

# CLINTON ANDREW GRAND PRE

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## **CURRICULUM VITAE**

Clinton “Andy” Grand Pre, PhD, PhD  
Anatomy Faculty  
Department of Anatomy  
Renaissance School of Medicine  
Stony Brook University  
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## **EDUCATION**

**2024      Ph.D., Department of Cell Biology and Anatomy, Louisiana State University - Health Sciences Center, New Orleans, Louisiana, USA**

Thesis: The Hepatic Piston Mechanism in Crocodylomorpha: functional anatomical reconstructions in terrestrial and aquatic taxa

**2011      Ph.D., Department of Earth and Environmental Science, University of Pennsylvania, Philadelphia, Pennsylvania, USA**

Thesis: The application of macro- and microfossils to identify paleoearthquakes in Sumatra, Indonesia and to characterize geomorphic and ecological succession on a marsh platform after Hurricane Isabel in North Carolina, USA.

**2006      M.S., Department of Geology, East Carolina University, Greenville, North Carolina, USA**

Thesis: Holocene paleoenvironmental change in Pamlico Sound, North Carolina: Foraminiferal and stable isotopic evidence.

**2003      B.A. (Dual Major), Departments of Geoscience and Astronomy, Franklin and Marshall College, Lancaster, Pennsylvania, USA**

## **PROFESSIONAL EXPERIENCE**

**2024-Present    Faculty, Renaissance School of Medicine. Stony Brook University, Stony Brook, NY**

**2018-2024.    Ph.D. Candidate, Louisiana State University Health Science Center, New Orleans, LA**

**2016-2018    Senior Scientist and Project Manager – Power 7, Alexandria, VA**

**2013-2016    Senior Scientist and Project Manager – EarthWater Technologies, Alexandria, VA**

**2011-2013    Visiting Assistant Professor – Franklin and Marshall College, Lancaster, PA**

*Winter 2024*

## **PUBLICATIONS**

### ***Peer-Reviewed***

- Martinez, A., Diaz, R.E., **Grand Pre, C.A.**, Hedrick, B.P., Schachner, E.R., 2025, The lungs of the finch: three-dimensional pulmonary anatomy of the Zebra Finch (*Taeniopygia castanotis*), *Philosophical Transactions of the Royal Society B*, DOI: 10.1098/rstb.2023.0420
- Grand Pre, C.A.**, Thielicke, W., Diaz, R.E., Hedrick, B.P., Elsey, R.M., Schachner, E.R., 2023, Validating an osteological correlate for the hepatic piston ventilatory apparatus in the American alligator (*Alligator mississippiensis*): Identifying the functional relationship between the axial skeleton and pleural displacement, *PeerJ*, DOI: 10.7717/peerj.16542
- Schachner, E.R., Lawson, A.B., Martinez, A., **Grand Pre, C.A.**, Sabottke, C., Abou-Issa, F., Echols, S., Diaz, R.E., Moore, A.J., Grenier, J.-P., Hedrick, B.P., Spieler, B., 2023, Perspectives on lung visualization: Three-dimensional anatomical modeling of computed and micro-computed tomographic data in comparative evolutionary morphology and medicine with applications for COVID-19, *The Anatomical Record*, DOI: 10.1002/ar.25300
- Grand Pre, C.A.**, Horton, B.P., Hawkes, A.D., Kelsey, H.M., Natawidjaja, D., Rubin, C., Suwargadi, B., Yulianto, E., 2012, Stratigraphic evidence for an early Holocene earthquake in Aceh, Indonesia, *Quaternary Science Reviews*, v. 54, p. 142-151.
- Kemp, A.C., Horton, B.P., Vann, D.R., Engelhart, S.E., **Grand Pre, C.A.**, Vane, C.H., Nikitina, D., Anisfeld, S., 2012, Quantitative vertical zonation of salt-marsh foraminifera for reconstructing former sea level; an example from New Jersey, U.S.A., *Quaternary Science Reviews*, v. 54, p. 26-39.
- Grand Pre, C.A.**, Culver, S.J., Mallinson, D.J., Farrell, K.M., Corbett, D.R., Horton, B.P., Hillier, C., Riggs, S.R., Snyder, S.W., Buzas, M.A., 2011, Rapid Holocene coastal change revealed by high-resolution micropaleontological analysis, North Carolina, U.S.A., *Quaternary Research*, v. 76, p. 319-334.
- Dura, T., Rubin, C.M., Kelsey, H.M., Horton, B.P., Hawkes, A., Vane, C., Daryono, M., **Grand Pre, C.A.**, Ladinsky, T., Bradley, S., 2011 Stratigraphic record of Holocene coseismic subsidence Padang, West Sumatra, *Journal of Geophysical Research*, v. 116, B11306, doi: 10.1029/2011JB008205.
- Culver, S.J., **Grand Pre, C.A.**, Mallinson, D.J., Riggs, S.R., Corbett, D.R., Foley, J., Hale, M., Metger, L., Ricardo, J., Rosenberger, J., Smith, D.G., Smith, C.W., Snyder, S.W., Twamley, D., Farrell, K., and Horton, B.P., 2007, Late Holocene barrier island collapse: Outer Banks, North Carolina, USA, *The Sedimentary Record*, v. 5, p. 4-8.

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## *Reports*

Culver, S.J., Corbett, D.R., Mallinson, D., Riggs, S.R., **Grand Pre, C.A.**, Horton, B.P., Kemp, A., and Engelhart, S., 2008. Foraminifera, diatoms and pollen as indicators of past, present, and future coastal change in North Carolina, U.S.A. and Terengganu, Malaysia. Conference on the Current State of Knowledge of the Setiu Wetlands. Institute of Oceanography, Universiti Malaysia Terengganu, December 2007, 11p.

## *Publications in Preparation*

**Grand Pre, C.A.**, Brocklehurst, R., Wilberg, E., Molnar, J.L., Hedrick, B.P., Schachner, E.R., Fossil evidence for the hepatic piston in Crocodylomorpha. *Proceedings of the Royal Society B*.

**Grand Pre, C.A.**, Hedrick, B.P., Wilberg, E.W., Nesbitt, S.J., Molnar, J.L., Hutchinson, J.R., Marsh, A.D., Lamanna, M.C., Schachner, E.R., The origin and evolution of the hepatic piston and mobile pubis in Crocodylomorpha. *Current Biology*.

## **RESEARCH GRANTS**

### **Cumulative Grand Total = \$115,444.23**

2011-2012: Cargill Foundation and Franklin and Marshall College, Co-P.I. with Dorothy Merritts and Robert Walter, **\$37,000** to study biological proxies of stream water quality at Millport Conservancy and Big Spring Run, Lancaster, PA. Grant supports four undergraduate research students and equipment.

2011: Franklin and Marshall College, Hackman Scholars Program, **\$3,749** for supplies and support of one undergraduate student to research Holocene paleoclimate in Lancaster, PA.

2007-2010: Earthwatch Institute and the Durfee Foundation, Co-P.I. with Ben Horton and Simon Engelhart, **~\$15,130** each year (for four years) to study sea-level change on the east coast and teach high school students.

2010: Summer Paleo-Stipend, University of Pennsylvania, **\$2,000**.

2010: Greg and Susan Walker Endowment at the University of Pennsylvania, **\$3,237.13**.

2009: Greg and Susan Walker Endowment at the University of Pennsylvania, **\$2,138.10**.

2008: Caroline Thorn Kissel Summer Environmental Studies Scholarship, **\$2,000** to study sea-level change in coastal New Jersey.

2008: Geological Society of America Student Grant, **\$3,600** for radiocarbon age analysis for the Sumatra paleoearthquakes project.

2008: Summer Paleo-Stipend, University of Pennsylvania, **\$1,200** to attend a statistical methods class at University College, London.

*Winter 2024*

## **AWARDS AND ACADEMIC RECOGNITION**

2024: Romer Prize Finalist, Society of Vertebrate Paleontology Annual Meeting.

2023: 1<sup>st</sup> Place Winner – Best Research Talk **\$1500** Travel Award – Louisiana State University Health Sciences Center 3<sup>rd</sup> Annual Dr. Joseph M. Moerschbaeche, III Graduate Research Day

2022: Travel Grant to Attend and Present at the Experimental Biology Conference, Spring.

2018-2024: Teaching and Research Fellowship, Louisiana State University, HSC New Orleans

2006-2009: Benjamin Franklin Fellowship, University of Pennsylvania, Philadelphia

2005: *Phi Kappa Phi* National Honor Society

2005: Joseph A. Cushman Award for Student Research, Awarded by the Cushman Foundation for Foraminiferal Research.

2003-2004: *Sigma Gamma Epsilon*, inducted in 2003; President of East Carolina University Chapter, 2004.

2003: Holzinger Memorial Astronomy Award for Majors, Franklin and Marshall College.

2001-2003: *Mu Epsilon Sigma*, Music Honor Society, inducted in 2001; President of Franklin and Marshall Chapter, 2002.

2001: Skull and Crown Sophomore Honor Society, Franklin and Marshall College.

## **TEACHING EXPERIENCE**

### **Graduate Instructor, Louisiana State University Health Sciences Center, 2018-Present**

Medical Human Gross Anatomy, LSUHSC, 2020, 2022.

100+ contact hours in gross dissection lab, one 90 min. lecture, (2020, 2022)

Monthly office hours (2002)

Completed two full body anatomical pro-sections (2020)

Graduate Instructor in Nursing Human Gross Anatomy, LSUHSC, 2019.

100 contact hours in gross dissection lab, 1 hour lecture

Graduate Instructor in Allied Health Gross Anatomy, LSUHSC, 2019, 2021.

100 contact hours in gross dissection lab

### **Visiting Assistant Professor, Franklin and Marshall College, 2011- 2013.**

**Classes for which I was the Sole Instructor and Developer of Course:**

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GEO 110: Dynamic Earth; Fall and Spring 2011-2013,

Sole Lecturer and Lab Professor

GEO/ENV 344: Global Change and Natural Resources; Fall 2011,

Sole Lecturer and Lab Professor

GEO 377: The Sea Also Rises: Historical Perspectives of Sea Level; Spring 2012, 2013,

Sole Lecturer and Lab Professor

GEO 325: The Quaternary; Spring 2013, Lecture and Lab

Sole Lecturer and Lab Professor

## **Research with Students for Class Credit:**

GEO 440: Directed Reading on Paleoecology; Spring 2012 and 2013

GEO 444: Independent Study on Sediment Transport; Fall 2011 and Spring 2012\*

GEO 444: Independent Study on an Investigation of Ecotourism of the Galapagos\*

GEO 444: Independent Study on the History of Sea-level Science in the U.K. and U.S.\*

GEO 444: Independent Study of Quantitative Measures of Success in Environmental  
Restoration.\*

\* Student presented an honors thesis and graduated with honors.

## **Lecturer, University of Pennsylvania, 2010**

Oceanography; Spring 2010, Replacement Lecturer for the entire class of 200 students when instructor was injured and out for half the semester.

## **Teaching Assistant; 2000 - 2010**

Introduction to Environmental Science; University of Pennsylvania; 2010

Oceanography; University of Pennsylvania; 2007-2009

Introductory Geology; East Carolina University; 2003, 2004

Sedimentology; East Carolina University; 2003, 2004

Dynamic Earth; Franklin and Marshall College; 2003,

Life in the Universe; Franklin and Marshall College; 2000, 2001, 2002

## **OUTREACH**

2022: Developed STEM Outreach New Orleans Elementary School Teaching Module for New Orleans public school students grades 2-5.

2019: Volunteer at LSUHSC outreach for underrepresented populations in New Orleans public schools, at Delgado Community College Campus.

I developed and ran a learning station about ultrasound imagining of crocodilian lungs.

2018: Volunteer at Science Youth Initiative, LSUHSC outreach day for New Orleans high school students on medical school campus.

2007-2010: Co-Principal Investigator/Educator, EARTHWATCH SCAP Project "Is Sea Level Rising?"

Short course on reconstructing sea-level changes in the field to 8-10 gifted high school students for four years. Responsibilities include planning and managing the trip, site locations, equipment, as well as preparing and giving lectures in the evening, and hands-on teaching in the

field. I was also wilderness first-aid and CPR certified. Care for students was 24 hours a day. We lived in a house with the students for two weeks and had full responsibility for their health, well being, and educational experiences.

### **SYMPOSIUM SPEAKER**

Grand Pre, C.A., 2020, Trans Affirming Health Care: Public and Personal Perspectives, Internal Symposium Day on LGBT Health Care, at LSUHSC on Zoom. Abstract with Program.

### **SELECTED CONFERENCE ABSTRACTS** (\*denotes student advisee)

**Grand Pre, C.A.**, 2024, The hepatic piston in extant and extinct crocodylomorphs, Romer Prize Presentation, Society for Vertebrate Paleontology.

**Grand Pre, C.A.**, Thielicke, W., Diaz, R.E., Hedrick, B.P., Elsey, R.M., Schachner, E.R., 2023, The functional relationship between axial skeleton morphology and pleural displacement in the American alligator (*Alligator mississippiensis*): validating an osteological correlate for the hepatic piston in Crocodylomorpha. Society for Vertebrate Paleontology.

**Grand Pre, C.A.**, Thielicke, W., Hedrick, B.P., Elsey, R.M., Schachner, E.R., 2022, Quantifying movement in ultrasound imagery of the hepatic-piston pulmonary apparatus in the American alligator (*Alligator mississippiensis*). Experimental Biology.

**Grand Pre, C.A.**, Thielicke, W., Hedrick, B.P., Elsey, R., Schachner, E.R., 2022., Functional anatomy of the thoracodorsal ceiling and the hepatic-piston pulmonary apparatus in *Alligator mississippiensis*., LSUHSC Graduate Student Research Day, pre-recorded Zoom lecture.

Schachner, E.R., Lawson, A.B., Martinez, A., Echols, M.S., Diaz, Jr R.E., **Grand Pre, C.A.**, Hedrick, B.P., 2022, Intra-and interspecific structural variation in the archosaur lung: insights from 3D imaging and segmentation). Experimental Biology.

**Grand Pre, C.A.**, Hedrick, B.P., Schachner, E.R., 2020, Movement and function of the hepatic-piston pulmonary apparatus during various modes of respiration in the American alligator (*Alligator mississippiensis*). Society of Integrative and Comparative Biology.

**Grand Pre, C.A.**, Walter, R.C., Merritts, D.J., Moser\*, A.C., Bernhardt, C., Potapova, M., Hilgartner, W.B., 2012, A high-resolution multi-proxy record of late Pleistocene and Holocene climate change from Great Marsh, southeastern P.A. GSA Abstracts with Programs, Annual National Meeting.

Ahamed\*, A., Merritts, D.J., and **Grand Pre, C.A.**, 2011, Bedload entrainment in a long-term floodplain wetland restoration experiment, Big Spring Run, P.A. GSA Abstracts with Programs, Annual National Meeting, v. 43, no. 5, p. 472.

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- Grand Pre, C.A., (invited speaker),** Horton, B.P., Culver, S.J., Jerolmack, D., Buzas, M.A., 2011, Colonization of a hurricane overwash fan by foraminifera, Ocracoke Island, North Carolina. GSA abstract with programs, southeast section annual meeting, v. 43, no. 2.
- Grand Pre, C.A.,** Horton, B.P., Kelsey, H.M., Rubin, C.M., Hawkes, A.D., Daryono, M., Natawidjaja, D.H., Suwargadi, B., Yulianto, E., Bernhardt, C., Culver, S.J., Engelhart, S., Meltzner, A.J., 2010, An early Holocene precursor to the 2004 Aceh-Andaman earthquake and tsunami, northern Sumatra. IGCP International Meeting, Hong Kong 2010.
- Grand Pre, C.A.,** and Horton, B.P., 2010, The combined application of foraminifera and pollen to reconstruct paleoearthquakes in Northern Sumatra. GSA Abstracts with Programs, v. 42, p. 175.
- Grand Pre, C.A.,** Horton, B.P., Kelsey, H.M., Rubin, C., Hawkes, A.D., Daryono, M., Yulianto, E., Natawidjaja, D., 2009. Evidence of an early Holocene precursor to the 2004 Aceh-Andaman earthquake. GSA Abstracts with Programs, v. 41, p. 408.
- Grand Pre, C.A.,** Horton, B.P., Kelsey, H.M., Rubin, C., Hawkes, A.D., Natawidjaja, D., Daryono, M., Yulianto, E., 2009, A 7,000 year old precursor to the 2004 Sumatra-Andaman Earthquake. IGCP 495 meeting: Quaternary Land and Ocean Interactions.
- Grand Pre, C.A.,** Horton, B.P., Kelsey, H., Rubin, C., Hawkes, A., Natawidjaja, D., Daryono, M., Yulianto, E., 2008, Reconstructing repeated paleo-earthquakes on the Sunda subduction megathrust, northern Sumatra. AMQUA Biennial Meeting, Penn State University, June 5-7.
- Grand Pre, C.A.,** Horton, B.P., Kelsey, H., Rubin, C., Hawkes, A., Natawidjaja, D., Daryono, M., Yulianto, E., 2008, Application of Microfossils to Reconstruct a Paleoseismic Record of the Sunda Subduction Megathrust, Northern Sumatra, Eos Trans. AGU, 89(53), Fall Meet. Suppl., Abstract U51A-0010.
- Grand Pre, C.A.,** Horton, B.P., Hawkes, A.D., Kelsey, H.M., Natawidjaja, D., Rubin, C., Suwargadi, B., Yulianto, E., 2007, A Paleoseismic Record of Repeated Great Earthquakes on the Sunda Subduction Megathrust, Northern Sumatra. GSA Abstracts with Programs, v. 39, p. 158.
- Grand Pre, C.A.,** Daryono, M.R., Hawkes, A.D., Horton, B.P., Kelsey, H.M., Natawidjaja, D., Rubin, C.M., Yulianto, E., 2007, A biostratigraphical Record of Repeated Great Earthquakes on the Sunda Subduction Megathrust, Northern Sumatra, Eos Trans. AGU, 88(52), Fall Meeting Suppl., Abstract S31C-0566.
- Grand Pre, C.A.,** Corbett, D.R., Culver, S.J., Farley, M.B., Hillier, C., Horton, B.P., Riggs, S.R., Snyder, S.W., Thiel, E.R., 2005, Evaluating Holocene paleoenvironmental change in Pamlico Sound, North Carolina via geochemical and paleobiological proxies. ERF Abstracts with Programs 2005.

**Grand Pre, C.A.,** Corbett, D.R., Culver, S.J., Farrell, K.M., Horton, B.P., Mallinson, D.J., Riggs, S.R., Snyder, S.W., 2005, Collapse of the Outer Banks, North Carolina as indicated by high resolution foraminiferal data from Pamlico Sound. GSA Abstracts with Programs, v. 37, no. 7.

**Grand Pre, C.A.,** Culver, S.J., Corbett, D.R., Farrell, K.M., Mallinson, D.J., Riggs, S.R., Snyder, S.W., Thiel, E.R., 2005, Holocene Paleoenvironmental Change in Pamlico Sound, North Carolina: Episodic Breaching of the Outer Banks. GSA Abstracts with Programs, v. 37, no. 2.

**Grand Pre, C.A.,** Backman, D.E., Marscall, L.A., Stauffer, J.R., 2002, Photometry and light curves of star HII 1883: Rapid Rotators in the Pleiades star System. Abstract of Poster Paper: AAS meeting 198, #46.06.