

# CONSTANCE M. SOJA

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## EMPLOYMENT

2002- *Professor* Department of Geology, Colgate University  
2006-2009 *Chair* Department of Geology, Colgate University  
1995-2002 *Associate Professor* Department of Geology, Colgate University  
1992-1995 *Assistant Professor* Department of Geology, Colgate University  
1990-1992 *Science Scholar* Bunting Institute, Radcliffe College  
1985-1990 *Assistant Professor* (Replacement position) Geol. Dept., Smith College  
1983 *Instructor* Department of Geology, University of Oregon  
1979-1983 *Graduate Teaching Fellow* Department of Geology, Univ. Oregon  
1980-1981 *Graduate Research Assistant* Department of Geology, Univ. Oregon  
1980 *Geology Instructor* Talented & Gifted Students Program, Univ. Oregon  
1979 *Hydrology Field Assistant* U.S. Geological Survey, Portland, Oregon  
*Historical Researcher* Oregon Historical Society, Portland, Oregon  
1978 *Hydrology Technician* U.S. Forest Service, Kooskia, Idaho

## EDUCATION

Ph.D. 1985 University of Oregon, Eugene (Geology)  
B.A. 1977 Denison University, Granville, Ohio (Earth Science w/Honors)  
Semester at University of Calgary (1975)

## RESEARCH INTERESTS

### Major Research Projects as Principal Investigator

Paleontology and sedimentology of Paleozoic fossil-bearing rocks in Alaska, Russia, Australia, and Mongolia; dinosaur eggs; science education.

### Summary of Awards and Grant Activity

33 research or education proposals funded and completed from 1981 to the present. Selected projects are listed below. Full list available upon request.

2007-2008 Core Revision Committee (\$4,000)  
2006-2008 Colgate Presidential Scholar research fund (\$5,000); Middle States Steering Committee research fund (\$2,000)  
2005-2006 Research Council discretionary award for presentation at specialized conference, France (\$1,000); Council for Faculty Development discretionary grant to enhance teaching (Darwin course) (\$500)  
2004-2005 Boyce discretionary award and Council for Faculty Development grant for research in the Gobi Desert, Mongolia (\$4,000); Research Council

- discretionary award for presentation at specialized conference, Japan (\$1,000); GSA grant as co-convenor of Pardee Keynote Symposium at annual meeting in Denver, CO (\$2,000)
- 2003-2004 NSF's WISC Program: Travel grant to plan collaborative research in Siberia and Mongolia (\$5,000)
- 2002-2003 Research Council major grant for research on dinosaur eggs in France (\$1,825); Boyce discretionary award for research on the Old Red Sandstone in UK (\$1000)
- 2000-2001 Picker Fellowship (\$9,235) and Colgate Research Council discretionary award (\$800) for paleontologic research in Australia; Colgate Faculty Development award to enhance teaching (reefs seminar) (\$700)
- 1995-2000 NSF Grant EAR-9417407: Terrane analysis of Silurian reefal carbonates, Alaska (\$125,935)
- 1995-1996 Picker Fellowship and Colgate Research Council discretionary award for research on stromatolites in Australia and Tahiti (\$7,945); National Academy of Sciences/National Research Council planning grant for research in Russia (\$2,200); Major Grant from Colgate's Council for Faculty Development to enhance teaching based on Australia experience (\$1,015)
- 1994-1995 Picker Fellowship for paleontologic research in southwestern Alaska (\$10,444)
- 1993-1995 NSF Grant EAR-9300259: Undergraduate research projects on the geology of a deformed continental margin (\$100,000; co-written with Kim Waldron)
- 1990-1993 NSF Grant EAR-9004745: Carbonate platform and reef development in the Alexander terrane of southeastern Alaska (\$75,000)
- 1988-1990 NSF Grant EAR-8707556: Paleoecologic and paleobiogeographic analysis of the Heceta limestone, Alexander terrane, southeastern Alaska (\$60,000)

### **Award**

- 2006-2008 *Presidential Scholar* Department of Geology, Colgate University  
Two-year appointment to "honor faculty who have records of outstanding scholarly achievement and who have also made substantial contributions to the university as a whole"

### **Refereed Publications**

37 refereed publications from 1980 to the present. Selected publications in paleontology and science education are listed below. Full list available upon request. (\*=student co-author)

#### *Paleontology:*

Soja, C.M. 2008. Silurian-bearing terranes of Alaska. In Blodgett, R.B., and Stanley, G.D. (eds.), The terrane puzzle: New perspectives on paleontology and stratigraphy from the North American Cordillera. Geological Society of America Special Paper 442:39-50.

Soja, C.M., and Krutikov, L.\* 2008. Provenance, depositional setting, and tectonic implications of

- Silurian polymictic conglomerates in Alaska's Alexander terrane. *In* Blodgett, R.B., and Stanley, G.D. (eds.), *The terrane puzzle: New perspectives on paleontology and stratigraphy from the North American Cordillera*. Geological Society of America Special Paper 442:63-75.
- Soja, C.M., Newton, A., \* Antoshkina, A.I., and White, B. 2007. Silurian skeletal stromatolite reefs, southeastern Alaska (Alexander terrane) and Ural Mountains, Russia. *In* Vennin, E., Artez, M., Boulvain, F., and Munnecke, A (eds.), *Facies from Palaeozoic reefs and bioaccumulations*. Mémoires du Muséum National d'Histoire Naturelle, v. 195:161-163.
- Soja, C.M. 2005. Fossil microbial reefs. *McGraw-Hill 2005 Yearbook of Science & Technology*:117-119.
- Soja, C.M., Mitchell, M.,\* Newton, A.J.,\* Vendetti, J.,\* Visaggi, C.,\* Antoshkina, A.I., and White, B. 2003. Paleocology of sponge-?hydroid associations in Silurian microbial reefs. *Palaios*, 18:225-235.
- Soja, C.M., Mitchell, M.,\* Newton, A.J.,\* Vendetti, J.,\* Visaggi, C.,\* Antoshkina, A.I., and White, B. 2003. Paleocology of sponge-?hydroid associations in Silurian microbial reefs. *Palaios*, 18:225-235.
- Soja, C.M., White, B., Antoshkina, A., Joyce, S.,\* Mayhew, L.,\* Flynn, B.,\* and Gleason, A.\* 2000. Development and decline of a Silurian stromatolite reef complex, Glacier Bay National Park, Alaska. *Palaios*, 15:273-292.
- Soja, C.M., and Antoshkina, A.I. 1997. Coeval development of Silurian stromatolite reefs in Alaska and the Ural Mountains: implications for paleogeography of the Alexander terrane. *Geology*, 25:539-542.
- Soja, C.M., Gobetz, K.E.\*, Thibeau, J.E.\*, Zavala, E.\*, and White, B. 1996. Taphonomy and paleobiological implications of Middle Devonian (Eifelian) nautiloid concentrates, Alaska. *Palaios*, 11:422-436.
- Soja, C.M. 1994. Significance of Silurian stromatolite-sphinctozoan reefs. *Geology*, 22:355-358.
- Soja, C.M. and Riding, R. 1993. Silurian microbial associations from the Alexander terrane, Alaska. *Journal of Paleontology*, 67:728-738.
- Soja, C.M. 1992. Potential contributions of ancient oceanic islands to evolutionary theory. *Journal of Geology*, 100:125-134.

### *Science Education:*

- Soja, C.M. 2008. Unscrambling dinosaur eggs. *American Paleontologist*:16 (2):19-23. [invited paper - cover story and feature article]
- Soja, C.M., and Huerta, D. 2001. Debating whether dinosaurs should be "cloned" from ancient DNA to promote cooperative learning in an introductory evolution course. *Journal of Geoscience Education*, 49:43-49.
- Soja, C.M., and Huerta, D. 2000. Should dinosaurs be "cloned" from ancient DNA? <http://ublib.buffalo.edu/libraries/projects/cases/dinodna.html> (University of Buffalo Case Studies in Science Collection--peer-reviewed e-publication).
- Soja, C.M., and Huerta, D. 2000. Case teaching notes for "Should dinosaurs be 'cloned' from ancient DNA?" [http://ublib.buffalo.edu/libraries/projects/cases/dinodna\\_notes.html](http://ublib.buffalo.edu/libraries/projects/cases/dinodna_notes.html) (University of Buffalo Case Studies in Science Collection--peer-reviewed e-publication).
- Soja, C.M. 1999. Using an experiment in burial taphonomy to delve into the fossil record. *Journal of Geoscience Education*, 47:31-38.

### **Abstracts**

63 abstracts published from 1983 to the present. Selected publications are listed below. Full list available upon request. (\*=student co-author)

- Soja, C.M. 2009. Darwin in Geology, Core, and UK study abroad curricula at Colgate University. GSA Abstracts with Programs:*in review*.
- Antoshkina, A. and Soja, C.M. 2007. Late Silurian microbial-sponge-hydroid reefs in the Uralian Seaway. Abstracts of Porifera Meeting, St. Petersburg, Russia.
- Soja, C.M., Minjin, C., and White, B. 2006. A tale of two terranes in Mongolia. G.S.A. Abstracts with Programs, v. 38 (7):90.

- Antoshkina, A.I., and Soja, C.M. 2005. Reef biota migration between Alaska, the Urals, and Salair allows Late Silurian reconstruction. Abstracts and proceedings of the Field Meeting of the Subcommittee on Silurian Stratigraphy (Gotland, Sweden):57.
- Soja, C.M., Sunderlin, D., Close, S.J., and White, B. 2005. “Éclosion fenetre” and dinosaur egg taphonomy. NAPC Programme and Abstracts. *PaleoBios*, 25 (supplement to no. 2):110.
- Soja, C.M., Antoshkina, A.I., White, B., Gutak, Y.M., and Bagmet, G. 2005. Silurian stromatolite reefs as indicators of environmental change along the Uralian Seaway. *G.S.A. Abstracts with Programs*, 37 (4):76.
- Soja, C.M., Sunderlin, D.F.,\* and Close, S.J.\* 2004. Using burial experiments to unscramble dinosaur egg taphonomy. *G.S.A. Abstracts with Programs*, 36 (5):382.
- Soja, C.M., Dwyer, L.,\* and White, B. 2003. Going “down under” to test the Uralian Seaway hypothesis for Silurian paleogeography of Alaska’s Alexander terrane. *G.S.A. Abstracts with Programs*, 35:25.
- Newton, A.J.,\* Soja, C.M., Antoshkina, A.I., and White, B. 2002. Paleoenvironmental implications of Silurian sponge-microbe associations from the Northern Ural Mountains, Russia. *G.S.A. Abstracts with Programs*, 34:72.
- Soja, C.M., White, B., and Antoshkina, A.I. 2001. Microbial contributions to Phanerozoic reef development. Programmes with abstracts of a global meeting presented by The Geological Society of America and The Geological Society of London on Earth System Processes (Edinburgh, Scotland):41.
- Soja, C.M., White, B., and Antoshkina, A.I. 2000. Silurian islands in the Uralian Seaway. *In* Cockle, P., Wilson, G.A., Brock, G.A., Engelbretsen, M.J., Simpson, A., and Winchester-Seeto, T. (eds.) *Palaeontology Down-Under 2000*. Geological Society of Australia, Abstracts No. 61:102-103.

### **Selected Articles About My Research**

- Coin, G. 2004. Colgate’s dinosaur egg is story for the ages. *The Post-Standard*, 12/29/04:1-.
- LeBeau, K. 2002. Alaskan terrane shared seaway with Siberia and Ural Mountains. *G.S.A. News Release* No. 02-14. Also e-published in *Russian Science and the World (WWW Monthly Digest)* as *EurekAlert!* on 25 Mar 2002 (<http://www.prometeus.nsc.ru/eng/science/scidig/02/march2.ssi#21>)
- Allmon, W.D. 1997. Fossils link Alaska to the Urals. *American Paleontologist*, 5:14.
- Bergeron, L. 1997. Alaska’s ancient links to Urals. *New Scientist*, 154 (2086):17.

### **Invited Lectures and Presentations at Regional, National, and International Meetings**

80 presentations made at meetings of scholarly societies from 1983 to the present, in addition to invited university lectures. Selected talks in paleontology and science education are listed below. Full list available upon request.

#### *Paleontology:*

- 2005, 2007 Dinosaur egg taphonomy (University of Manchester, UK; Indiana University; Alfred University)
- 2004 Paleogeography of Alaska’s Alexander terrane (University of Georgia)
- 2002 Silurian islands in the Uralian Seaway (University of Manchester, UK)
- 2000 Reefs and Silurian seascapes (Denison University)
- 1997, 1994 Stromatolites and reef evolution through geologic time (SUNY/Buffalo; University of Montana; University of Chicago)

#### *Science Education:*

- 2003-2009 How to unscramble Colgate’s *Oviraptor* egg (Colgate University)
- 2005 In search of Colgate history: Across the Mongolian steppes in the footsteps of Roy Chapman Andrews (Colgate University)
- 2004 Earth’s biodiversity through time (Colgate University Science Colloquium/Panel Discussion)

- 2000 The fossil record speaks. Is Kansas listening? (Provost's Alumni Scholar Series at Denison University); A 21<sup>st</sup> century perspective on the evolution-creationism debate (Boyce-Wolk Symposium at Colgate)
- 1998 Burying the present to unearth the past: new experiments to unscramble Colgate's dinosaur egg (Reunion College at Colgate)

### **Supervision of Undergraduate Research**

30 undergraduate students at Colgate University and Smith College completed semester, year-long, or Honors theses under my direction since 1985; 40% have been co-authors on refereed publications. Approximately 50% have completed (or are completing now) an advanced degree in geology, including 25% who earned or are working towards a PhD in paleontology. An additional 20% are science educators.

### **TEACHING INTERESTS**

#### **Award**

Phi Eta Sigma Professor of the Year (2007)

#### **Courses**

##### *First-Year Seminars*

The Sixth Extinction; Geology Outdoors

##### *Introductory Courses*

Evolution: Dinosaurs to Darwin; History of Life

##### *Intermediate-Level Courses*

Invertebrate Paleontology and Paleoecology; Darwin and the Victorian Age of Discovery (Core Distinction)

##### *Advanced Courses*

Reefs Seminar; Scientific Research Methods; Tectonics and Earth History Seminar

### **Articles About My Teaching and Professional Career**

Gladfelter, E.H. 2002. Agassiz's legacy: scientists' reflections on the value of field experience. Oxford University Press:343-349.

DeSimone, R. 1999. Geology department evolves with Soja's innovative teaching. The Colgate Maroon-News, 2/26/99.

A petrifying experiment. The Colgate Scene, 3/99.

Sand dunes make an eggs-ellent research lab. The Pueblo (Colorado) Chieftain, 8/16/98.

### **EDUCATIONAL OUTREACH**

SEED (Science for Early Educational Development), BOCES (Board of Cooperative Educational Services), NYS Science Supervisors Association (NYSSSA), and Junior Paleontologist workshops on dinosaurs; science reading programs and annual workshops on dinosaurs for local science teachers, students and parents (30-800 people per program); NPR program on Alaskan geology aired on KRBD in Ketchikan, AK; Consultant for art exhibit by Ray Troll on fossils of Alaska, Juneau State Museum

## PROFESSIONAL ACTIVITIES

### Professional and Honorary Societies

Geological Society of America (G.S.A.); Paleontological Research Institution; Phi Beta Kappa; Phi Eta Sigma; Sigma Xi; The Paleontological Society

### Journal and Special Publications Referee

G.S.A. Bulletin; Journal of Geology; Journal of Sedimentary Research; Palaios; G.S.A. Special Paper 255; Second International Symposium on Devonian System; Paleontological Society Special Publications

### Grant Reviewer

NSF Stratigraphy/Paleontology Program; NSF International Programs (Japan); National Research Council/National Academy of Sciences; American Chemical Society, Petroleum Research Fund; Bunting Institute (Radcliffe College) geology applications for Science Scholar Fellowships

## PROFESSIONAL AND UNIVERSITY SERVICE

### Colgate University, Hamilton, NY

<i>University Professor</i>	Oversight of Colgate's First-Year Seminar, Core Distinction, and High Distinction programs (2005-2008)
<i>Chair</i>	Department of Geology (2006-2009); Working Group on Academic Programs (Reaccreditation Committee, 2006-2007); Colgate Time Capsule Committee (2007); Search Committee for geology position (2006-2007); Manchester Study Group Steering Committee (2006-2007); Search Committee for Vice-President for Administrative Services (1999-2000); Search Committee for geology position (1999-2000); Manchester Study Group Steering Committee (2002-2004; 2005-2006)
<i>Acting Chair</i>	Department of Geology (1999-2000)
<i>Member</i>	Reaccreditation Committee, one of four faculty elected (2006-2008); Liberal Arts Core Curriculum Revision Committee (2007-2008); Keck Geology Consortium Committee (2006-2007); Presidential Search Committee, one of five faculty elected to serve with Trustees (2001-2002); Academic Affairs Board (AAB); AAB Subcommittee on Academic Honor Code; AAB Subcommittee on Fractional Credit Courses; AAB Subcommittee on Distribution Requirements; AAB Subcommittee on International Study Experiences; Committee on Student Rights and Responsibilities; First-Year Experience Committee; Library Advisory Committee; Planning Committee for Arts and Humanities Institute; Women's Summit Planning Committee
<i>Director</i>	Colgate study group at University of Wollongong, Australia (Spring 2010); Colgate study group at Cardiff University, Wales (Spring 2008); Colgate study group at University of Manchester, England (Fall 2002, 2005)
<i>Secretary</i>	Appointed by the Dean of Faculty as Secretary to the Faculty for all-college meetings (2000-2003) and as Secretary to AAB (2004-2005; 1998-1999)

- Co-ordinator* G. Arthur Cooper Lecture Series (2006-2009); Darwin Week (February 2009); Campus visits and lectures by David Quammen, Tim Flannery, and Donald Prothero (2006-2009); Annual Ho Summer Research Student Symposia (2007, 2008); Linsley Geology Museum exhibits planning (2005-2007); Scientific panel on “Past, Present, and Uncertain Future of Biodiversity on Earth” (2004); MentorNet (1999-2002); Boyce-Wolk Symposium on "Evolution and the Age of the Earth" (2000); “Salmon Chanted Evening” with artist Ray Troll (1998); Science Colloquium series (1993-1995)
- Co-instructor* Off-campus summer geology field program (1993-2007)

**Radcliffe College, Cambridge, MA (1990-1992)**

- Moderator* Panel on environmental careers

**Smith College, Northampton, MA (1985-1990)**

- Member* Search Committee for Director of Science Center; Science Planning Committee; New England Consortium for Undergraduate Science Education (NECUSE); Jeanne McFarland Prize Selection Committee

**Paleontological Research Institution, Ithaca, NY**

- Past-President* Board of Trustees (1998-2001)
- President* Board of Trustees (1996-1998)
- Vice-president* Board of Trustees (1995-1996)
- Co-Chair* Exhibits Committee (2001-2006); Marketing Committee (2004-2006)
- Chair* Education Committee (1999-2000); Executive Committee (1996-1998)
- Member* Board of Trustees (1993-2006) and Executive Committee (1995-2006)

**The Paleontological Society**

- President* Geological Society of America, northeastern section (1994-95)
- Vice-president* Geological Society of America, northeastern section (1993-94)
- Secretary* Interim position (spring 2003)
- Co-Chair* Numerous symposia or theme sessions at geology conferences
- Member* Nomination Committee; Awards Committee