 2000, Ph.D., Robert Wood, SMS/VIMS. "Multispecies patterns of recruitment in the Chesapeake Bay among monitored fishes and the blue crab". Major Advisor H. Austin.

Graduated 2000, Ph.D., Alessandra Sagasti, SMS/VIMS. "Effects of hypoxia on epifaunal communities, lower Chesapeake Bay." Co-Major Advisors E. Duffy and L. Schaffner.

Withdrew 2000, Diana Whittington, seeking M.S. at SMS/VIMS. "Time series analysis of response of fish assemblages to fluctuating hydrographic regimes/refugia provided by morphology." Co-Major Advisors J. Hoenig and D. Evans.

Graduated 1999, M.S., Rebecca Little Countway, SMS/VIMS. "Spatial and temporal distributions of organic matter and polycyclic aromatic hydrocarbons (PAHs) in surface waters of the York River, VA estuary." Major Advisor R. Dickhut.

Graduated 1999, Ph.D., Timothy Dellapenna, SMS/VIMS. "Controls on strata formation in physically and biologically dominated environments: A comparison of the lower Chesapeake Bay and York River estuaries". Major Advisor S. Kuehl.

Graduated 1999, Ph.D., David Niebuhr, SMS/VIMS. "The source and effect of chronic, low-level sedimentation on coral health and ecology." Co-Major Advisors M. Patterson and J. Boon.

Graduated 1998, M.S., Eva Machelor Bailey, SMS/VIMS. "The role of macroalgae in shallow seagrass systems of the York River, VA: Interactions and competition". Major Advisor K. Moore.

Graduated 1998, M.S., Michael Campana, SMS/VIMS. "The effect of reed grass (*Phragmites australis*) invasion on nitrogen cycling, sedimentation, and habitat value of tidal brackish wetlands". Major Advisor J. Perry.

Graduated 1998, Ph.D., Sarah Rennie, SMS/VIMS. "Wind interaction with buoyant plumes on the inner continental shelf". Co-Major Advisors J. Brubaker and D. Wright.

Graduated 1997, M.S., Katherine Farnsworth, SMS/VIMS. "Seasonal trends in wave energy at the Thimble Shoals area of lower Chesapeake Bay". Major Advisor J. Boon.

Graduated 1997, Ph.D., Pablo Glorioso, SMS/VIMS. "Seasonal stratification decay related to inertial oscillations in the northern North Sea -- observations and numerical modeling". Major Advisor J. Brubaker.

Graduated 1996, M.S., David Fugate, SMS/VIMS, "Quantification of tidal creek network patterns using fractal methods." Major Advisor R. Wetzel.

Graduated 1996, M.S., Jennifer Schulman, SMS/VIMS. "How does survival of juvenile blue crabs vary as a function of grass bed density?" Major Advisor R. Lipcius.

Graduated 1996, M.S., Renee Pardieck, SMS/VIMS. "A comparison of settlement of blue crab post-larvae (*Callinectes sapidus Rathbun*) in Ruppia maritima and Zostera marina." Major Advisor R. Orth.

Undergraduate research experience mentor

Summer 2020, Co-mentor (with G. Massey) of Thomas Sacco, an undergraduate at Middlebury College, in the William & Mary SMS/VIMS Summer Internship Program

Summer 2018, Co-mentor (with G. Massey) of Emmalynn Hicks, an undergraduate at Bryn Mawr College, in the William & Mary SMS/VIMS Summer Internship Program

Fall 2016 to Spring 2018, Co-mentor (with G. Massey) and Senior Thesis co-advisor (with G. Massey) to Moira Taylor, CHSD Lab volunteer, research assistant, Geology Major, William & Mary.

Summer 2017, Co-mentor (with G. Massey) of Emily Mushlitz, an undergraduate at William & Mary, in the William & Mary SMS/VIMS Summer Internship Program

Summer 2016, Co-mentor (with G. Massey) to Cristin Wright, an undergraduate at Maine Maritime Academy, in the William & Mary SMS/VIMS Summer Internship Program.

Spring 2015 to Spring 2016, Co-supervisor (with G. Cartwright) of Jacob Seefeldt, CHSD Lab volunteer, Geology Major, William & Mary.

Spring 2014 to Spring 2015, Co-supervisor (with G. Cartwright) and Senior Thesis co-advisor (with G. Cartwright) to Meg Gillespie, CHSD Lab volunteer, research assistant, Geology Major, William & Mary.

Spring 2013 to Spring 2014, Senior Thesis Co-advisor (with G. Cartwright) to Brandon McCoy, Geology Department, William & Mary.

Spring 2013, Co-supervisor (with G. Cartwright) of Ciara Mills, CHSD Lab volunteer, Geology Major, William & Mary.

Spring 2013, Co-supervisor (with G. Cartwright) of Elizabeth Stoeckle, CHSD Lab volunteer, Geology Major, William & Mary.

Spring 2012 to Spring 2013, Senior Thesis Co-advisor (with G. Cartwright) to Dominique Paxton, Geology Department, William & Mary.

Summer 2012, Co-mentor (with G. Cartwright) to Laura Tait, an undergraduate at Amherst College, in the William & Mary SMS/VIMS Summer Internship Program.

Spring 2012 to Spring 2013, Co-supervisor (with G. Cartwright) of Brandon McCoy, CHSD Lab volunteer and research assistant, Geology Major, William & Mary.

Fall 2011, Co-supervisor (with G. Cartwright) of Patti Burton, CHSD Lab volunteer, Geology Major, William & Mary.

Fall 2011, Co-supervisor (with G. Cartwright) of Katherine Martin, CHSD Lab volunteer, Geology Major, William & Mary.

Summer 2011 to Spring 2012, Co-supervisor (with G. Cartwright) of Dominique Paxton, CHSD Lab volunteer, Geology Major, William & Mary.

Summer 2011, Mentor to Emily Wei, an undergraduate at Middlebury College, in the William & Mary SMS/VIMS Summer Internship Program.
Spring 2011 to Spring 2012, Senior Thesis Advisor to Isaac Clark, Geology Department, William & Mary.
Summer 2010, Co-Mentor (with M. Friedrichs) to Leslie Bland, an undergraduate at James Madison University, in the William & Mary SMS/VIMS Summer Internship Program.
Fall 2008 to Spring 2010, Senior Thesis Advisor to Donte Newbill, Geology Department, William & Mary.
Spring 2008 to Spring 2009, Senior Thesis Advisor to Benjamin Lewis, Geology Department, William & Mary.
Summer 2008, Mentor to Ryan Scott, an undergraduate at George Mason University, in the William & Mary SMS/VIMS Summer Internship Program.
Spring 2007 to Spring 2008, Senior Thesis Advisor to Sam Bruno, Geology Department, William & Mary.
Spring 2006 to Spring 2007, Senior Thesis Advisor to Katherine Luciano, Geology Department, William & Mary.
Summer 2006, Mentor to Emilee Mroz, an undergraduate at St. Lawrence University, in the William & Mary SMS/VIMS Summer Internship Program.
Summer 2005, Mentor to Andrew Kowalczk, an undergraduate at Texas A&M University, Galveston, in the William & Mary SMS/VIMS Summer Internship Program.
Summer 2005, Supervisor of Katherine Luciano, undergraduate in Geology Department, William & Mary, working as Summer Intern at VIMS.
Summer 2004, Supervisor of Joe Levitt, undergraduate at Tulane University, working as Summer Intern at VIMS.
Fall 2003 to Spring 2004, Senior Thesis Advisor to McDonald Lee, Geology Department, William & Mary.
Fall 2002 to Spring 2003, Senior Thesis Advisor to Rebecca Roper, Geology Department, William & Mary.
Summer 2001 to Spring 2002, SMS/VIMS Summer Internship Program and Senior Thesis Advisor to Lynsey Ellis, Geology Department, William & Mary.
Summer 2001, Mentor to Brian Zelenke, an undergraduate at Humboldt State University, in the William & Mary SMS/VIMS Summer Internship Program.
January 2001, Supervisor for Brian Schott, an undergraduate at Randolph-Macon College as part of the Randolph-Macon College Internship in Environmental Studies.
Summer 2000 to Spring 2001, SMS/VIMS Summer Internship Program and Senior Thesis Advisor to Carrie Snyder, Geology Department, William & Mary.
Fall 1999/Spring 2000, co-Mentor (with John Brubaker) to Michelle Venanzi for senior research project, Physics Department, William & Mary.
Summer 1999. Mentor to Selma van Houwelingen and Manon Rommens, undergraduate students at the University of Utrecht, The Netherlands, as part of their Department of Geography Research Placement Program.
Fall 1997, Mentor to Arno de Kruif and Daan Rijks, undergraduate students at the University of Utrecht, The Netherlands, as part of their Department of Geography Research Placement Program.
Summer 1997, Mentor to Stefan Petranek, an undergraduate at Bowdoin College, Maine, in the William & Mary SMS/VIMS Summer Internship Program.

Graduate courses taught (As lead or co-lead instructor)

Spring 2025	MSCI 515 Marine Science Seminar, Enroll. 91
Fall 2024	MSCI 515 Marine Science Seminar, Enroll. 95
Spring 2024	MSCI 515 Marine Science Seminar, Enroll. 80
Fall 2023	MSCI 515 Marine Science Seminar, Enroll. 79
Spring 2023	MSCI 515A Interdisciplinary Marine Science Seminar, Enroll. 41
Fall 2022	MSCI 515A Interdisciplinary Marine Science Seminar, Enroll. 45
Spring 2022	MSCI 515A Interdisciplinary Marine Science Seminar, Enroll. 48
Fall 2021	MSCI 515A Interdisciplinary Marine Science Seminar, Enroll. 52
Spring 2021	MSCI 515A Interdisciplinary Marine Science Seminar, Enroll. 45
Fall 2020	MSCI 515A Interdisciplinary Marine Science Seminar, Enroll. 49

Summer 2020	MSCI 698-03 Fine Sediment Properties and Processes, Enroll. 4
Spring 2020	MSCI 515D Physical Sciences Seminar, Enroll. 9
Fall 2019	MSCI 515D Physical Sciences Seminar, Enroll. 11
Spring 2019	MSCI 515D Physical Sciences Seminar, Enroll. 13
Fall 2018	MSCI 515D Physical Sciences Seminar, Enroll. 11
Spring 2018	MSCI 515D Physical Sciences Seminar, Enroll. 9
Fall 2017	MSCI 515D Physical Sciences Seminar, Enroll. 14
Summer 2017	MSCI 520 Principles of Coastal & Ocean Dynamics, Enroll. 4
Spring 2017	MSCI 515D Physical Sciences Seminar, Enroll. 14
Fall 2016	MSCI 515D Physical Sciences Seminar, Enroll. 15
Fall 2016	MSCI 698-02 Data Analysis for Coastal Processes Using MATLAB, Enroll. 13
Fall 2016	MSCI 698-03 Fine Sediment Transport Processes, Enroll. 6
Spring 2016	MSCI 515D Physical Sciences Seminar, Enroll. 11
Fall 2015	MSCI 698-02 Advances in Estuarine Particle Transport Dynamics, Enroll. 2
Fall 2015	MSCI 515D Physical Sciences Seminar, Enroll. 7
Spring 2015	MSCI 515D Physical Sciences Seminar, Enroll. 12
Fall 2014	MSCI 515D Physical Sciences Seminar, Enroll. 11
Spring 2014	MSCI 515D Physical Sciences Seminar, Enroll. 9
Spring 2014	MSCI 520 Principles of Coastal & Ocean Dynamics, Enroll. 5
Fall 2013	MSCI 515D Physical Sciences Seminar, Enroll. 13
Fall 2013	MSCI 698-02 Effects of Organic Matter on Properties of Mud Suspensions, Enroll. 5
Spring 2013	MSCI 515D Physical Sciences Seminar, Enroll. 6
Fall 2012	MSCI 515D Physical Sciences Seminar, Enroll. 7
Spring 2012	MSCI 515D Physical Sciences Seminar, Enroll. 4
Spring 2012	MSCI 520 Principles of Coastal & Ocean Dynamics, Enroll. 4
Spring 2012	MSCI 698-06 York River Sediment Dynamics, Enroll. 4
Fall 2011	MSCI 515D Physical Sciences Seminar, Enroll. 7
Fall 2011	MSCI 621 Coastal Morphodynamic Processes, Enroll. 5
Spring 2011	MSCI 515D Physical Sciences Seminar, Enroll. 12
Fall 2010	MSCI 515D Physical Sciences Seminar, Enroll. 11
Fall 2010	MSCI 553 Intro to Benthic Boundary Layers & Sediment Transport, Enroll. 6
Spring 2010	MSCI 515D Physical Sciences Seminar, Enroll. 6
Spring 2010	MSCI 520 Principles of Coastal & Ocean Dynamics, Enroll. 6
Fall 2009	MSCI 515D Physical Sciences Seminar, Enroll. 8
Spring 2009	MSCI 515D Physical Sciences Seminar, Enroll. 8
Fall 2008	MSCI 515D Physical Sciences Seminar, Enroll. 9
Fall 2008	MSCI 621 Coastal Morphodynamic Processes, Enroll. 6
Spring 2008	MSCI 515D Physical Sciences Seminar, Enroll. 9
Spring 2008	MSCI 520 Principles of Coastal & Estuarine Physical Oceanography, Enroll. 8
Fall 2007	MSCI 515D Physical Sciences Seminar, Enroll. 11
Spring 2007	MSCI 515D Physical Sciences Seminar, Enroll. 14
Fall 2006	MSCI 515D Physical Sciences Seminar, Enroll. 21
Fall 2006	MSCI 553 Intro to Benthic Boundary Layers & Sediment Transport, Enroll. 6
Spring 2006	MSCI 515D Physical Sciences Seminar, Enroll. 21
Fall 2005	MSCI 515D Physical Sciences Seminar, Enroll. 23
Fall 2005	MSCI 621 Morphodynamics of Deltaic Coasts and Shelves, Enroll. 12
Spring 2005	MSCI 515D Physical Sciences Seminar, Enroll. 25
Spring 2005	MSCI 520 Principles of Coastal & Estuarine Physical Oceanography, Enroll. 9
Fall 2004	MSCI 601D Physical Sciences Seminar, Enroll. 24
Spring 2004	MSCI 613 Ocean Dynamics, Enroll. 6
Spring 2004	MSCI 502 Coastal and Estuarine Processes and Issues, Enroll. 26
Spring 2004	MSCI 601D Physical Sciences Seminar, Enroll. 18

Fall 2003	MSCI 601D Physical Sciences Seminar, Enroll. 23
Spring 2003	MSCI 502 Coastal and Estuarine Processes and Issues, Enroll. 28
Spring 2003	MSCI 601D Physical Sciences Seminar, Enroll. 4
Fall 2002	MSCI 698 Tools & Techniques for Geological and Physical Oceanography, Enroll. 6
Spring 2002	MSCI 520 Principles of Coastal and Estuarine Physical Oceanography, Enroll. 7
Spring 2002	MSCI 502 Coastal and Estuarine Processes and Issues, Enroll. 16
Fall 2001	MSCI 698-06 Sediment Dynamics (Special topics course), Enroll. 5
Spring 2001	MSCI 697-06 Sediment Dynamics (Special topics course), Enroll. 2
Spring 2001	MSCI 502 Coastal and Estuarine Processes and Issues, Enroll. 21
Fall 2000	MSCI 697-02 Estuarine and Coastal Sediment Processes, Enroll. 7
Spring 2000	MSCI 502 Coastal and Estuarine Processes and Issues, Enroll. 27
Spring 2000	MSCI 520 Principles of Coastal and Estuarine Physical Oceanography, Enroll. 4
Spring 1999	MSCI 502 Coastal and Estuarine Processes and Issues, Enroll. 27
Fall 1998	MSCI 698-04 Tidal Marsh Sediment Transport and Sedimentation, Enroll. 4
Spring 1998	MSCI 502 Coastal and Estuarine Processes and Issues, Enroll. 23
Spring 1997	MSCI 502 Coastal and Estuarine Processes and Issues, Enroll. 28
Spring 1997	MSCI 520 Introduction to Fluid Mechanics, Enroll. 4
Fall 1996	MSCI 698-03 Data Assimilation Applied to Suspended Particle Properties, Enroll. 1
Spring 1996	MSCI 502 Coastal and Estuarine Processes and Issues, Enroll. 25
Spring 1996	MSCI 613 Ocean Dynamics, Enroll. 4
Spring 1995	MSCI 502 Coastal and Estuarine Processes and Issues, Enroll. 32
Spring 1995	MSCI 520 Introduction to Fluid Mechanics, Enroll. 8
Fall 1993	MSCI 501 Introduction to Physical Oceanography, Enroll. 28