

Dr. Neil Scott Suits

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PROFILE

Workplace Strengths -- skilled in both collaborative and autonomous approaches to problem solving; effectively manage staff (strong supervisory, delegation, and mentoring/coaching skills); think creatively and encourage/appreciate new ideas; welcome change and manage it productively; consistently monitor and follow through on projects.

Transferable Skills/Traits -- *Skills*: research, technical writing, teaching, decision making, crisis management, facilitation/liaison, public speaking. *Traits*: energetic, flexible, focused, open-minded, resourceful.

Foreign Language -- fluent in German.

Computer Proficiency -- IBM, Macintosh, Unix, IDL (word processing, spreadsheets, graphics); Internet use; programming skills -- FORTRAN, BASIC, UNIX, HTML.

Sample Commendations [from students in laboratory classes] -- "helpful, knowledgeable, informative, enthusiastic"; "labs were excellent"; "a very good teacher -- should get the 'teacher of the year award' or something"; "his excitement made the lab worth going to"; "clear explanations; always made sure everyone understood"; "first science class I've actually enjoyed"; "apparent that he enjoys what he teaches."

EDUCATION

- | | |
|-----------------------------|---|
| 1999-
<i>Project</i> | Research Scientist --Atmospheric Science, Colorado State University
<i>Forward and inverse simulations of ¹³C exchange between the atmosphere and terrestrial ecosystems.</i> |
| June 1998
<i>Project</i> | Research Associate – Penn State Astrobiology Research Center
<i>The $\delta^{34}\text{S}$ record of trace sulfate in Namibian Neoproterozoic Carbonates</i> |
| May 1998
<i>Thesis</i> | Ph.D. -- Geosciences, The Pennsylvania State University
<i>Sulfur diagenesis in Holocene Peru shelf and slope sediments</i>
[NSF-Funded Research] |
| <i>Advisor</i> | Dr. Michael Arthur |
| <i>Honors</i> | Tait Fellowship in Geomicrobiology
Friends of the Ocean Fellowship |
| <i>Teaching Assignments</i> | Taught Oceanography laboratory classes; coordinated 14 sections of same for approximately 300 students/semester; TA: geochemistry. |
| 1996
<i>Thesis</i> | M.S. -- Geosciences, Indiana University
<i>Paleoceanographic interpretation of a sulfur isotopic excursion in pyrite and</i> |

acid-volatile sulfides from and the Hartland Shale and Bridge Creek Limestone Members of the Greenhorn Formation near Pueblo, Colorado [Chevron Oil Field Research]

Advisor
Teaching
Assignments

Dr. Lisa Pratt
Sedimentology and Stratigraphy; Optical Mineralogy

1989 B.A. -- Geosciences, Indiana University

EXPERIENCE

1982 - 85 Southern Michigan News -- Lansing, Michigan
(book wholesaler)

Purchasing Manager

- Purchased and distributed new products for retail and chain store accounts (approximately 40 bookstores and 200+ other retail outlets).
 - Managed a \$3 million budget and 10 staff assistants.
 - Successfully installed a computerized billing and distribution system that streamlined operations through centralized control of buying and tracking of sales, resulting in a 10-20% decrease in processing time.
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1976 - 82 Suits News Company -- Lansing, Michigan

Sales Manager

- As part of a team, successfully transformed a regional paperback wholesaler in to a national distributor of books for the educational market.
- Increased company sales by 30% over a five-year period.

MEMBERSHIPS

- The Geochemical Society
- Sigma Gamma Epsilon, Geology Honorary
- American Geophysical Union

COMMUNITY SERVICE

- Instructor, YMCA Ballroom Dance Class
- Steering Committee, Central Pennsylvania Dance Association
- Executive Committee, Colorado State University Administrative Professional Council

INTERESTS

- Hiking, camping, reading, inline skating, tennis, gardening, flower collection and identification, ballroom dancing, cooking

PUBLICATIONS

Neil S. Suits, Denning, A.S., Berry, J.A., Still, C.J., and Baker, I.T., Simulation of carbon isotope discrimination of the terrestrial biosphere on multiple spatial and temporal scales, (submitted to *Global Biogeochemical Cycles*, in review)

Neil S. Suits, Arthur, M.A. and Kump, L.R., A numerical simulation of sulfur isotopic fractionation during sulfate reduction, sulfide oxidation and pyrite formation in organic carbon-rich sediments, (submitted to *Geochimica et Cosmochimica Acta*, in review)

Neil S. Suits, Arthur, M.A. and Ohmoto, H. The $\delta^{34}\text{S}$ record of dissolved sulfide, acid-volatile sulfide, pyrite and organic-sulfur in Peru Holocene-Late Quaternary shelf/slope sediments. (submitted to *Chemical Geology*, in review).

Neil S. Suits, The Role of Sulphide-oxidizing, Nitrate-reducing Bacteria, *Thioploca spp.*, in Formation of Sedimentary Phosphorites in Peru Margin Sediments, (in preparation for *Marine Geology*)

Neil S. Suits, Denning, A.S., Berry, J.A., Baker, I.T., Miller, J.B. and Hanan, N. Tropical drought and the carbon cycle: C3/C4 plant fractions, root zone stress and the use of carbon isotopes discrimination to estimate terrestrial CO₂ fluxes. (in preparation for *Geophysical Research Letters*)

Neil S. Suits, A.S. Denning, P.E. Thornton, I.T. Baker and J. Lee, Spatial and temporal variations in terrestrial carbon isotope discrimination and disequilibria simulated in coupled runs of the Community Climate System Model, (in preparation for *Journal of Climate*).

John B. Miller, White, J.W.C., Tans, P.P., Masarie, K.A., Vaughn, B.W., Conway, T.J., Suits, N.S. and Randerson, J.T., A decreasing trend in Northern Hemisphere carbon uptake since 1992. (Submitted to *Science*, in review).

John B. Miller, White, J.W.C., Tans, P.P., Masarie, K.A., Vaughn, B.W., Conway, T.J., Suits, N.S. and Randerson, J.T., Interannual variability in terrestrial carbon fluxes from 1992 to 2003 determined by atmospheric CO₂. (in preparation).

Neil S. Suits, Denning, A.S., Berry, J.A., Still, C., Randerson, J.T., Ehleringer, J.R. and Baker, I.T., (2005), Simulated exchange of ¹³C between the terrestrial ecosystems and the atmosphere, *Global Biogeochemical Cycles*, Vol. 19, No. 1, GB1017, 10.1029/2003GB002141.

Hurtgen, M.T., Arthur, M.A., Suits, N.S., and Kaufman, A.J., (2002), The sulfur isotopic composition of Neoproterozoic seawater sulfate: Implications for a snowball Earth?: *Earth and Planetary Science Letters*, v. 203p. 413-430.

Randerson, J.T., Collatz, J.G., Fessenden, J.E., Munoz, A.D., Still, C.J., Berry, J.A., Fung, I.Y., Suits, N., and Denning, A.S., (2002), A possible covariance between terrestrial gross primary production and ¹³C discrimination: Consequences for the atmospheric ¹³C budget and its response to ENSO, *Global Biogeochemical Cycles*, Vol. 16, No. 4, 1136, 10.1092/2001GB001845.

Randerson, J.T., Still, C.J., Balle, J.J., Fung, I.Y., Doney, S.C., Tans, P.P., Conway, T.J., White,

J.W.C., Vaughn, B, Suits, N., and Denning, A.S., (2002). Carbon isotope discrimination of the arctic and boreal biomes inferred from remote atmospheric measurements and a biosphere-atmosphere model., *Global Biogeochemical Cycles*, Vol.16, No.3, 1028, 10.1029/2001GB001435.

Neil S. Suits and Arthur, M.A., (2000). Sulfur diagenesis and partitioning in Holocene Peru slope sediments. *Chemical Geology*, 163:219-234.

Neil S. Suits and Arthur, M.A., (2000). Sulfate enrichment in pore water of sediments of the Peruvian upwelling zone: bacterial response to seasonal and El Niño variations in the water column. *Deep-Sea Research, Deep-Sea Research I*, 47:1829-1853.

Neil S. Suits and Wilkin, R.T., (1998). Pyrite formation in the water column and sediments of a meromictic lake. *Geology*, 26:1099-1102.

Neil S. Suits, Coulometric determination of sulfur in pyrite, acid-volatile sulfide, elemental sulfur and hydrogen sulfide. UIC Technical Document.

PRESENTATIONS (First Author Only)

Neil S. Suits, Denning, A.S. and Miller, J.B., *Tropical drought and the carbon cycle: C3/C4 plant fractions, root zone stress and the use of carbon isotopes discrimination to estimate terrestrial CO₂ fluxes*. 7th International Carbon Dioxide Conference, Broomfield, Colorado, September 25-30, 2005.

Neil S. Suits, Denning, A.S., Baker, I.T. and Thornton, P.E.. *Challenges to simulating carbon isotopic exchange in the Community Land Model*. 9th Annual Community Climate System Model Workshop, Santa Fe, New Mexico, July 7-9, 2004. (oral presentation).

Neil S. Suits, Denning, A.S., Baker, I.T., Thornton, P.E. and Miller, J.B., *Forward and inverse modeling of CO₂ and ¹³CO₂ in CCSM*, National Science Foundation, Biocomplexity Awardees Meeting, Washington, D.C., September 14-17, 2004.

Neil S. Suits, Denning, A.S, Baker, I.T., Bonan, G., Thornton, P.E., Levis, S., Oleson, K. and Vertenstein, M., *Why we want carbon isotope in CCSM*, Workshop on Isotopes in the Earth System, Boulder, Colorado, January 13-15, 2004. (oral presentation).

Neil S. Suits, Denning, A.S., Baker, I.T. and Leonard, O.G., *Simulating carbon isotopic exchange in the Community Land Model*. 8th Annual Community Climate System Model Workshop, Breckenridge, Colorado, June 24-26, 2003.

Neil S. Suits, Denning, A.S., Baker, I.T., Thornton, P.E., Miller, J.B., Conner-Gausepohl, S.L. and Gurney, K.S., *Sensitivity of ecosystem models of carbon isotope ratios to changes in vegetation properties and meteorology*. AGU Annual Meeting, San Francisco, CA, December 8-12, 2003.

Neil S. Suits, Denning, A.S., Berry, J.A., Randerson, J.T. Still, C.J., Kaduk, J. and Krebs, T.,

Carbon isotope discrimination of the terrestrial biosphere on multiple temporal and spatial scales, AGU Annual Meeting, San Francisco, CA, December 6-10, 2002.

Neil S. Suits and Arthur, M.A., *The role of sulfide-oxidizing, nitrate-reducing bacteria spp. in formation of phosphorites in Peru margin sediments*, AGU Annual Meeting, San Francisco, CA, December 12-15, 2001. (oral presentation)

Neil S. Suits, Berry, J.A., A. Scott Denning, Still, C., and Randerson, J.T. and Baker, I.T. *Simulated exchange of ¹³C between terrestrial ecosystems and the atmosphere*, AGU Annual Meeting, San Francisco, CA, December 15-19, 2000.

Neil S. Suits and Arthur, M.A., *Sulfur diagenesis and partitioning in Holocene-Late Quaternary sediments Peru slope sediments*, Geological Society of America Meeting, Boston, MA, (1997). (oral presentation)

OTHER

Neil S. Suits, Review of 'A Compendium of Geochemistry: From Solar Nebula to the Human Brain', EOS Transactions of the American Geophysical Union.