

# SARAH J. FOWELL

## Curriculum Vitae

### Work Address:

Department of Geology and Geophysics  
University of Alaska Fairbanks  
Box 755780  
Fairbanks, AK 99775  
Phone: (907) 474-7810  
Fax: 907 474-5163  
E-mail: ffsjf@uaf.edu

### Education:

- 9/87-1/94 Columbia University  
**M.A.** Geology, February, 1990  
**M.Phil.** Geology, October, 1991  
**Ph.D.** Geology, May, 1994  
thesis: Palynology of Triassic/Jurassic Boundary Sections  
from the Newark Supergroup of Eastern North America:  
Implications for Catastrophic Extinction Scenarios  
supervisor: Dr. P.E. Olsen
- 9/83-5/87 University of Wisconsin-Madison  
**B.S.** Geology, May, 1987

### Experience:

- 8/99-present Assistant Professor, University of Alaska Fairbanks  
Designing and teaching undergraduate and graduate courses, supervising student research, conducting palynological research
- 10/01-present Director, Alaska Quaternary Center  
Organizing workshops and field trips, raising funds, managing the budget, promoting and publicizing center activities
- 8/97-present Term Assistant Professor, University of Alaska Fairbanks  
Teaching undergraduate and graduate courses, designing lab exercises, supervising undergraduate student research
- 7/98-present Research Associate, University of Alaska Museum  
PI on a study of the Quaternary palynology and climate of Mongolia  
Processing herbarium cuttings for a type collection of Siberian pollen genera
- 7/95-10/98 Post-doctoral Research Scientist, Lamont-Doherty Earth Observatory  
Co-PI on a study of Triassic palynofloral diversity and its relationship to paleolatitude and paleoclimate
- 1/94-6/95 Post-doctoral Research Associate, The University of South Carolina  
Reconstructing Siberian paleoclimates using palynofloras from long cores of Lake Baikal  
Co-instructor of an undergraduate seminar on lacustrine environments
- 7/94-6/95 Adjunct Associate Research Scientist, Lamont-Doherty Earth Observatory
- 9/94 Visiting Instructor, The Pennsylvania State University  
Teaching paleopalynology in the classroom and laboratory

9/87-1/94

Graduate Fellow, Columbia University

Research Assistant: Palynology, biostratigraphy, sedimentology

Teaching Assistant: Introductory geology, biostratigraphy

**Field Experience:**

- 2003: Collection of surface pollen samples and short cores from Buzzard Creek Maars, AK  
2002: Collection of herbarium specimens from the southern Brooks Range  
1996-1999: Collection of gravity and piston cores from lakes in Mongolia; gathering herbarium specimens and modern pollen samples from central and northern Mongolia
- 1988-1997: Mapping, correlation, and palynological sampling of Newark Supergroup outcrops; sampling of Newark and Taylorsville basin cores
- 1994: Comparing pollen assemblages from long cores of Lake Baikal with the local Siberian palynoflora; supervising undergraduate students in the collection of water and sediment samples from Lake Baikal, Russia
- 1993: Description and measurement of stratigraphic units, collection of palynological samples, Argana basin, Morocco
- 1992: Collection of short cores from Brown's pond, VA, for palynological analysis
- 1991: Collection of palynological and paleomagnetic data, Trinity Peninsula, Antarctica
- 1987: Mapping sedimentary, metamorphic, and igneous rocks in the Wasatch and Uinta ranges of Utah

**Research Grants:**

- NSF Grant (Geoscience Education), 2004-2006: Sustainability and Stewardship in the Arctic  
NSF Grant (Earth Sciences), 2003-2006: Alaska Natives in the Geosciences  
NSF Grant EAR 9996090, 1998 - 2001: A multi-year study of the Holocene paleoclimate of Mongolia  
NSF Grant EAR 9630142, 1996: Workshop and field trip for interdisciplinary earth science in Mongolia  
NSF Grant EAR 9418464, 1995 - 1997: A two-year study of Triassic paleolatitudinal diversity gradients  
Paleontological Society Student Research Grant, 1989

**Awards:**

- UAF Outstanding Undergraduate Advisor, 2003  
UAF CSEM Merit Bonus, 2003  
UAF Honors Program Luncheon Honoring Teaching Excellence (faculty are invited by students), 1998  
AASP-NSF Travel Grant, 1992  
Langer Prize (Lamont-Doherty Earth Observatory), 1990  
Best Oral Presentation of Research by a Student (GSA, NE Section Meeting), 1989  
UW-Madison Geology Department Outstanding Junior (scholarship), 1986  
National Merit Scholar, 1983

**Societies:**

- American Association of Stratigraphic Palynologists  
Geological Society of America  
American Geophysical Union  
Sigma Xi  
Phi Beta Kappa

**Articles:**

- Kneller, M., and **Fowell**, S., in press. Palynology. In: Gornitz, V., ed., *Encyclopedia of Paleoclimatology and Ancient Environments*. Encyclopedia of Earth Sciences Series, Kluwer Academic Publishers.

- Fowell**, S.J., Hansen, B.C.S., Peck, J.A., Khosbayan, P., and Ganbold, E., 2003. Mid to Late Holocene Climate Evolution of the Lake Telmen Basin, North-central Mongolia, Based on Palynological Data. *Quaternary Research* 59: 353-363.

Peck, J.A., Khosbayar, P., **Fowell**, S.J., Pearce, R.B., Ariunbileg, S., Hansen B.C.S., and Soninkhishig, N.,

2002. Mid to Late Holocene climate change in north central Mongolia as recorded in the sediments of Lake Telmen. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 183: 135-153.

Olsen, P.E., Kent, D.V., Sues, H.D., Koeberl, C., Huber, H., Montanari, A., Rainforth, E.C., **Fowell**, S.J.,

Szajna, M.J., and Hartline, B.W., 2002. Ascent of dinosaurs linked to an iridium anomaly at the Triassic-Jurassic boundary. *Science*, 296: 1305-1307.

Olsen, P.E., Kent, D.V., **Fowell**, S.J., Schlische, R.W., Withjack, M.O., and LeTourneau, P.M., 2000. Implications of a comparison of the stratigraphy and depositional environments of the Argana (Morocco) and Fundy (Nova Scotia, Canada) Permian-Jurassic basins. In: Oujidi, M. and Et-Touhami, M., eds., *Le Permien et le Trias du Maroc, Actes de la Première Réunion su Groupe Marocain du Permien et du Trias*. Oujda, Hilal Impression: 165-183.

**Fowell**, S.J., and Peck, J., 1997. Data collected in Mongolia offers key clues to past climate. *EOS* 78: 320-321.

BDP-93 Baikal Drilling Project Members, 1997. Preliminary results of the first scientific drilling on Lake Baikal, Buguldeika site, southeastern Siberia. *Quaternary International* 37: 3-17.

**Fowell**, S.J., and Traverse, A., 1995. Late Triassic palynology of the Fundy basin, Nova Scotia and New Brunswick. *Review of Palaeobotany and Palynology* 86: 211-233.

**Fowell**, S.J., and Olsen, P. E., 1995. Time calibration of Triassic/Jurassic microfloral turnover, eastern North America - Reply. *Tectonophysics* 245: 96-99.

**Fowell**, S.J., Cornet, B., and Olsen, P.E., 1994. Geologically rapid Late Triassic extinctions: Palynological evidence from the Newark Supergroup. In: Klein, G. D., ed., *Pangea: Paleoclimate, Tectonics and Sedimentation During Accretion, Zenith and Break-up of a Supercontinent*. *Geological Society of America Special Paper* 288: 197-206.

**Fowell**, S.J., and Olsen, P.E., 1993. Time-calibration of Triassic/Jurassic microfloral turnover, eastern North America. *Tectonophysics* 222: 361-369.

Olsen, P.E., **Fowell**, S.J., and Cornet, B., 1990. The Triassic/Jurassic boundary \_in continental rocks of eastern North America; A progress report. In: Sharpton, V. L., and Ward, P. D., eds., *Global Catastrophes in Earth History*. *Geological Society of America Special Paper* 247: 585-593.

### **Selected Abstracts:**

Hanks, C.L., **Fowell**, S.J., Wartes, D., and Owens, G., *in press*. An Alaskan example of the potential successes and pitfalls of a minority outreach program. *Eos Transactions AGU* 85.

Mongrain, J., McCarthy, P.J., and **Fowell**, S.J., *in press*. Paleopedology, palynology and paleoenvironmental interpretation of two alluvial paleosols, Cenomanian Dunvegan Formation, Alberta, Canada. *GSA Abstracts with Programs* 36.

Hanks, C.L., **Fowell**, S.J., Kowalsky, J., and Solie, D., 2003. Encouraging involvement of Alaska Natives in geoscience careers. *Eos Transactions AGU* 84 (46): Abstract ED42B-07.

Wang, Y., and **Fowell**, S., 2003. Mid to Late Holocene vegetation and paleoclimate evolution of the Lake Dood Basin, northern Mongolia, based on palynological data. *Alaska Geological Society Geology Symposium* 2003: 65.

Morgan, R., Wooller, M., **Fowell**, S., Behling, H., and Fogel, M., 2003. Palynological variation In A

Belizean peat core: Evidence Of climate change over the past ~8000 years. *GSA Abstracts with Programs* 35: 500.

Wang, Y., and **Fowell**, S., 2003. Mid to Late Holocene vegetation and paleoclimate evolution of the Lake

Dood Basin, northern Mongolia, based on palynological data. *XVI INQUA Congress Program with Abstracts*: Abstract 54-15.

**Fowell**, S.J., Wang, Y., Peck, J.A., Hansen, B.C.S., Khosbayar, P., and Ganbold, E., 2002.

Palynological

indices identify Mid to Late Holocene changes in moisture availability at Lakes Telmen and Dood, northern Mongolia. *GSA Abstracts with Programs* 34: 201-202.

Peck, J.A., Khosbayar, P., King, J.W., **Fowell**, S.J., Ariunbileg, S., and Soninkhishig, N., 2001. The latest

Holocene sedimentary environmental magnetic record from Lake Dood, Mongolia. *Eos Transactions AGU* 82: 47.

**Fowell**, S.J., Peck, J.A., Khosbayar, P., Hansen, B.C.S., and Krumhardt, A.P., 2000. Palynological data record millennial-scale climate changes in the Late Holocene of Mongolia. *GSA Abstracts with Programs* 32: A471.

Olsen, P.E., Huber, H., Montanari, A., and **Fowell**, S.J., 2000. Geochemical and biological evidence for a

catastrophic end to the Triassic. *Eos Transactions AGU* 81: F1325.

Peck, J.A., Khosbayar, P., **Fowell**, S.J., Ariunbileg, S., Erdenejav, G., King, J.W., and Williams, D., 1999. Late Quaternary climate change as recorded in Mongolian lake sediments. *Eos Transactions AGU* 80: F501.

- Fowell, S.J.,** Traverse, A., Olsen, P.E., and Kent, D.V., 1996. Carnian and Norian palynofloras from the Newark Supergroup, eastern United States and Canada, and the Argana Basin of Morocco: Relationship to Triassic climate zones. *9th International Palynological Congress, Program and Abstracts*: 45-46.
- Fowell, S.J.,** Bezrukova, E.V., and Williams, D.F., 1995. A 600 kyr age for the first long core of lake Baikal, based on correlation of the palynological record with the SPECMAP marine oxygen isotope curve. *GSA Abstracts with Programs* 27: A133.
- Fowell, S.J.,** 1993. Evidence for regional palynofloral extinctions at the Triassic/Jurassic boundary. *Annual Convention, Canadian Society of Petroleum Geologists with Global Sedimentary Geology Program, Program and Abstracts*: 99.
- Fowell, S.J.,** 1992. Rare palynofloras from the Fundy basin: Implications for a regional Triassic/Jurassic boundary event. *GSA Abstracts with Programs* 24: A95-A96.
- Fowell, S.J.,** Cornet, B., and Olsen, P.E., 1992. Palynomorph assemblages from cyclic sedimentary sequences of Late Triassic age. *8th International Palynological Congress, Program and Abstracts*: 48.
- Fowell, S.J.,** 1990. Palynological evidence for a Triassic/Jurassic boundary event, Newark Supergroup. *Geological Society of America, Abstracts with Programs*, 22: A355.
- Fowell, S.J.,** 1989. Quantitative palynostratigraphy of the Newark Supergroup. *Geological Society of America Northeastern Section, Abstracts with Programs* 21: 15.