

Dr. Alan Blake Coulson

CONTACT INFORMATION

Environmental Engineering and Earth Sciences Department
445 Brackett Hall
Clemson University
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EDUCATION

- Ph.D., Geosciences, University of South Carolina (2009).
Dissertation: Ecologic and paleontologic utility of marine turtle bone phosphate oxygen isotopes.
- Ph.D. program, North Carolina State University (1999 - 2003).
- M.S., Geosciences, Texas Tech University (1998).
Thesis: Sedimentology and taphonomy of a juvenile *Alamosaurus* site in the Javelina Formation (Upper Cretaceous), Big Bend National Park, Texas.
- B.S., Geology, Bowling Green State University (1996).

TEACHING EXPERIENCE

Senior Lecturer in Geology, Clemson University (2016 -).

Lecturer in Geology, Clemson University (2011 - 2016).

- Courses Taught:
 - GEOL 1000, Current Topics in Geology (2013).
 - GEOL 1010, Physical Geology (2011 -).
 - GEOL 1030, Physical Geology Laboratory (2011).
 - GEOL 1200, Natural Hazards (2012 -).
 - GEOL 2020, Earth History (2012 -).
 - GEOL 2050, Mineralogy and Introductory Petrology (2013).
 - GEOL 2070, Mineralogy and Introductory Petrology Laboratory (2012 -).
 - GEOL 4110, Research Problems (2014, 2016).
 - GEOL 4910, Research Synthesis I (2014 -).
 - GEOL 4920, Research Synthesis II (2015).
- Other Service:
 - Clemson Bridge Program advisor, Tri County Technical College (2016-).
 - Member, Faculty Position Search Committee (2016-2017).
 - Senior Exit Interview Administrator (2014 -).
 - Member, Staff Position Search Committee (2014).
 - NSAPP adviser (2013 - 2015).
 - Member, Geology Curriculum Revision Committee (2013 - 2014).
 - Geology program video producer (2013 - 2014).
 - Member, EEES Awards Committee (2012 -).
 - Geology undergraduate program co-coordinator (2012 -).
 - Geology program registration coordinator (2012 - 2013).
 - Geology Club faculty advisor (2011 -).

Hydrogeology TA coordinator (2011 -).
Research mentor, Furman University, (2011-2012).

Visiting Instructor, Furman University (2008 - 2010).

- Courses Taught:
EES 110 Earth Systems (2008 - 2010).
EES 112 Environmental Science (2009 - 2010).
- Other Service:
Instructor, Undergraduate Evening Studies program (2009).

Instructional Assistant, University of South Carolina (2004 - 2006).

- Courses Taught:
Physical Geology laboratory (2004 - 2006).
Mineralogy & Petrology laboratory (2004).

Teaching Assistant, North Carolina State University (1999 - 2003).

- Courses Taught:
Physical Geology laboratory (1999 - 2003).
Oceanography laboratory (2001).
Terrestrial Paleontology laboratory (2001 - 2003).
- Other Service:
Substitute Lecturer, Paleontology (2002).

Teaching Assistant, Texas Tech University (1996 - 1998).

- Courses Taught:
Physical Geology laboratory (1996 - 1997).
Historical Geology laboratory (1997 - 1998).
Honors Introductory Science (1998).
- Other Service:
Editor, Physical Geology Laboratory Manual (1998).
Instructor, Science Summer Camp for Gifted Students (1997).

Teaching Assistant, Bowling Green State University (1996).

- Courses Taught:
Geologic History of Dinosaurs laboratory (1996).

OTHER PROFESSIONAL EXPERIENCE

- Research Affiliate, Bob Campbell Geology Museum (2016 -).
- Field assistant, North Carolina State University (2004).
 - Aided paleobotanical collection in Big Bend National Park, Texas.
- Research Associate, Duke University (2002 - 2003).
 - Conducted stable isotope analyses in the Duke Environmental Stable Isotope Laboratory.

MEMBERSHIPS

- Member, Carolina Geological Society (2012 -).
- Member, Society of Vertebrate Paleontology (1995 -).
- Member, Geological Society of America (2001 -).

SPONSORED RESEARCH

- Building an affective pathway to the geosciences through experiential learning opportunities for non-geoscience majors. National Science Foundation Geopaths program grant, Co-Principal Investigator, \$499,855 (\$74,978.25) (2015 -).
- Ecologic and paleontologic utility of phosphate-oxygen isotopes from marine turtle bone. Geological Society of America Student Grant, Principal Investigator, \$2,000 (2003).
- Student Travel Grant, University of South Carolina, \$500 (2006).

PUBLICATIONS & PRESENTATIONS

Refereed Journal Publications

- Coulson, A., Kohn, M., Barrick, R. 2011. Isotopic evaluation of ocean circulation in the Late Cretaceous North American Seaway. *Nature Geoscience*. 4: 852-855.
- Coulson, A., Kohn, M., Shirley, M., Joyce, W., Barrick, R. 2008. Phosphate-oxygen isotopes from marine turtle bones: ecologic and paleoclimatic applications. *Palaeogeography, Palaeoclimatology, Palaeoecology*. 264(1-2): 78-84.
- Lehman, T., Coulson, A. 2002. A juvenile specimen of the sauropod dinosaur *Alamosaurus sanjuanensis* from the Upper Cretaceous of Big Bend National Park, Texas. *Journal of Paleontology*. 76, n. 1. 156-172.

Other Scholarly Publications

- Ciravolo, A., Coulson, A. 2012. Comparing the effects of transport-induced fluvial abrasion on avian and nonavian vertebrate skeletal remains. *GSA Abstracts with Program* 44, n 4.
 - Presented at the Geological Society of America Southeast regional meeting, Asheville (March 2012).
- Coulson, A. 2011. Evaluating thermohaline stratification in the Late Cretaceous Mississippi Embayment and Western Interior Seaway using phosphate oxygen isotopes from marine vertebrate fossils. *GSA Abstracts with Program* 43, n. 2. 58.
 - Presented at the Geological Society of America Southeast regional meeting, Wilmington (March 2011).
- Coulson, A., Kohn, M., Barrick, R. 2010. Paleotemperature reconstruction of the Late Cretaceous Mississippi Embayment and Western Interior Seaway using oxygen isotopes from marine vertebrate fossils. *GSA Abstracts with Program* 42, n. 1. 169.
 - Presented at the Geological Society of America Southeast-Northeast regional meeting, Baltimore (March 2010).

- Coulson, A. 2007. Paleoenvironmental reconstruction of the Western Interior Seaway of North America using oxygen isotopes from marine vertebrate fossils. *Journal of Vertebrate Paleontology*. 27, supplement to n. 3. 62A.
- Coulson, A. 2006. Phosphate oxygen isotopic variation in marine turtle bones and its potential ecological utility. *Journal of Vertebrate Paleontology*. 26, supplement to n. 3. 53A.
 - Presented at the 66th annual meeting of the Society of Vertebrate Paleontology, Ontario (October 2006).
- Coulson, A., Barrick, R., Straight, W., Decherd, S., Bird, J. 2004. Description of the new brachiosaurid (Dinosauria: Sauropoda) from the Ruby Ranch Member (Cretaceous: Albian) of the Cedar Mountain Formation, Utah. *Journal of Vertebrate Paleontology*. 24, supplement to n.3, 48A.
 - Presented at the 64th annual meeting of the Society of Vertebrate Paleontology, Denver (November 2004).
- Coulson, A., Bartlett, J., Straight, W. 2003. Effects of grain size, morphology and preservation on transport-induced abrasion of fossil teeth. *Journal of Vertebrate Paleontology*. 23, supplement to n. 3, 43A.
 - Presented by co-author at the 63rd annual meeting of the Society of Vertebrate Paleontology, St. Paul (October 2003).
- Bartlett, J., Coulson, A., Woodward, H., Straight, W. 2003. Comparing transport-induced abrasion of fresh and fossilized skeletal remains. *GSA Abstracts with Program*. 35, n. 1. 63.
 - Presented at the Geological Society of America Southeast Regional Meeting, Memphis (March 2003).
- Coulson, A., Bartlett, J., Decherd, S., Kissel, R. 2002. Effects of transport-induced abrasion on avian skeletal elements. *Journal of Vertebrate Paleontology*. 22, supplement to n. 3. 46A.
 - Presented by co-author at the 62nd annual meeting of the Society of Vertebrate Paleontology, Norman (October 2002).
- Coulson, A., Barrick, R., Stoskopf, M. 2001. Oxygen isotopes of marine turtle shell as a proxy of ocean salinity. *Journal of Vertebrate Paleontology*. 21, supplement to n. 3. 42A.
 - Presented at the 61st annual meeting of the Society of Vertebrate Paleontology, Bozeman (October 2001).
- Coulson, A., Lehman, T. 1999. A juvenile specimen of *Alamosaurus* from the Javelina Formation (Upper Cretaceous), Big Bend National Park, Texas. *Geological Society of America, Abstracts with Program*. 1, n. 1, A5.
 - Presented at the Geological Society of America Southwest Regional Meeting, Lubbock (March 1999).

Other Presentations

- Coulson, A. 2015. Fossils.
 - Presented at the Roper Mountain Science Center, Greenville (January 2015).
- Coulson, A. 2014. From Golden Shells to Fossil Mammoths: How Fossils are Formed.

- Presented to the Pendleton District Gem and Mineral Society, Clemson (January 2014).
- Coulson, A., 2011. Colossus Unearthed: A New Sauropod Dinosaur from the Cretaceous of Utah.
 - Presented to the Clemson Geology Club, Clemson (March 2011).
- Coulson, A. 2010. Using marine turtle fossil geochemistry to reconstruct paleoceanic conditions of the Late Cretaceous Mississippi Embayment and Western Interior Seaway.
 - Presented at the Third Annual Meeting, Southeast Association of Vertebrate Paleontology, Columbia (June 2010).
- Coulson, A. 2009. Colossus Unearthed: A New Sauropod Dinosaur from the Cretaceous of Utah.
 - Presented at the University of South Carolina Earth and Oceanic Sciences seminar series, Columbia (March 2009).
- Coulson, A. 2006. Dinosaurs and the People Who Study Them.
 - Presented at Richland Co. retirement center, Columbia (September 2006).
- Coulson, A. Using Sea Turtles to Determine Temperature and Salinity in Ancient Seas.
 - Presented at the North Carolina Herpetological Society Fall Conference, Raleigh (October 2002).
- Notes on the dinosaurs of Central Asia.
 - Presented by A. Coulson on behalf of Dr. D. Russell at the Florida Symposium on Dinosaur-Bird Evolution, Miami (April 2000).

HONORS AND AWARDS

- Recipient, Difference Makers Project faculty recognition, Clemson University (2013).
- Recipient, Difference Makers Project faculty recognition, Clemson University (2012).
- First Place, Graduate Student Research Competition, University of South Carolina (2007).
- Recipient, C. H. Sternberg Scholarship, Association of Applied Paleontological Sciences (2003).
- Recipient, Outstanding Teaching Assistant. North Carolina State University (2002).
- Summa cum laude, Bowling Green State University (1996).
- Phi Beta Kappa National Honor Society (1994).
- Phi Kappa Phi National Honor Society (1994).
- Alpha Lambda Delta National Honor Society (1993).

OUTREACH & SERVICE

- Co-chairman, Paleoclimatology session, Geological Society of America Southeast-Northeast regional meeting (2010).

- Judge, Graduate Student Research Competition, University of South Carolina, (2008).
- Judge, USC Region II Science and Engineering Fair, (2007 - 2008).
- Graduate Student Representative (elected position). USC Department of Geosciences, (2005 - 2007; 2 terms).
- Geology and paleontology presentations to various public schools, scout troops, and community groups, (1996 -).

REFERENCES

- Dr. David Freedman
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