

## CHRISTOPHER J. HEIN

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Virginia Institute of Marine Science • College of William and Mary  
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### Education

- January 2012      Ph.D., Department of Earth Sciences, Boston University (BU)  
Title: *Styles of coastal evolution in response to changes in sea level and sediment supply*
- June 2003        B.S., Department of Earth and Atmospheric Sciences, Cornell University (CU)  
Major: *Science of Earth Systems*; Concentration: *Geological Sciences*

### Professional Appointments

- 2013 - present      Assistant Professor, Department of Physical Sciences, Virginia Institute of Marine Science (VIMS), College of William and Mary
- 2012 - 2013        Coastal Ocean Institute Postdoctoral Scholar, Woods Hole Oceanographic Institution (WHOI), Department of Marine Chemistry and Geochemistry
- Fall 2011           Instructor, BU Department of Earth Sciences
- 2005 - 2011        Research Fellow / Teaching Fellow, BU
- 2005                Program Assistant, CU Earth and Environmental Field Studies Program in Hawai'i
- 2003 - 2004        Research Assistant, Konza Prairie Long Term Ecological Research Station, Division of Biology, Kansas State University
- 2003                Research Assistant, Biogeochemistry Laboratory, Department of Earth and Atmospheric Sciences (EAS), CU
- 2001                Research Assistant, Glacial Geomorphology Laboratory, Department of EAS, CU
- 2000                Marine Biology Education Assistant, Cornell Cooperative Extension, Riverhead, NY
- 1999 - 2000        Research Assistant, Marine Microbiology Laboratory, School of Marine and Atmospheric Sciences, SUNY Stony Brook

### Honors and Awards

- 2018                Plumeri Faculty Award, College of William & Mary
- 2017                Alumni Fellowship Award, College of William & Mary
- 2017                Outstanding Faculty Teaching Award, VIMS
- 2015 - 2016        Reves Center Faculty Fellow, College of William & Mary
- 2011 - 2013        Coastal Ocean Institute Postdoctoral Scholar Fellowship, WHOI
- 2007 - 2011        National Science Foundation Graduate Research Fellowship
- 2011                Best Student Paper Award, Coastal Sediments 2011
- 2010                Society for Sedimentary Geology (SEPM) Outstanding Graduate Paper Award: Geological Society of America Northeast / Southeast Conference
- 2010                Graduate Student Presentation Award, Department of Earth Sciences, BU
- 2008                Graduate Student Organization Travel Grant, BU
- 2007                Assoc. of Environmental and Engineering Geologists Tilford Field Studies Scholarship
- 2006 - 2007        Dean's Teaching Fellowship Award, BU
- 2003                Distinguished Citizen Award: Ithaca, NY

1999 – 2003                      Cornell Presidential Research Scholar  
1999                                      Eagle Scout, Boy Scouts of America

### **Research Funding (Grants & Contracts)**

Current: Virginia Center for Innovative Technology: *Integrated Barrier Island Systems (IBIS) Management Project Phase I: Sediment Fluxes and Trapping Dynamics around Fishing Point, Southern Assateague Island, VA*; Project Dates: 04/2018 – 04/2019; Total Budget: \$300,000 (VIMS: **\$300,000**); PIs: **C. Hein** (Lead PI), A. Trembanis (U. Delaware; \$120,000 subaward), M. Fenster (Randolph-Macon U.; \$36,972 subaward)

Current: NOAA Sea Grant: *Managing for biodiversity and blue carbon in the face of sea-level rise and barrier-island migration*; Project Dates: 02/2016 – 01/2018; Total Budget: \$527,888 (VIMS: **\$139,669**); PIs: **C. Hein** (Lead PI), S. Gedan (U. Maryland), S. Jardine (U. Delaware), G. Parsons (U. Delaware), J. Lorenzo Trueba (Montclair State U.)

Completed: NSF Geomorphology and Land-Use Dynamics (EAR-1556554): *RAPID: Collaborative: Storm surge deposition on Salt Marshes: Impacts of Hurricane Irma from Florida to South Carolina*; Project Dates: 11/2017 – 04/2018; Total Budget: \$25,412 (VIMS: **\$4502**); PIs: D. FitzGerald (Lead PI, Boston U.), Z. Hughes (Boston U.), **C. Hein (PI)**, I. Georgiou (U. New Orleans), M. Kulp (U. New Orleans)

Completed: Virginia Center for Innovative Technology: *Coastal resiliency mapping techniques: Addressing key scientific questions through coordinated robotic geophysical surveys*; Project Dates: 06/2017 – 10/2017; Total Budget: \$50,000 (VIMS: **\$50,000**); PIs: **C. Hein** (Lead PI), A. Trembanis (U. Delaware; \$29,000 subaward), M. Fenster (Randolph-Macon U.; \$7000 subaward)

Completed: DOI / National Fish and Wildlife Foundation Hurricane Sandy Resiliency Fund rant: *Hydrodynamic and sediment transport modeling leading to restoration, better management and improved sustainability of Great Marsh*; Sub-contract from Boston University and National Wildlife Federation; Project Dates: 01/2015 – 12/2017; Sub-Contract Budget: **\$44,628** (sole PI)

Completed: NSF Coastal SEES (OCE-1325430): *Coastal SEES (Track I), Collaborative: Sediment supply in a regime of accelerated coastal erosion (SedS-RACE): Paleo-perspectives, anthropogenic influences and future challenges*; Project Dates: 09/2013 – 08/2015 (NCE to 8/2016); Total Budget: \$533,461 (VIMS: **\$428,941**); PIs: **C. Hein (Lead PI)**, E. Canuel (Co-PI, VIMS), J.-C. Huang (U. New Hampshire), P. Rosen (Northeastern U.)

Completed: NSF Marine Geology and Geophysics (OCE-1333826): *Collaborative Research: The response of the terrestrial carbon cycle to climate change since LGM as recorded in Bengal Fan sediments*; Project Dates: 08/2013 – 07/2015 (NCE to 7/2016); Total Budget: \$391,954 total (VIMS: **\$98,037**); PIs: V. Galy (Lead PI, WHOI), **C. Hein (PI)**, B. Peucker-Ehrenbrink (WHOI)

Completed: William & Mary Reves Center Faculty Fellows Program: *Brazilian beach ridges as recorders of coastal response to Holocene climate change*; Project Dates: 05/2015 – 03/2017; Project Budget: **\$9000** (sole PI)

Completed: Geological Society of America Farouk El-Baz Student Desert Research Grant: *Sea-level changes and the regressive wadi infilling of a Pharaonic harbor*; Awarded: 2009; Project Budget: **\$2500** (sole PI)

Completed: American Association of Petroleum Geologists Grants-in-Aid Eastern Section Named Grant: *High-resolution study of a complex mixed-energy barrier lithosome*; Awarded: 2009; Project Budget: **\$2500** (sole PI)

Completed: Geological Society of America Graduate Student Research Grant: *Reworking of inner continental shelf sediments: implications for coastal change in a regime of accelerated sea level rise*; Awarded: 2007; Project Budget: **\$1500**

### **Teaching**

#### **Classes Taught**

Fall 2017                                      Instructor, VIMS, Fundamentals of Marine Geology (MSCI 401C/501C); enroll: 15  
Spring 2017                                    Instructor, VIMS, Holocene Coastal Geomorphology & Evolution (MSCI 622); enroll: 5  
Co-Instructor, VIMS, Advanced Principles of Marine Geology (MSCI 522); enroll: 7  
Fall 2016                                      Instructor, VIMS, Fundamentals of Marine Geology (MSCI 401C/501C); enroll: 21

Fall 2015 Instructor, VIMS, Fundamentals of Marine Geology (MSCI 401C/501C); enroll: 20  
Spring 2014 Instructor, VIMS, Barrier System Dynamics (MSCI 698); enroll: 5  
Fall 2014 Instructor, VIMS, Fundamentals of Marine Geology (MSCI 401C/501C); enroll: 11  
Co-Instructor, VIMS, Coastal Geomorphology (MSCI 498); enroll: 4  
Spring 2014 Co-Instructor, VIMS, Principles of Geological Oceanography (MSCI 522); enroll: 3  
Co-Instructor, VIMS, Rivers: Processes and Problems (MSCI 550); enroll: 7  
Fall 2011 Instructor, BU, Sedimentology (ES 331); enroll: 18  
Fall 2006, 2009 Teaching Fellow, BU, Sedimentology (ES 331)  
Spring 2006, 2007 Teaching Fellow, BU, Earth Surface Processes (ES 333)  
Fall, Spring 2002–2003 Teaching Assistant, CU, Introduction to Geology (EAS 101)

#### **Guest Lectures**

Fall 2016–2017 Guest Lecturer, W&M, Sustainability & the Chesapeake Bay  
Summer 2014–2018 Guest Lecturer, VIMS, Field Studies in Coastal Marine Environments (MSCI 331)  
Spring 2014–2018 Guest Lecturer, William & Mary, The Sedimentary Record (GEOL 322)  
Fall 2013–2017 Guest Lecturer, VIMS, Marine Science Mash-Up (MSCI 391)  
Spring 2016 Guest Lecturer, VIMS, Marine Organic Geochemistry (MSCI 626)  
Spring 2015 Focus Scientist, William & Mary, Science Communication (ENSP 249)  
Fall 2013 Guest Lecturer, VIMS, Fundamentals of Marine Geology (MSCI 501C)  
Spring 2006–2011 Guest Lecturer, BU, Beach & Shoreline Processes (ES 142); Marine Geology (ES 440)

#### **Academic Service / Activities**

##### **Conference and Field Trip Coordination**

Technical Program Co-Chair, Geological Society of America Southeastern Section Meeting, Charleston, SC (28–29 March 2019) (co-chair: Erin Beutel)  
Session Co-Chair, 20<sup>th</sup> International Quaternary Association (INQUA) Congress, Dublin, Ireland (25–31 July 2019): *Sedimentary Archives of Quaternary Coastal Change* (co-chairs: Sebastian Lindhorst, Toru Tamura)  
Session Chair, American Geophysical Union Fall Meeting, New Orleans, LA (12 December 2017): *EP004. Beach- and Fore-dune- Ridge Systems: Architecture, Formation Mechanisms, and Use as Sedimentary Archives* (co-chairs: Sebastian Lindhorst, Lars Nielsen)  
Session Co-Chair, Geological Society of America Southeastern Section Meeting, Richmond, VA (1 April 2017): *T5. Beaches, Barriers, and Marshes of the Southeast Coast: Dynamic Systems in a Changing Climate* (co-chair: Michael Fenster)  
Session Chair, Geological Society of America Annual Meeting, Baltimore, MD (2 November 2015): *T128. Field and Modeling Approaches to Understanding the Response of Coupled Barrier-Backbarrier Systems to Coastal Change* (co-chair: Jorge Lorenzo-Trueba)  
Field Trip Co-Leader, The 106<sup>th</sup> meeting of the New England Intercollegiate Geological Conference (NEIGC), Wellesley MA (10 October 2014): *Ice, water, and wind: A source-to-sink view of the glacial, paraglacial, and coastal sediments and processes that have shaped northeast Massachusetts* (co-leader: Byron Stone, USGS)  
Session Co-Chair, Geological Society of America Annual Meeting, Denver, CO (2 November 2010): *T139. The Barrier Island System: Evolution in Response to Changing Sea Levels* (co-chair: Zoe Hughes)  
Co-Organizer, Climate Seminar (2008–2010), Department of Earth Sciences, BU  
Field Trip Leader, Massachusetts Institute of Technology Sedimentology Class (Dr. Paul Myrow, Professor) - 3 April, 2010: *Field Trip to Plum Island MA*  
Field Trip Leader, University of Massachusetts, Amherst Sedimentology Class (Dr. Jon Woodruff, Professor) - 24 April 2010: *Field Trip to Plum Island MA*

##### **Panel and Working Group Participation**

Member of Norfolk Coastal Management & Review Board; Nov 2016 - present  
Education & Outreach Working Group, *College of William & Mary Sustainability Plan*; Jan 2018 - present

BU Graduate Women in Science and Engineering: *NSF Graduate Research Fellowship Program Application Workshop*; 7 November 2011

EPA / Massachusetts Bays Program - *Climate Ready Estuaries Expert Elicitation Workshop: Salt Marsh Vulnerability Assessment* - Boston, MA; 27–28 April 2010

### **Symposia and Workshop Participation**

Mitigation and Adaptation Research in Virginia Workshop: Suffolk, VA, 11-13 August 2015.

National Science Foundation Coastal SEES (Science, Engineering and Education for Sustainability) PI Meeting: Arlington, VA, 29-30 January 2015.

DISCCRS (Dissertations Initiative for the Advancement of Climate Change Research) VIII Symposium: Colorado Spring, CO, 12-19 October 2013.

Joint Penrose-Chapman Conference 2013: *Coastal Processes and Environments Under Sea-Level Rise and Changing Climate: Science to Inform Management*: Galveston, TX, 14–19 April 2013.

Magellan+ Workshop, Bay of Bengal Drilling: *Records of Geohazards and Monsoonal Changes in the Northern Bay of Bengal - Preparation of an IODP Drilling Proposal*: Bremen, Germany, 8-10 October 2012.

### **Invited Research Talks**

Coastal Carolina University, Department of Coastal & Marine Systems Science (Conway, South Carolina) (29 March 2018): *Island-marsh couplings and the stability of barrier-island systems in the face of accelerated sea-level rise*

Webinar on Geological Research of the North Atlantic Ocean (presented online) (10 March 2017): *Coastal response to autogenic & climatic changes: An example from the Tijucas River / Strandplain, southern Brazil*

Montclair State University, Department of Earth and Environmental Studies (Montclair, New Jersey) (21 February 2017): *Beach-ridge systems as archives of Holocene coastal change*

Universidade Federal de Santa Catarina, Department of Chemistry (Florianópolis, SC, Brazil) (21 April 2016): *Regressive beach- and dune- ridge systems as archives of Holocene coastal change*

Local Solutions: Eastern Regional Climate Preparedness Conference, Sustainable Adaptive Gradients in the Coastal Environment (SAGE) Research Network: Workshop on Coastal Adaptation Planning, Implementation and Policy (Baltimore, MD) (4 April 2016): *Coastal geomorphology and its impact on susceptibility of coastal zones to slow and fast onset events*

University of North Carolina at Chapel Hill, Department of Geological Sciences (Chapel Hill, North Carolina) (19 November 2015): *Beach-ridge systems as archives of Holocene coastal change*

Sustainable Adaptive Gradients in the Coastal Environment (SAGE) Research Network, The Fundamentals of Coastal Adaptation Workshop (Boston, MA) (8 September 2015): *The role of geomorphology on the susceptibility of the coastal zone to climate change*

Virginia Polytechnic Institute and State University, Department of Geosciences (Blacksburg, VA) (24 April 2015): *Strandplain sedimentary sequences as recorders of coastal response to Holocene change*

Universidade Federal de Santa Catarina, Laboratory of Coastal Oceanography (Florianópolis, SC, Brazil) (17 April 2015): *Coupled Barrier-Backbarrier Dynamics and the Evolution of Barrier-Island Systems*

Universidade do Vale do Itajaí, Laboratory of Geological Oceanography, Laboratory of Biodiversity Informatics and Geomatics (Itajaí, SC, Brazil) (16 April 2015): *The role of tidal inlets in barrier island formation and stability Part I: Barrier-inlet processes and the formation of Plum Island barrier island, Massachusetts, USA*

Old Dominion University, Center for Coastal Physical Oceanography, Mitigation & Adaptation Research Institute (Norfolk, VA) (29 September 2014): *Beyond sea-level rise: Coastal response to climate-driven changes in fluvial sediment supply*

William and Mary, Department of Anthropology (Williamsburg, VA) (24 September 2014): *Sea-level and climate change along the African Red Sea coast: Impacts on ancient Egyptian civilization and implications for the future of our coasts*

University of North Carolina Coastal Studies Institute (Wanchese, NC) (26 March 2014): *The role of backbarrier sedimentation on the formation of barrier island systems*

University of Massachusetts, Amherst, Department of Geosciences (Amherst, MA) (29 March 2013): *Beyond sea-level rise: Complex coastal response to Holocene climate change*

Universidade do Vale do Itajaí, Lab. of Geoprocessing and Remote Sensing (Itajaí, SC, Brazil) (17 April 2012): *River-associated coastlines as recorders of Holocene environmental change*

- Universidade Federal de Santa Catarina, Laboratory of Coastal Oceanography (Florianópolis, SC, Brazil) (16 April 2012): *River-associated coastlines as recorders of Holocene environmental change*
- Plum Island Ecosystem LTER All Scientists Meeting (Woods Hole, MA) (29 March 2012): *The big (geologic) picture: Formation of the Plum Island barrier system*
- University of Alabama, Department of Geological Sciences (Tuscaloosa, AL) (27 March 2011): *Coastal strandplains as recorders of Holocene environmental change*
- University of Rhode Island, Department of Geosciences (Kingston, RI) (9 March 2011): *Coastal strandplains as recorders of Holocene environmental change*
- WHOI, Marine Chemistry and Geochemistry Department (Woods Hole, MA) (18 January 2011): *Geophysical examination of coastal barrier Systems in Southern Brazil: Implications for Holocene sea-level change in the Southern Hemisphere*

### **Outreach Talks**

- W&M Christopher Wren Society (Williamsburg, VA) (19 April 2018): *The Dynamics of Barrier Islands*
- Eastern Shore Barrier Islands Center (Machipongo, VA) (16 March 2018): *Virginia's Barrier Islands: Breakneck Change in a Rapidly Changing World*
- VIMS Eastern Shore Lab Public Seminar (Wachapreague, VA) (8 November 2017): *Virginia's Barrier Islands: Breakneck Change in a Rapidly Changing World*
- Science Museum of Virginia: Climate Connections Lecture Series (Richmond, VA) (15 March 2017): *Geologic Studies of Barrier Islands: Helping Society Better Understand and Respond to Changes Affecting the Outer Banks and Virginia's Eastern Shore*
- Virginia Coast Avian Partnership (Melfa, VA) (8 March 2017): *Mapping Geologic & Geomorphic Change along Virginia's Barrier Island Systems*
- Rappahannock Community College: Rappahannock Institute for Lifelong Learning (Gloucester Point, VA) (12 March 2015): *Sea-Level Rise in Virginia: Part I - Long-Term Changes, Causes, & Coastal System Responses*
- VIMS After Hours Public Lecture Series (Gloucester Point, VA) (31 July 2014): *Barrier islands past, present and future*
- UNC Coastal Studies Institute Science on the Sound Public Lecture Series (Wanchese, NC) (26 March 2014): *Soundfronts, Shorelines, and Sediments: How Does Upstream Management Affect Coasts?*
- VIMS Eastern Shore Lab Public Seminar (Wachapreague, VA) (6 November 2013): *Sea Level: The Once and Future King (of coastal change)*
- Eight Towns and the Bay Speaker Series (Newbury, MA) (16 March 2009): *Formation and Evolution of the Plum Island Barrier System*
- The Great Marsh Symposium, Parker River National Wildlife Refuge (Newburyport, MA) (11 April 2009): *Sheltering the Great Marsh: Formation and Evolution of the Plum Island Barrier System*

### **Reviewer (2013-2017)**

- Funding Panel Participation:* National Science Foundation (NSF) Marine Geology and Geophysics (Spring 2016); NSF Graduate Research Fellowship Program (2015)
- Funding Agencies:* NSF Geomorphology & Land Use Dynamics (2013, 2014, 2016); NSF Marine Geology & Geophysics (2017, 2018); NSF EAR Instrumentation (2018); NSF Postdoctoral Program (2016); NSF CAREER Program (Arctic Programs; 2017); PRESTIGE Postdoc Program (France, EU) (2016); RESTORE Act Center of Excellence for Louisiana (2017); American Chemical Society Petroleum Research Fund (2017)
- Peer-Reviewed Journals:* Wiley Inc. book; Estuaries and Coasts; G<sup>3</sup>; Geochimica et Cosmochimica Acta; Geological Society of London; Geophysical Research Letters; Geomorphology; Journal of Coastal Research; Journal of Geophysical Research – Earth Surface; Marine Geology; Natural Hazards; Quaternary Science Reviews; Sedimentology; Terra Nova; Nature Scientific Reports; The Holocene; Climates of the Past
- Other:* National Parks Service report reviewer

### **Professional Affiliations (current)**

- American Geophysical Union; American Quaternary Association; Geological Society of America; International Union for Quaternary Research

## **Student Mentoring**

### **Graduate Students: Major Advisor**

Justin Shawler (PhD, 2021 [anticipated], VIMS): thesis title TBD

Julie Krask (MSc, 2018 [anticipated], VIMS): *Connecting climate to coastal evolution: Impact of sub-millennial-scale precipitation variability on fluvial sediment discharge*

Andrew Fallon (MSc, 2016, VIMS): *Human-induced cyclical erosion due to altered sediment bypassing mechanisms along a barrier island and the resultant impact on the housing market.*

Claudia Shuman (PhD student, 2014-2015, VIMS) (medical withdrawal from VIMS graduate program)

### **Graduate Students: Committee Member**

Ana Paula da Silva (MSc, 2018 [anticipated], Federal University of Santa Catarina, Brazil): *Late Holocene wave direction footprint in the South Atlantic*

Douglas Jensen (MSc, 2018 [anticipated], VIMS): *Use of Pop-Up Satellite Archival Tag Technology to Investigate the Movements, Habitat Utilization, and Post-Release Survival of Cobia (*Rachycentron canadum*) that Summer in Virginia Waters*

Daniel Coleman (PhD, 2020 [anticipated], VIMS): thesis title TBD

Nathalie Schieder (MSc, 2017, VIMS): *Accelerating rates of forest retreat and marsh migration*

Elisabeth Clyne (MSc, 2017, VIMS): *High-resolution Late Holocene sediment records in northern Prince William Sound, Alaska*

Alexander Renaud (MSc, 2016, VIMS): *Chesapeake coastal community flood vulnerability: Prediction and verification*

Kyrstin Fornace (PhD, 2016, WHOI): *Late Quaternary climate variability and terrestrial carbon cycling in tropical South America*

### **Undergraduate Students: Honors Research Advisor**

Jessica Raff (BS, 2017, W&M; High Honors): *Thresholds of barrier-island change: A case study of Parramore Island, Virginia Eastern Shore*

Justin Shawler (BS, 2016, W&M; Honors): *Multi-proxy records of anthropogenic impacts on fluvial sediment discharge at Joppa Flats, MA.*

### **Undergraduate Students: Senior Research Advisor**

Chloe Obara (BS, 2020 [anticipated], W&M): title TBD

Bianca Boggs (BS, 2019 [anticipated], W&M): title TBD

Kendall King (BS, 2019 [anticipated], W&M): title TBD

Kate DeMarco (BS, 2018, W&M): *Beach and foredune ridges as recorders of coastal shoreline evolution: Insights from Chincoteague-Assateague-Wallops islands, northern Virginia*

Lauren Herbine (BS, 2018, W&M): *Marsh accretion rates and organic sediment accumulation as indicators of marsh ecosystem health in New Jersey and Virginia barrier islands*

Sarah Baker (BS, 2017, W&M): *Historical erosion and accretion patterns along Plum Island Point and Salisbury Beach, Massachusetts*

Jennifer Connell (BS, 2017, W&M): *Investigating salt marsh response to natural and anthropogenic changes in the Great Marsh, Plum Island, Massachusetts*

Brody Marino (BS, 2016, W&M): *Seasonal and spatial variability in the sedimentology of the Merrimack Embayment*

Charlie Deaton (BS, 2015, W&M) (co-advised with M. Kirwan, VIMS): *Barrier island migration, changes in tidal prism, and marsh loss on Virginia's Eastern Shore*

Haley Gannon (BS, 2015, W&M): *Vicious cycles: An analysis of cyclical erosion and a migrating erosional hotspot on Plum Island, MA*

### **Undergraduate Students: Research Experience for Undergraduates**

Soely Luyando-Flusa (Universidad Turabo), Summer 2018: title TBD

Rebecca Whitney (Elmira College), Summer 2016 (co-mentored with E. Canuel): *Organic carbon content of Holocene sediment deposited at Plum Island, MA*

Justin Shawler (W&M), Summer 2015: *Multi-proxy records of anthropogenic changes in fluvial sediment supply from Joppa Flats tidal flat, northern MA, USA* (nominated and accepted for competitive Council on Undergraduate Research Symposium, Oct 2015)

### **Undergraduate Students: Other Mentoring**

*Senior Thesis Committees:* Eve Pugsley (W&M Geology, 2018)

*International J1 Student Interns (Exchange students from Universidade do Vale do Itajaí, Brazil):* Luis Henrique Polido de Souza (May–Oct 2014); Marcio Albernaz (Feb–Sept 2010); Thelma Scolaro (Feb–July 2009)

*Undergraduate Volunteer Students Mentored:* Jennifer Connell (W&M Geology Department; 2015 – 2016); Jessica Raff (W&M Geology Department; 2015 – 2016); Justin Shawler (WM Geology/Government Dept; 2014–2015); Katherine Peck (W&M Anthropology Dept; Spring 2015); Luiza Barbosa Caminada (Brazilian exchange student; 2015); Joshua Darnell (Virginia Commonwealth University; Fall 2015)

*Woods Hole Partnership Education Program (PEP) Students:* Samir Karim (2013); Sequoia Riley (2012)

*Boston University Undergraduate Students (2006–2011):* Mary Ellison (current: MicroSeismic Inc); Emily Carruthers (current: Assistant to Associate Dean of Research and Advising Services, VIMS), Meaghan Gorman (current: PhD student, UT Austin), Nicholas Cohn (current: PhD student, Oregon State U.)

### High School Students

Akina Chuigyn (2010, summer), American Chemical Society Project SEED summer fellow

Kim Lien Le (2009, summer), American Chemical Society Project SEED summer fellow

### Other Advising

Graduate Advisor, BU Geological Society (2006–2011)

### Publications

#### Publications in Progress

\*graduate student author †undergraduate student author

French, K.L., **Hein, C.J.**, Haghypour, N., Wacker, L., Kudrass, H., Eglinton, T.L., Galy, V.V., *in review*, Timescales of terrestrial organic carbon export to the Bengal Fan, *Nature Scientific Reports*.

#### Peer-Reviewed Publications

\*graduate student author †undergraduate student author

**Hein, C.J.**, Ten Hoeve, T.E., Gopalakrishnan, S., Livneh, B., Adams, H.D., Marino, E.K., Weiler, C.S., 2018, Overcoming early career barriers to interdisciplinary climate change research, *Wiley Interdisciplinary Reviews: Climate Change*, doi:10.1002/wcc.530.

†Raff, J.L., \*Shawler, J.L., \*Ciarletta, D.J., Hein, E.A., Lorenzo-Trueba, J., **Hein, C.J.**, 2018, Insights into barrier-island stability derived from transgressive/regressive state changes of Parramore Island, Virginia, *Marine Geology*, v. 403, p. 1-19, doi:10.1016/j.margeo.2018.04.007.

Billy, J., Robin, N., **Hein, C.J.**, FitzGerald, D.M., Certain, R., 2018, Impact of relative sea-level changes since the last deglaciation on the formation of a composite paraglacial barrier, *Marine Geology*, v. 400, p. 76-93, doi:10.1016/j.margeo.2018.03.009.

Billy, J., Robin, N., **Hein, C.J.**, FitzGerald, D.M., Certain, R., 2018, Dominance of inherited geologic framework on the development of a coastal barrier system, *Journal of Coastal Research*, SI 85, p. 406-410, doi:10.2112/SI85-082.1.

**Hein, C.J.**, Galy, V.V., Galy, A., France-Lanord, C., Kudrass, H., 2017, Post-glacial climate forcing of surface processes in the Ganges-Brahmaputra River Basin and implications for the global carbon cycle, *Earth and Planetary Science Letters*, v. 478, p. 89-101, doi:10.1016/j.epsl.2017.08.013.

†Deaton, C.D., **Hein, C.J.**, Kirwan, M.L., 2017, Barrier-island migration dominates ecogeomorphic feedbacks and drives salt marsh loss along the Virginia Atlantic Coast, USA, *Geology*, v. 45, p. 123-126, doi:10.1130/G38459.1.

\*Fallon, A.R., Hoagland, P., Jin, D., Phalen, B., Fitzsimons, G., **Hein, C.J.**, 2017, Adapting without retreating: Responses to shoreline change on an inlet-associated coastal beach, *Coastal Management*, v. 45, n. 5, p. 360-383, doi:10.1080/08920753.2017.1345607.

**Hein, C.J.**, FitzGerald, D.M., †de Souza, L.H.P., Georgiou, I.Y., Buynevich, I.V., Klein, A.H.F., de Menezes, J.T., Cleary, W.J., \*Scolaro, T., 2016, Complex coastal change in response to autogenic basin infilling: An example from a sub-tropical Holocene strandplain, *Sedimentology*, v. 63, no. 6, p. 1362-1395, doi: 10.1111/sed.12265.

- Hein, C.J.**, Fitzsimons, G.G., FitzGerald, D.M., \*Fallon, A.R., 2016, Records of migration and ebb-delta breaching at historic and ancient tidal inlets along a river-fed paraglacial barrier island, *Journal of Coastal Research*, SI 75, p. 228-232, doi: 10.2112/SI75-46.1.
- \*Rogers, L.J., Moore, L.J., Goldstein, E.B., **Hein, C.J.**, Lorenzo-Trueba, J., Ashton, A.D., 2015, Anthropogenic controls on overwash deposition: Evidence and consequences, *Journal of Geophysical Research - Earth Surface*, v. 120, p. 2609-2624, doi: 10.1002/2015JF003634.
- \*Billy, J., Robin, N., **Hein, C.J.**, Certain, R., FitzGerald, D.M., 2015. Insight into the Late Holocene sea-level changes in the NW Atlantic from a paraglacial beach-ridge plain south of Newfoundland, *Geomorphology*, v. 248, p. 134-146, doi:10.1016/j.geomorph.2015.07.033.
- Hein, C.J.**, FitzGerald, D.M., Buynevich, I.V., van Heteren, S., Kelley, J.T., 2014. Evolution of paraglacial coasts in response to changes in fluvial sediment supply, *Geological Society, London, Special Publication*, 388, p. 247-280, doi: 10.1144/SP388.15.
- Hein, C.J.**, FitzGerald, D.M., Cleary, W.J., Klein, A.H.F., de Menezes, J.T., Albernaz, M.B., 2014. Coastal response to late-stage transgression and sea-level highstand, *Geological Society of America Bulletin*, v. 126, no. 3/4, p. 459-480, doi: 10.1130/B30836.1.
- Hein, C.J.**, FitzGerald, D.M., Klein, A.H.F., Albernaz, M.B., de Menezes, J.T., Cleary, W.J., 2014. Reply to the Discussion by Dillenburg et al. on "Evidence for a transgressive barrier within a regressive strandplain system: implications for complex response to environmental change" by Hein et al. (2013), *Sedimentology* 60, 469-502: A transgressive barrier at Pinheira, Southern Brazil around 3 ka?", *Sedimentology*, v. 61, no. 7, p. 2213-2217. doi: 10.1111/sed.12133.
- \*Billy, J., Robin, N., **Hein, C.J.**, Certain, R., FitzGerald, D.M., 2014. Internal architecture of mixed sand-and-pebble beach ridges: Miquelon-Langlade Barrier, NW Atlantic, *Marine Geology*, v. 357, p. 53-71, doi: 10.1016/j.margeo.2014.07.011.
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