PAUL KLEE STROTHER
Fellow, American Association for the Advancement of Science

b. September 16, 1953
Alexandria, Virginia
Married, two children
tel. (617) 552-8395

Department of Earth & Environmental Sciences
Weston Observatory of Boston College
381 Concord Rd., Weston MA 02493
email: paul.strother@bc.edu

EDUCATION

Ph.D. Biology, Harvard University, 1980
Thesis: Microbial Communities from Precambrian Strata
B.S. Biology, Pennsylvania State University, 1975

ACADEMIC EMPLOYMENT

1997—present, Research Professor, Boston College
2012 Visiting Research Scientist, Institut für Geowissenschaften, Goethe Universität Frankfurt Am Main, Germany
2008-9, 2011 Professeur Invité and visiting research scientist, Géosystèmes USTL 1, Villeneuve D'Ascq, France
1992—1996 Associate Research Professor, Boston College
1992—1993 Visiting Lecturer, U Mass Lowell
1984—1991 Assistant Professor of Geology, Boston University
1985—1991 Associated Faculty, Department of Biology, Boston University
1983—1984 Visiting Assistant Professor of Geology, Boston University
1982—1983 Assistant Professor of Geology, Dickinson College
1980—1982 Postdoctoral Fellow in Biology, Harvard University
1975—1980 Research Fellow, Paleobotanical Laboratory, Harvard University

TEACHING EXPERIENCE

Boston College

1996-current: GE146 Origin and Evolution of Life on Earth, GE246 Sedimentology & Stratigraphy, GE330 Paleontology (now, Paleobiology), GE335 Geobiology, GE799 Readings and Research, GE801 Thesis Seminar

Pollen & Spores Master Class (Instructor)

University of Utrecht, TNO, July 8-12, 2013

Università Degli Studi Firenze, July 16-20, 2018

University of Massachusetts at Lowell, 1992-1993

89-208/210 Paleontology

Boston University, 1983-1991

Geology curriculum: GL102 Historical Geology, GL105 Environmental Geology (w/ Baldwin), GL202 Plate Tectonics & Historical Geology, GL331 Paleontology, GL404/504 North American Stratigraphy, GL 451 Paleobotany, GL492 Directed Study in Geology, GL502 Sedimentology, GL532 Systematic Paleontology (w/ Schoch), GL587/588 Seminar, GL597/598 Research in Geology, GL752 Marine Paleoecology, GL901/902 Directed Study in Sedimentology & Stratigraphy, GL932 Directed Study in Paleontology

Geology and Biology joint curriculum: BI/GL351 (BI551) Environmental Evolution (w/ Margulis), BI/GL 351, Environmental Evolution (w/ Golubic), GL653 Microbial Geology (=BI 613 Microbial Ecology)

Geology and Archaeology joint curriculum: AR/GL380 (AR/GL802) Introduction to Pollen Analysis (w/ Hansen)

Core and Science Education curriculum: CC104 Evolution of Universe & Life (in part), NS302 Cosmic Evolution

Dickinson College, Carlisle Pennsylvania, 1982-1983

Geol 131 Physical Geology, Geol 301 Field Geology, Geol 132 Historical Geology (w/ Neimitz), Geol 302 Structural Geology, Geol 311 Origins of Life

Harvard University 1975-1980 (as Teaching Fellow)

Organismal & Evolutionary Biology (E. O. Wilson), Biol 104 Biology of the Algae (A. R. Loeblich III), Biol 107 Paleobotany (E. S. Barghoorn)

Additional Course Lectures

Boston University: GL105 Environmental Geology, NS301 Cosmic Evolution, BI504 Evolution, GL516 Glacial Geology, AR380 Introduction to Pollen Analysis
Dickinson College: Geol 205 Mineralogy, Geol 209 Sedimentology

FUNDED RESEARCH PROPOSALS

2013. NSF, Travel grant to attend "Critical Transitions in the History of Life" workshop, Kunming, China, $3k.

2012. DFG, "Taxonomy of non-pollen palynomorphs and fungal remains and significance for the end-Triassic extinction event," €6k (w/ B. van de Schootbrugge)

2012-2013. Army STTR, "A high throughput pollen detection device using Raman Spectroscopy," $30k

2011-2012. National Geographic Society, "Life on Land One Billion Years Ago," $16k

2007-2011. NASA 06-EXB06-0037, "A Comparative study of Precambrian and Cambrian terrestrially-derived organic remains," $125,750

2007-2011. ACS-PRF, 46740-B8, "A study of the algal plant transition based on organic remains from Cambrian strata," $55k

2001-2005. NSF EAR-0106790, "An investigation of Cambrian and Ordovician plant spores," $180k.

2000-2002. ACS-PRF, "Studies on the Paleoecology of the Bright Angel Shale, " $30k

1997-1998. National Geographic Society, "Non-marine Organic remains from the Lower Paleozoic," $11k

1996-1999. NSF-EAR9526568, "An investigation of Silurian plant remains from the Central Appalachians," $100k

1993-1995. NSF-EAR9219965, "Paleopalynology of the Silurian Section at Arisaig, Nova Scotia," $75k

1992. AASP/NSF, (together with J. Beck) Travel grants in aid to attend the 8th IPC, Aix-En-Provence, $1k

1990-1992. NSF-BSR-9007531, "Systematics of Silurian Plant Remains," $25k.

1988-1990. Boston University Seed Grant 885-GE, "Did the origin of the terrestrial flora produce a recorded discontinuity in the carbon cycle?" $1.7k

1982-1985. NSF-DEB-8011632, "Paleoecology and evolution of early land plants from the Silurian rocks of northeastern North America." (w/ A. Traverse), $87k

PUBLICATIONS

Van Eldijk, T.J.B., T. Wappler, P.K. Strother, C. van der Weijst, H. Rajaei, H. Visscher, H., B. van de Schootbrugge. 2018. A Triassic-Jurassic window into the evolution of the Lepidoptera. *Science Advances* 2018;4: e1701568.

Strother, P.K., W.A. Taylor, J.H. Beck & M. Vecoli. 2017. Ordovician spore "thalli" and the evolution of the plant sporophyte. *Palynology* 41, No. S1: 57-68.

Taylor, W.A., P.K. Strother, M. Vecoli, & Sa'id Al-Hajri. 2017. Wall ultrastructure of the oldest embryophytic spores: Implications for early land plant evolution. *Revue de micropaléontology* 60(3): 281-288. doi:10.1016/j.revmic.2016.12.002

She, Z.-B., Zhang, Y.-T., Liu, W., Song, J., Zhang, Y., Li, C., Strother, P., Papineau, D., 2016. New observations of Ambient Inclusion Trails (AITs) and pyrite framboids in the Ediacaran Doushantuo Formation, South China. *Palæogeography, Palæoclimatology, Palæoecology* 461, 374–388. doi:10.1016/j.palaeo.2016.08.035

Riding, James B., William G. Chaloner FRS, Martin B. Farley, Fredrick J. Rich & Paul K. Strother. 2016. A biography and obituary of Alfred Traverse (1925–2015). *Palynology* 40 (2): iii-xi. doi: 10.1080/01916122.2016.1164980

Strother, P.K. 2016. Systematics and evolutionary significance of some new cryptospores from the Cambrian of eastern Tennessee, USA. *Review of Palæobotany and Palynology* 227: 28-41. doi:10.1016/j.revpalbo.2015.10.006

Strother, P.K. & C.H. Wellman. 2016. Palæoecology of a billion-year-old cyanobacterium from the Torridon Group and Nonesuch Formation. *Palæontology* 59 (1): 89-108. doi:10.1111/pala.12212

Quijada, M., A. Riboulleau, P.K. Strother, W.A. Taylor, A. Mezzetti & G. Versteegh. 2016. *Protosalvinia* revisited - new evidence for a land plant affinity. *Review of Palæobotany and Palynology* 227: 52-64. doi:10.1016/j.revpalbo.2015.10.008

Renzaglia, K.S., B. Crandall-Stotler, S. Pressel, J. Duckett, S. Schuette, & P.K. Strother. 2015. Permanent spore dyads are not a 'thing of the past': on their occurrence in the liverwort *Haplomitrium* (Haplomitriopsida). *Botanical Journal of the Linnean Society* 179 (4): 658-669. doi:10.1111/boj.12343

Vecoli, M., J.H. Beck & P.K. Strother. Palynology of the Ordovician Kanosh Shale at Fossil Mountain, Utah. 2015. *Journal of Paleontology* 89 (3): 424-447. doi:10.1017/jpa.2015.29

Wellman, C.H & P.K. Strother. 2015. The terrestrial biota prior to the origin of land plants (embryophytes): a review of the evidence. *Palæontology* 58 (4): 611-627. doi:10.1111/pala.12172

Strother, P.K., A. Traverse & M. Vecoli. 2015. Cryptospores from the Hanadir Shale Member of the Qasim Formation, Ordovician (Darriwilian) of Saudi Arabia: Taxonomy and systematics. *Review of Palæobotany and Palynology*, 212: 97-110. doi:10.1016/jrevpalbo.2014.08.018

She, Z.-B., P.K. Strother & D. Papineau. 2014. Terminal Proterozoic cyanobacterial blooms and phosphogenesis documented by the Doushantuo granular phosphorites II: microbial diversity and C isotopes, *Precambrian Research* 251: 62-79 doi:10.1016/j.precamres.2014.06.004

Wacey, D. M. Saunders, M. Roberts, S. Menon, L. Green, C. Kong, T. Culwick, P.K. Strother & M.D. Brasier. 2014. Enhanced cellular preservation by clay minerals in 1 billion-year-old lakes. *Science Reports* 4, 5841. doi:10.1038/srep05841

She, Z.-B., P.K. Strother, G. McMahon, L.R. Nittler, J. Wan, J. Zhang, L. Sang, C. Ma & D. Papineau. 2013. Terminal Proterozoic cyanobacterial blooms and phosphogenesis documented by the Doushantuo granular phosphorites I: *in situ* micro-analyses of textures and composition. *Precambrian Research* 235: 20-35.

McCoy, V.E., P.K. Strother & D.E.G. Briggs. 2012. A possible tracemaker for *Arthrophycus alleghaniensis*. *Journal of Paleontology* 86 (6): 996-1001.

Graham, L.E., P. Arancibia-Avila, W.A. Taylor, P.K. Strother & M.E. Cook, 2012. Aeroterrestrial *Coleochaete* (Streptophyta, Coleochaetales) models early plant adaptation to land. *American Journal of Botany* 99: 1-15.

Strother, P.K., L. Battison, M.D. Brasier & C.H. Wellman. 2011. Earth's earliest non-marine eukaryotes. *Nature* 473: 505-509.

Strother, P.K., T. Servais & M. Vecoli. 2010. The effects of terrestrialization on marine ecosystems: the fall of CO_2. *In* Vecoli, M., Clément, G. & Meyer-Berthaud, B. (eds) *The Terrestrialization Process: Modelling Complex Interactions at the Biosphere–Geosphere Interface*. Geological Society, London, Special Publications 339: 37–48.

Strother, P.K. 2010. Thalloid carbonaceous incrustations and the asynchronous evolution of embryophyte characters during the Early Paleozoic. *International Journal of Coal Geology* 83: 154-161.

Tomescu, M.F., L.M. Pratt, G.W. Rothwell, P.K. Strother & G.C. Nardon. 2009. Carbon isotopes support the presence of extensive land floras pre-dating the origin of vascular plants. *Palæogeography, Palæoclimatology, Palæoecology* 283(1-2): 46-59.

Taylor, W.A. & P.K. Strother. 2009. Ultrastructure, morphology, and topology of Cambrian palynomorphs from the Lone Rock Formation, Wisconsin, USA. *Review of Palæobotany and Palynology* 153: 296-309.

Strother, P.K. 2008. A new Cambrian acritarch from the Nolichucky Shale, eastern Tennessee, U.S.A. *Palynology* 32: 205-212.

Beck, J.H. & P.K. Strother. 2008. Spores and cryptospores from a Silurian section near Allenport, Pennsylvania. *Journal of Paleontology* 82(5): 857-883.

Taylor, W.A. & P.K. Strother. 2008. Ultrastructure of some Cambrian palynomorphs from the Bright Angel Shale, Arizona, USA. *Review of Palæobotany and Palynology* 151: 41-50.

Strother, P.K. 2008. A speculative review of factors controlling the evolution of phytoplankton during Paleozoic time. *Revue de micropaléontology* 51: 9-21.

Strother, P.K., G.D. Wood, W.A. Taylor & J.H. Beck. 2004. Middle Cambrian cryptospores and the origin of land plants. *Memoirs of the Association of Australasian Palæontologists* 29: 99-113.

Baldwin, C.T., P.K. Strother, J.H. Beck & E. Rose. 2004. Palæoecology of the Bright Angel Shale in the eastern Grand Canyon, Arizona, U.S.A. Incorporating sedimentological, ichnological and palynological data. *In* McIlroy, D. (ed) *The Application of Ichnology to Palæoenvironmental and Stratigraphic Analysis*. Geological Society, London, Special Publications, 228: 213-236.

Beck, J.H. & P.K. Strother. 2001. Silurian Spores and cryptospores from the Arisaig Group, Nova Scotia, Canada. *Palynology* 25: 127-177.

Strother, P.K. 2000. Cryptospores: The origin and Early Evolution of the Terrestrial Flora, 3-19. *In* R.A. Gastaldo and W.A. DiMichele (eds) *Phanerozoic Terrestrial Ecosystems. The Paleontological Society Papers*, Vol. 6.

Strother, P.K. & J. H. Beck. 2000. Spore-like microfossils from Middle Cambrian strata: expanding the meaning of the term cryptospore. *In* M. M. Harley, C. M. Morton & S. Blackmore (eds) *Pollen and Spores: Morphology and Biology*, Royal Botanic Gardens, Kew, 413–424.

Strother, P.K. & E.S. Barghoorn. 2000. Clues to life in the Archean Eon. *In* L. Margulis, C. Matthews & A. Haselton (eds) *Environmental Evolution: Effects of the origin and evolution of life on planet Earth*. MIT Press, Cambridge, Mass. [Second edition], 97-115.

Beck, J.H. & P.K. Strother. 1997. Acritarchs from the Silurian Section at Arisaig, Nova Scotia, Canada: Paleoecology. *Acta Universitatis Carolinae, Geologica* 40 (1996): 321-334.

Strother, P.K. & J.H. Beck. 1996. Palynology of the Silurian section at Allenport, Pennsylvania: Preliminary results. *In* T. Broadhead (ed.) *Sedimentary Environments of Silurian Taconia*. University of Tennessee Department of Geological Sciences Studies in Geology 26: 155-159.

Shute, Cedric, Alan R. Hemsley & P.K. Strother. 1996. Reassessment of dyads contained in a late Silurian rhyniophytoid sporangium. *Special Papers in Palæontology*, No. 55: 137-145.

Strother, P. K. 1996. Acritarchs. *In* J. Jansonius and D.C. McGregor (eds) *Palynology: Principles and Applications. Volume I. Principles*. American Association of Stratigraphic Palynologists Foundation, Dallas, 81-106.

Strother, P.K., S. Al-Hajri, & A. Traverse. 1996. New evidence for land plants from the lower Middle Ordovician of Saudi Arabia. *Geology* 24(1): 55-58.

Strother, P.K. & J.H. Beck. 1995. Plant spores from lateral equivalents to the Delaware Water Gap section. *In* A. John E. B. Baker (ed.) *Contributions to the Paleontology of New Jersey*. The Geological Association of New Jersey, vol. XII, Wayne, New Jersey, 209-221.

Strother, P.K. 1994. Sedimentation of palynomorphs in rocks of pre-Devonian age. *In* A. Traverse (ed) *Sedimentation of Organic Particles*. Cambridge University Press, Cambridge, 489-502.

Traverse, A. & P.K. Strother. 1994. On the current nomenclatural status of *Tetrahedraletes* (Fossiles). *Taxon* 43 -Feb 1994: 71-74.

Strother, P.K. 1993. Clarification of the genus *Nematothallus* Lang. *Journal of Paleontology* 67(6): 1090-1094.

Strother, P.K. 1992. The evidence for the earliest life. *In* L. Margulis and L. Olendzenski (eds) *Environmental Evolution: Effects of the origin and evolution of life on planet Earth*. MIT Press, Cambridge, Mass., 87-101.

Strother, P.K. 1991. A classification schema for the cryptospores. *Palynology* 15: 219-236.

Gensel, P., N.G. Johnson & P.K. Strother. 1990. Early land plant debris (Hooker's "waifs and strays"?). *Palaios* 5(6): 520-547.

Strother, P.K. 1990. The construction of models to produce distributions of simple cell morphologies. *In* C. Ponnamperuma & F.R. Eirich (eds) *Prebiological Self Organization of Matter*. A. DEEPAK Publishing, Hampton, Va., 280.

Strother, P.K. 1989. Pre-metazoan life. *In* : D. Briggs & K. Allen (eds) *Evolution and the Fossil Record*. Belhaven Press, London, 51-72.

Strother, P.K. 1988. New species of *Nematothallus* from the Silurian Bloomsburg Formation of central Pennsylvania. *Journal of Paleontology* 62(6): 287-323.

Knoll, A.H., P.K. Strother & S. Rossi. 1988. Distribution and diagenesis of microfossils from the lower Proterozoic Duck Creek Dolomite, Western Australia. *Precambrian Research* 38: 257-279.

Strother, P.K. & K. Tobin. 1987. Observations on the genus *Huroniospora* Barghoorn: Implications for paleoecology of the Gunflint Chert. *Precambrian Research* 36: 323-333.

Strother, P.K., A.H. Knoll & E.S. Barghoorn. 1983. Microfossils from the late Precambrian Narssârssuk Formation, northwest Greenland. *Palæontology* 26(1): 1-32.

Lenk, C., P.K. Strother, C. Kaye & E.S. Barghoorn. 1982. Precambrian age for the Boston Basin--new evidence from microfossils. *Science* 216: 619-920.

Bridgewater, D., J.H. Allaart, J. W. Schopf, C. Klein, M.R. Walter, E.S. Barghoorn, P.K. Strother, A.H. Knoll & B.E. Gorman. 1981. Microfossil-like objects from the Archæan of Greenland: A cautionary note. *Nature* 289: 51-53.

Strother, P.K. & E.S. Barghoorn. 1980. Microspheres from the Swartkoppie Formation: A review. *In* H.O. Halvorson & K.E. Van Holde (eds) T*he Origins of Life and Evolution*. Alan R. Liss, New York, 1-18.

Strother, P.K. & A. Traverse. 1979. Plant microfossils from Llandoverian and Wenlockian rocks of Pennsylvania. *Palynology* 3: 1-21.

MANUSCRIPTS IN PRESS

Strother, P.K. & W.A. Taylor. The evolutionary origin of the plant spore in relation to the antithetic origin of the plant sporophyte. In: Michael Krings. Michal, Carla J. Harper, N. Rubén Cúneo & Gar W. Rothwell (Eds.) *Transformative paleobotany: Papers to commemorate the life and legacy of Thomas N. Taylor*. Elsevier. (in press)

MANUSCRIPTS IN PREPARATION

Strother, P.K., M. Brasier, D. Wacey, M. Saunders & C.H. Wellman. Adhesion-mediated morphogenesis in a billion-year-old protist.

Lennart M. van Maldegem, Pierre Sansjofre, Johan W. H. Weijers, Klaus Wolkenstein, Paul K. Strother, Lars Wormer, Jens Hefter, Yosuke Hoshino, Stefan Schouten, Jaap S. Sinninghe Damsté, Nilamoni Nath, Christian Giesinger, Nikolay B. Kuznetsov, Marcel Elie, Marcus Elvert, Erik Tegelaar, Gerd Gleixner, Christian Hallmann. Extreme heterotrophy after snowball Earth.

Wellman, C.H., W.A. Taylor, Bas van de Schootbrugge, A. Koutsodendris & P.K. Strother. A fossil euglenoid from the billion-year-old Nonesuch Shale indicates the antiquity of nonmarine excavates.

Wellman, C.H. & P.K. Strother. Palæobiology of the Proterozoic non-marine 'Torridonian' deposits of Scotland.

ABSTRACTS OF PRESENTED PAPERS

van Maldegem, Lennart M., Pierre Sansjofre, Paul K. Strother, Amy E. Kelly & Christian Hallmann. 2017. Proterozoic carbon isotope systematics are influenced by redox and community composition. 28th International Meeting on Organic Geochemistry, Florence, Italy, September 17-22, 2017.

Strother, P.K., C.H. Wellman. 2017. New fossil protists from the basal Neoproterozoic Nonesuch Shale. AASP-TSP Annual Meeting: Program & Abstracts, Nottingham, England.

Strother, P.K., 2017. Ordovician "spore-thalli" from The Kanosh Shale at Fossil Mountain, Utah. Geological Society of America Abstracts with Programs. Vol. 49, No. 2 doi: 10.1130/abs/2017NE-291004

Strother, P.K., C.H. Wellman & C.T. Baldwin. 2017. Microbial mat ecology in lacustrine settings at the Meso-Neoproterozoic boundary. Lyell Meeting 2017: Sticking Together: microbes and their role in forming sediments. The Geological Society, Burlington House, London, March 7, 2017.

Strother, P.K., W.A. Taylor & M. Vecoli. 2016. Cryptospores and the canalization of plant sporogenesis. XIV IPC / X IOPC. Boletín de la Asociación Latinoamericana de Paleobotánica y Palinología. Número 16: 99.

Strother, P.K. 2016. Cryptospores from the Cambrian of Laurentia. XIV IPC / X IOPC. Boletín de la Asociación Latinoamericana de Paleobotánica y Palinología. Número 16: 140-141.

Taylor, W.A. & P.K. Strother. 2016. Sporoderm ultrastructure of Cambrian cryptospores from eastern Laurentia. XIV IPC / X IOPC. Boletín de la Asociación Latinoamericana de Paleobotánica y Palinología. Número 16: 141.

Strother, P.K. 2016. Cryptospores record the canalization of meiosis in the evolving sporophyte. Botanical Society of America. Annual Meeting Abstracts (http://2016.botanyconference.org/engine/search/index.php?func=detail&aid=438)

Strother, P.K. 2015. A Cambrian greening of the terrestrial biosphere. The Palæontological Association 59th Annual Meeting, Cardiff, Wales. Programme and Abstracts: 44.

Strother, P.K. & M. Vecoli. 2015. On some proposed changes in the suprageneric classification of the acritarchs. CIMP 2015 Meeting. University of Bergen, Norway. Abstracts: 46.

Strother, P.K. 2015. Creating a taxonomy of Cambrian cryptospores. CIMP 2015 Meeting. University of Bergen, Norway. Abstracts: 45.

Strother, P.K. 2014. Evolution in Precambrian terrestrial ecosystems. 4th International Palæontological Congress. Mendoza, Argentina. Abstract Volume: 58.

Strother, P.K. 2014. Paleopalynology and Early Paleozoic plant evolution (keynote). 4th International Palæontological Congress. Mendoza, Argentina. Abstract Volume: 906.

Strother, P.K. 2014. Palæontological significance of the Torridonian microflora. Evolution and early life: a celebration of the career of Martin Brasier on his retirement. Department of Earth Sciences, University of Oxford, September 5th 2014: 27-28.

Quijada, M., A. Riboulleau, P.K. Strother, W.A. Taylor & G. Versteegh. 2014. *Protosalvinia* revisited - new evidence for land plant affinities. Abstract Book. 9th European Palæobotany-Palynology Conference, Padova, Italy: 221-222.

Taylor, W.A. & P.K. Strother. 2014. Ultrastructural analysis of cryptospores from the Middle Ordovician of Saudi Arabia and their significance in the evolution of spore walls. Abstract Book. 9th European Palæobotany-Palynology Conference, Padova, Italy: 270.

Strother, P.K., W.A. Taylor & M. Vecoli. 2014. Sporoderm evolution in cryptospores from the Darriwilian of Saudi Arabia. Abstract Book. 9th European Palæobotany-Palynology Conference, Padova, Italy: 261.

Strother, P. K. 2014. Cryptospores and the fossil record of early land plant evolution. Geological Society of America *Abstracts with Programs*. Vol. 46, No. 2, p.94.

Strother, P.K., A. Traverse & M. Vecoli. 2014.Cryptospores from the Hanadir Shale Member of the Qasim Formation of Saudi Arabia now establish a Darriwilian (Ordovician) base for the land plant spore record. GEO 2014, 11th Middle East Geosciences Conference and Exhibition, Bahrain. [poster]

Wellman, C. H., W. A. Taylor, Bas van de Schootbrugge, A. Koutsodendris & P. K. Strother. 2013. Establishing a Fossil Record of Euglenoids from the 1.1 Ga Nonesuch Formation to the Recent. The Palæontological Association 57th Annual Meeting. *Programme and Abstracts*: 60.

Strother, P.K., 2013. Devonian marine extinctions were caused by trophic collapse due to declining pCO_2. Geological Society of America Abstracts with Programs. Vol. 45, No. 7, p.237.

Strother, P. K. 2013. Paleoproterozoic prokaryotic palynomorphs. The International Biogeoscience Conference 2013 Nagoya, Japan. *Program and Abstracts*: 33.

van de Schootbrugge, Bas, M. Vecoli, P. K. Strother, S. Lindström & W. Oschmann. 2013. Mass-wasting triggered by the end-Triassic mass-extinction. Geological Society of America Abstracts with Programs. Vol. 45, No. 7, p. 306.

Strother, P. K., W. A. Taylor & M. Vecoli. 2013. Evolutionary significance of cryptospores from the Darriwilian Hanadir Shale of Saudi Arabia. AASP-TSP Annual Meeting: Program & Abstracts.

Strother, P. K. 2013. The cryptospore record and the origin of land plants. BSA abstracts (http://www.2013.botanyconference.org/engine/search/index.php?func=detail&aid=181)

Strother, P. K., and C. H. Wellman. 2012. Paleobiology of Earliest Proterozoic Lakes. Geological Society of America Annual Meeting Abstracts with Programs, Vol. 44.

Strother, P.K. 2012. Cryptospores and the algal plant transition. Abstracts: IPC/IOPC 2012. Japanese Journal of Palynology 58:276.

Strother, P.K. 2012. Probable Paleoproterozoic prokaryotic palynomorphs. AASP - The Palynological Society, 45th Annual Meeting, Lexington, Kentucky. Program with Abstracts: 45-46.

Strother, P.K., W.A. Taylor & M. Vecoli. 2011. Some interesting Ordovician fossils that support Bower's antithetic hypothesis. Linnean Society of London Palæobotany Specialist Group, Autumn Meeting, November 2, 2011.

Strother, P.K. 2011. Palæobiology of a Precambrian shale II: Taxonomy and systematics. Linnean Society Palynology Specialist Group. Pollen and Spore Research: Fundamental and Applied. Burlington House, London, November 3, 2008.

Strother, P.K. & C.H. Wellman. 2011. Surprisingly high biotic diversity in a Neoproterozoic shale. Geological Society of America Abstracts with Programs 43(5): 158.

Strother, P.K., B. Pedder & M. Vecoli. 2011. Expanding the biological affinities of the acritarchs. AASP - The Palynological Society, 44th Annual Meeting, Southampton, England. Program with Abstracts.

Strother, P. K., And C. H. Wellman. 2010. Paleobiology of a Nonmarine Precambrian Shale: Well-Preserved Eukaryotes from the 1.1 Ga Nonesuch Formation. The Palæontological Association 54th Annual Meeting, 17 -20 December, Ghent University, Programme and Abstracts, p. 34.

Strother, P.K. & C.H. Wellman. 2010. Exceptional preservation in non-marine settings at 1 Ga. Geological Geological Society of America Abstracts with Programs, Vol. 42, No. 5, p. 409.

Strother, P.K. & C.H. Wellman. 2010. Paleopalynology of the Nonesuch Shale: Preliminary morphological studies, systematics and paleoecological interpretations. AASP - The Palynological Society, 43rd Annual Meeting, Dartmouth, Nova Scotia, Canada. Program with Abstracts: 72-73.

Strother, P.K. & M. Vecoli. 2010. Evidence of terrestrialization prior to the origin of land plants. AASP - The Palynological Society, 43rd Annual Meeting, Dartmouth, Nova Scotia, Canada. Program with Abstracts: 72.

Strother. P.K. & C. Wellman. 2010. Non-marine fossils from the Torridonian Sequence: A first look at Precambrian terrestrial ecosystems. Scientific Abstracts. Botanical Society of America Joint Annual Meeting: 68.

Taylor, W.A., P.K. Strother, M. Vecoli & J. H. Beck. 2010. One-Hundred-Year-Old Prediction Found at Fossil Mountain Utah. Scientific Abstracts. Botanical Society of America Joint Annual Meeting: 69.

Strother, P.K., W.A. Taylor & M. Vecoli. 2010. The fossil record and the evolution of the plant sporophyte. Program and Abstracts. 8th European Palæobotany – Palynology Conference 2010 (Budapest, Hungary): 221.

Strother, P.K. 2010. Character evolution and the origin of land plants. Program and Abstracts. 3rd International Palæontological Congress, London, England: 366.

Vecoli, M. & P.K. Strother. 2010. Atmospheric CO_2 and the evolution of Palæozoic phytoplankton: Causes and consequences. Program and Abstracts. 3rd International Palæontological Congress, London, England: 394.

Strother. P.K. & C. Wellman. 2010. Paleobiology of nonmarine siliciclastic mats from the Diabaig Fm (Torridonian Group), NW Scotland. Microbial Mats in Siliciclastic Sediments from the Archean to Present, SEPM Research Conference, Denver, CO, May 21-23.

Strother, P.K., W. Taylor, M. Vecoli & J. Beck. 2010. Cryptospores from Fossil Mountain and Bower's antithetic origin of plants. Joint meeting of the northeastern and southeastern sections of the Geological Society of America, Baltimore, March 13-16.

Schaff, N., J. Beck & P.K. Strother. 2010. Integrated petrographic and palynological study of a middle Silurian section at Bluegrass, Highland County, Virginia. Joint meeting of the northeaster and southeastern sections of the Geological Society of America, Baltimore, March 13-16. [student poster].

Strother, P.K. & C.H. Wellman. 2009. Evidence of diverse terrestrial Precambrian ecosystems. Geological Society of America Abstracts with Programs 41(7): 46.

Strother, P.K. 2009. Cryptospore topology and the evolution of sporogenesis in land plants. AASP - The Palynological Society, 42ndh Annual Meeting, Kingsport, Tennessee. Program with Abstracts: 37.

Vecoli, M., P.K. Strother & T. Servais. 2009. The effects of terrestrialization on marine ecosystems: The fall of CO_2. 9th North American Paleontological Convention. Abstracts. Cincinnati Museum Center Scientific Contributions, No. 3: 50-51.

Vecoli, M., P.K. Strother & T. Servais. 2009. Changing CO_2 and the evolution of terrestrial and marine photosynthetic organisms during the terrestrialization process in the Palæozoic. Geophysical Research Abstracts, Vol. 11, EGU2009-13795, 2009.

Strother, P.K., M. Vecoli & J.H. Beck. 2009. Paleopalynology of the Kanosh Shale at Fossil Mountain, Utah. 9th North American Paleontological Convention. Abstracts. Cincinnati Museum Center Scientific Contributions, No. 3: 203-204.

Beck, J.H & P.K. Strother 2009. Spore masses from middle Silurian rocks in western Virginia, USA. 9th North American Paleontological Convention. Abstracts. Cincinnati Museum Center Scientific Contributions, No. 3: 248. [poster]

Strother, P.K. 2008. Evidence of trophic collapse as a forcing factor in the Late Devonian mass extinction. 52nd Palæontological Association Annual Meeting, 18-21 December 2008, University of Glasgow. Abstracts: 82. [poster]

Strother, P.K. 2008. The Cambro-Ordovician "Cryptospore" Record and its Significance for the Origin of Land Plants. MVP-PPMB meeting – Liège, Belgium. November 27, 2008. Program & Abstracts: 11.

Strother, P.K. 2008. Cryptospore topology and the algal-plant transition. Linnean Society Palynology Specialist Group. Integrating evolution and development of pollen and spores: New perspectives. Burlington House, London, October 28, 2008.

Strother, P.K. 2008. Lower Palæozoic cryptospore ultrastructure and the origin of multilaminate sporoderm. Linnean Society of London Palæobotany Specialist Group, Autumn Meeting, October 29, 2008.

Strother, P.K. 2008. Spores and plant fragments from Cambrian rocks. Terra Nostra 2008/2 IPC-XII/IOPC-VIII Bonn, Germany 2008. Abstract Volume: 270.

Strother, P.K. 2008. Fragments of Cambrian land plants. Joint meeting of the 6th International Association of Lichenologists and the American Bryological and Lichenological Society. Asilomar, California, July 13 - 17, 2008. [poster]

Strother, P.K. & W.A. Taylor. 2008. Cryptospores and the evolution of sporogenesis in bryophytes. Joint meeting of the 6th International Association of Lichenologists and the American Bryological and Lichenological Society. Asilomar, California, July 13 - 17, 2008.

Taylor, W.A. & P.K. Strother. 2008. Ultrastructure of Cambrian cryptospores support multilaminate walls as the primitive condition in the plant sporoderm. Geological Society of America Abstracts with Programs, Vol. 40, No. 2, p. 2.

Strother, P.K. 2007. Palynology of terrestrial landscapes in the lower Paleozoic. CIMP [Commission Internationale de Microflore du Paléozoïque] Lisbon '07. Abstracts. INETI, Lisbon, Portugal: 77-78.

Strother, P.K. 2007. Cryptospores and the Origin of Land Plants. Paléobotanique et Evolution du Monde Végétal: Quelque Problèmes d'Actualité. Séminare International, Collège de France, Paris, May 23-25. Abstracts: 34.

Strother, P.K. 2006. Life on Land during the Cambrian Period. Palæontological Association, 50th Annual Meeting, Sheffield, England, December 20, 2006. Programme and Abstracts: 37.

Michaud, J. R. & P. K. Strother. 2006. Progress on constructing acritarch diversity curves. Palæozoic Palynology in Space and Time. CIMP General Meeting 2006, September 2-6, 2006- Prague, Czech Republic. Book of Abstracts: 37.

Michaud, J. R. & P. K. Strother. 2006. Studies on the Devonian/Carboniferous acritarch decline. Palæozoic Palynology in Space and Time. CIMP General Meeting 2006, September 2-6, 2006- Prague, Czech Republic. Book of Abstracts: 37.

Strother, P. K. 2006. Middle Cambrian Acritarchs from the Conasauga Group, eastern Tennessee, USA. Palæozoic Palynology in Space and Time. CIMP General Meeting 2006, September 2-6, 2006- Prague, Czech Republic. Book of Abstracts: 51.

Strother, P.K., L. Campbell & J.H. Beck. 2006. Integrative paleoecology of the Rogersville Shale, Conasauga Group, Tennessee. *Geological Society of America Abstracts with Programs*, Vol. 38, No. 2, p. 9.

Strother, P. K. 2005. On the composition of early terrestrial floras: Tales from the Lang Collection at the Natural History Museum. Linnean Society of London, Palæobotany Specialist Group meeting, "New Discoveries in Old Collections." [26th October 2005]

Strother, P. K. 2005. Paleopalynology, character evolution and basal plant phylogeny. American Association of Stratigraphic Palynologists, 38th Annual Meeting. Program and Abstracts: 55.

Strother, P. K. 2005. Paleopalynology of the Cambrian of Laurentia. North American Paleontological Congress, Halifax, Nova Scotia, Canada.

Strother, P. K. 2005. Middle and late Cambrian acritarchs from the inner clastic belt of Laurentia. Northeast GSA Abstracts with Programs, 37(1): 19.

Strother, P. K. 2004. Initial systematics of cryptospores from the middle Cambrian Conasauga group, eastern Tennessee, US. Polen, 14:136. [abstract volume for the XIth International Palynological Congress, Granada, Spain, July 2004]

Strother, P. K. 2004. The Palæobotanical significance of Cambrian cryptospores from Laurentia. VII International Organization of Paleobotany Conference. Abstracts:114-115. Museo Paleontológico Egidio Feruglio,Trelew, Argentina.

Beck, J. H. & P. K. Strother. 2003. A method of palynofacies analysis using cluster analysis of transformed relative abundance data. American Association of Stratigraphic Palynologists, 36th Annual Meeting. Program with Abstracts.

Strother, P. K. 2003. Establishing criteria for the recognition of Cambrian cryptospores. American Association of Stratigraphic Palynologists, 36th Annual Meeting. Program with Abstracts.

Strother, P.K., C.T. Baldwin, J.H. Beck & E. Rose. 2003, An integrated sedimentological, ichnological and palynological study of the paleoecology of the Middle Cambrian, Bright Angel Shale, Grand Canyon, Arizona. American Association of Stratigraphic Palynologists, 36th Annual Meeting. Program with Abstracts.

Strother, P. K 2003. Extrinsic factors in phytoplankton evolution: The role of changing surface ocean chemistry in carbon assimilation. American Association of Stratigraphic Palynologists, 36th Annual Meeting. Program with Abstracts.

Strother, P. K. 2003. Establishing criteria for the recognition of Cambrian cryptospores. Northeast GSA Abstracts with Programs: 35.

Strother, P. K. 2002. Secular changes in marine ecosystems may drive phytoplankton evolution. Joint Meeting of AASP-TMS-NAMS 11th – 13th September 2002, University College London. Abstracts & Programme.

Strother, P. K. 2002. Middle Cambrian cryptospores from North America: Implications for plant evolution. International Meeting and Workshops of the Commission Internationale de Microflore du Paléozoïque. Abstracts: 63.

Strother, P. K. 2002. Comments on land-derived cryptospores and terrestrialization. First International Palæontological Congress, Sydney, Australia. Abstracts: 149.

Strother, P. K. & G. Wood. 2002. The significance of abundant and diverse cryptospores from the Middle Cambrian Rogersville Shale, Conasauga Group, Tennessee USA. First International Palæontological Congress, Sydney, Australia. Abstracts: 149-150.

Strother, P. K. 2002. Cryptospore dyads: A new proxy for early embryophytes. Northeast GSA Abstracts with Programs: 34.

Strother, P.K. 2001. Changing chemistry and CO_2 as controls on phytoplankton diversity. American Association of Stratigraphic Palynologists, 34th Annual Meeting. Program with Abstracts: 40.

Strother, P.K., R. A. MacRae, R. A. Fensome, & G. Williams. 2001. The Phanerozoic record of organic-walled phytoplankton. Earth System Processes, 24-28 June 2001, Edinburgh. Programmes with Abstracts: 67-68.

Strother, P. K. 2000. Palynology and the origin of terrestrial ecosystems. GSA Abstracts with programs 32 (7): A-130.

Baldwin, C. T., Rose, E., Strother, P. K. & Beck, J. H. 2000. The paleoecology of the Bright Angel Shale in the eastern Grand Canyon. GSA Abstracts with programs 32 (7): A-224.

Strother, P. K. 2000. The cryptospore record indicates a Cambrian origin for land plants. Annual meeting of the Botanical Society of America.

Strother, P. K. & G. Wood. 2000. Evidence of terrestrial plants by Middle Cambrian time. Northeast GSA Abstracts with Programs, 32 (1): A-76.

Beck, J.H. & P.K. Strother. 2000. Palynomorphs as environmental indicators in lower Paleozoic strata. Northeast GSA Abstracts with Programs, 32 (1): A-4.

Strother, P. K & G. Wood. 1999. A Terrestrial flora by middle Cambrian time: Evidence from the Bright Angel Shale and Rogersville Shale of the United States. American Association of Stratigraphic Palynologists, 32nd Annual Meeting. Program and Abstracts: 42-43.

Beck, J. H. & P. K. Strother. 1999. Silurian plant diversity as determined from spores and cryptospores from the central Appalachians, U.S.A. American Association of Stratigraphic Palynologists, 32nd Annual Meeting. Program and Abstracts: 1-2.

Strother, P. K. 1999. Actualism in paleobotanical research. Northeast GSA Abstracts with Programs 31(2): A-71.

Beck, J. H., D. M. Skilliter & P. K. Strother, 1998. Non-marine paleopalynology of the Silurian of the Central Appalachians. Northeast GSA Abstracts with Programs 31(1): A-4.

Strother , P. K., C. T. Baldwin , D. M. Skilliter, T. McNulty & J. H. Beck. 1998. Palynomorphs of probable non-marine origin from the Middle Cambrian, Bright Angel Shale. Northeast GSA Abstracts with Programs 31(1): A-76.

Skilliter, D. M., P. K. Strother, C. T. Baldwin & T. McNulty. 1998. Paleontological and sedimentological study of the Middle Cambrian Bright Angel Shale: What's for lunch. GSA Abstracts with Programs 30(7): 385.

Kafka, A, A. L., Honkonen, A., Ruszczyk, E., Strother, P.K., & Cochrane, L. 1998. Seismograms recorded by New England PEPP stations. 1998 meeting of the Seismological Society of America.

Strother, P. K. 1998. Non-marine palynomorphs from the Middle Cambrian Bright Angel Shale, Grand Canyon, USA. CIMP Symposium and Workshops (Pisa). Programme and Abstracts: 27.

Strother, P. K. & J. H. Beck. 1998. Currents studies in cryptospore phylogeny. Pollen and Spores 1998. Morphology and Biology. Abstracts: 21.

Strother, P. K. 1997. “Leiospheres” and paleoecology. American Association of Stratigraphic Palynologists, 30th Annual Meeting. Program and Abstracts: 33.

Strother, P.K. 1996. Indicators of early land plant diversity. International Organization of Paleobotany, Fifth Quadrennial Conference, Santa Barbara. Abstracts: 97.

Strother, P.K. 1996. A review of plant evolution during Silurian time. The James Hall Symposium: Second International Symposium on the Silurian System. Program and Abstracts: 91.

Strother, P.K., A. R. MacRae, A. Fricker, R. Fensome & G. Williams. 1996. Phanerozoic phytoplankton Diversity is decoupled from marine invertebrate diversity. Abstracts. IX IPC Meeting - Houston, p. 152.

Strother, P. K. 1996. The morphological basis for evolution in the cryptospores. Abstracts. IX IPC Meeting - Houston, p. 152.

Beck, John & P. K. Strother. 1996. Palynology and paleoecology of the Silurian section at Arisaig, Nova Scotia, Canada. CIMP Acritarch Subcommission: International Meeting and Workshop, Univerzita Karlova, Praha.

Strother, P.K., A. R. MacRae, A. Fricker, R. Fensome & G. Williams. 1994. Phanerozoic phytoplankton Diversity is decoupled from marine invertebrate diversity. Abstracts. American Association of Stratigraphic Palynologists, 27th annual meeting, Program and Abstracts, p. 47.

Strother, P.K., S. Al-Hajri & A. Traverse. 1994. Middle Ordovician Cryptospores from Saudi Arabia: New Evidence for a Pre-Vascular Transitional Terrestrial Flora. Abstracts. American Association of Stratigraphic Palynologists, 27th annual meeting, Program and Abstracts, p. 46.

Strother, P.K. 1994. Lower Ordovician through upper Silurian sporomorph assemblages: fossil evidence for a pre-vascular transitional terrestrial flora. GSA Abstracts with Programs 26(3):75.

Strother, P.K., R.A. MacRae, A. Fricker, R.A. Fensome & G.L. Williams. 1994. Phanerozoic phytoplankton diversity is decoupled from that of marine invertebrates. GSA Abstracts with Programs 264:64-65.

Gensel, P., Strother, P.K. & A. H. Knoll. The rôle of palynomorphs in constraining aspects of early land plant evolution. Proceedings of the International Botanical Congress, Tokyo, Japan, September, 1993.

Strother, P.K. & J. Beck. 1993. Terrestrial organic remains from the Silurian Wills Creek Formation. GSA Annual Meeting Abstracts with Programs A-81.

Strother, P.K., C. T. Baldwin & J. Beck. 1993. The recognition of non-marine indicators in shallow marine lithofacies in the Silurian of the central Appalachians. GSA Annual Meeting Abstracts with Programs A-361.

Strother, P. K. 1993. Evidence of a transitional flora before the origin of vascular tissue. AAAS Annual Meeting, Boston. [poster]

Strother, P.K. & J. Beck. 1992. Non-marine microfossils from a Silurian section in Nova Scotia. GSA Abstracts with Programs 24(7): 270.

Strother, P.K. 1992 Evolutionary relationships among the cryptospores. 8th International Palynological Congress, Aix-En-Provence, Program and Abstracts: 141.

Strother, P. K. & J. Beck. 1992. Palynology of the Arisaig Group (Silurian), Nova Scotia, Canada. 8th International Palynological Congress, Aix-En-Provence, Program and Abstracts: 141.

Strother, P. K. Observations on the current status of nematophyte diversity. Organisation Internationale de Paleobotanique IVème Conference, Paris, Abstracts: 158.

Strother, P.K. 1992. A review of the fossil evidence for the existence of land plants from Silurian rocks of Pennsylvania. Northeast GSA Abstracts with Programs 24: 79.

Strother, P.K. & J. Beck. 1992. Paleopalynology of the Arisaig Group (Silurian), Nova Scotia: Results of an initial survey. Northeast GSA Abstracts with Programs 24: 79.

Strother, P. K. 1991. Paleoecology of Pre-Devonian palynomorphs. Abstracts . American Association of Stratigraphic Palynologists, 24th annual meeting.

Strother, P. K. 1991. Generic concepts in non-vascular Silurian plants. Northeast GSA Abstracts with Programs, 23: 135.

Strother, P. K. 1990. Nematoclasts : A proposal for a new category of palynomorph. Abstracts. American Association of Stratigraphic Palynologists, 23rd annual meeting.

Strother, P. K. 1990. Phylogeny and evolutionary relationships among the cryptospores. *American Journal of Botany*, 77 (6): 94.

Strother, P. K. 1990. A topological model for the construction of evolutionary trees. Northeast GSA Abstracts with Programs 22: 73.

Strother, P. K. 1990. A proposed classification for the cryptospores: Understanding sporomorph diversity and phylogeny in the Silurian. Pollen and Spores: Patterns of Diversification. The Systematics Association & The Linnean Society of London.

Strother, P. K. 1990. Biogenicity criteria for the assessment of Archean microfossils and stromatolites. "Early life on earth: what the rock record tells us" [invited symposium] American Association for the Advancement of Science, February, 1990.

Strother, P. K. 1990. A artificial classification of spore-like microfossils (cryptospores) of lower Paleozoic age. *Palynology* 14: 218.

DeSimone, L. A. & P. K. Strother. 1989. The rôle of palynomorphs in the interpretation of the paleoecology of the lower Silurian Tuscarora Formation. American Association of Stratigraphic Palynologists 22nd Annual Meeting.

Strother, P. K. 1989. Examples of *Nematothallus* from the Bloomsburg Formation of central Pennsylvania, U. S. The Murchison Symposium, University of Keele, March, 1989.

Desimone, L. A., P .K. Strother & C. T. Baldwin. 1988. A stratigraphic analysis of the palynomorph suite of the Tuscarora Formation in central Pennsylvania and its rôle in paleoenvironmental interpretation. Northeast GSA Abstracts with Programs 20(1): 15.

Freile, D., C. T. Baldwin & P. K. Strother. 1988. The Tuscarora Formation at Mill Hall: An ichnologically defined depositional model. Northeast GSA Abstracts with Programs 20(1): 19.

Strother, P. K. 1988. *Nematothallus* and the origin of plants. Northeast GSA Abstracts with Programs 20(1): 73-74.

Strother, P. K. 1987. Palynomorphs from the copper-bearing Nonesuch Formation (late Precambrian). *Palynology* 11: 252.

Strother, P. K. 1985. An emerging non-marine biostratigraphic zonation in the Silurian of the Northern Hemisphere. Northeast GSA, Abstracts with Programs 17(1): 65.

Johnson, N. G., P. K. Strother & A. Traverse. 1985. Indications of an algal affinity for some early Silurian plant microfossils from central Pennsylvania. *American Journal of Botany* 72(6): 895.

Strother, P. K. 1984. The vegetative morphology of *Nematothallus*. Second International Organization of Paleobotany Conference, Edmonton, Canada. Abstracts: 40.

Strother, P. K., N. G. Johnson & A. Traverse. 1983. Morphology and phylogeny of Silurian spore tetrads. *American Journal of Botany* 70(5), part 2: 79-80.

Strother, P. K. & C. Lenk. 1983. *Eohostimella* is not a plant. *American Journal of Botany* 70(5), part 2: 80.

Johnson, N. G., A. Traverse & P. K. Strother. 1983. Plant microfossils from the Lower Silurian Tuscarora Formation at Mill Hall, Pennsylvania. *American Journal of Botany* 70(5), part 2: 72.

Strother, P. K. 1982. Non-marine palynomorphs from Llandoverian and Wenlockian strata. *Palynology* 6: 292.

Strother, P. K. 1981. Palynological evidence for the origin of a land flora. Botanical Society of America, Miscellaneous Series, Publication 160, p. 48.

Strother, P. K. 1981. Palynomorphs from the Nonesuch Shale (Precambrian) of Northern Michigan. *Palynology* 5:223.

Strother, P. K. and A. Traverse. 1981. Early Silurian nonmarine palynoflorules from Poe Paddy, Pennsylvania. *Palynology* 5: 223-224.

Strother, P. K., C. Lenk, E. S. Barghoorn & C. Kaye. 1981. Petrified palynomorphs from the Cambridge Argillite, Cambridge Massachusetts. American Association of Stratigraphic Palynologists, 14th Annual Meeting, Abstracts, p. 28.

Strother, P. K. 1980. The evolutionary significance of lower and middle Silurian plant remains. Fifth International Palynological Conference, Cambridge, England, Abstracts, p. 376.

Strother, P. K. 1979. Paleoecosystem analysis, In: M.N. Dastoor et al. (eds.) *Interaction of the Biota with the Atmosphere and Sediments*. NASA: 127-128.

Strother, P. K. & A. H. Knoll. 1979. A late Precambrian microbiota from the Thule Basin, Greenland. *Botanical Society of America, Miscellaneous Series, Publication* 157, p. 39.

INVITED LECTURES

The fossil record of algal precursors to the land plants (Plenary Lecture). Phycological Society of America annual meeting, Monterey Bay, California, July 5-8, 2017.

Fossil evidence of the algal-plant transition. ANR Project Terres Workshop, Jussieu Paris VI University, November 28, 2014.

The Palæontological significance of the Torridonian microflora. Evolution and Early Life: a celebration of the career of Martin Brasier on his retirement, Department of Earth Sciences, University of Oxford, September 5, 2014: 27-28.

What Lived on Land before the Land Plants? Kolloquium, Institut für Geologie und Paläontologie, Westfälische Wilhelms-Universität Münster, November 26, 2012.

Early Terrestrial Biology. Geowissenschaftliches Kolloquium, Institut für Geowissenschaften, Goethe Universität Frankfurt Am Main, Germany, November, 2011.

Biology of the pre-Devonian landscape. Project Terres Workshop, AMAP Montpellier, France, September, 2011.

Life in Terrestrial Habitats at 1 Ga. Department of Geology, Louisiana State University, Baton Rouge, April, 2011.

Life in Terrestrial Habitats at 1 Ga. Department of Geology, University of Massachusetts, Amherst, January, 2011.

Morphological Complexity in Freshwater Protoctists at 1 Ga: Implications for Paleoecology and Evolution. 1st Gordon Research Conference on Geobiology, Ventura CA, January 30th - February 4th, 2011.

The Fossil Record and the Origin of Land Plants. Biology Department Seminar, University of Connecticut, Storrs, April 1, 2010.

The Origin of Land Plants: A Paleobiological Perspective. Skidmore Microscopy and Imaging Center Guest Lecture, Skidmore College, Saratoga Springs, New York, February 20, 2009.

Origin of Land Plants. Café Pal (departmental seminar), Sciences de la Terre, UMR 8157 du CNRS, Géosystèmes, Université Lille 1, November 28, 2008.

Cryptospores and the evolution of sporogenesis in bryophytes. The 6th IAL Symposium and Annual American Bryological and Lichenological Society Meeting, Asilomar, Pacific Grove, California, 13-19 July, 2008. [with W.A. Taylor]

Palynology of terrestrial landscapes in the lower Paleozoic. Commission Internationale de Microflore du Paléozoïque (CIMP). INETI, Lisbon, Portugal, September 24-28, 2007.

The Evolution of Phytoplankton in Marine Ecosystems. E24 seminar, MIT, February 2, 2007.

Cryptospores and the Origin of Land Plants. Astrobiology Research Group, University of Colorado, May 11, 2007.

Cryptospores and the origin of the terrestrial flora. Geosciences Departmental seminar, Texas A&M University, January, 2000.

Fossil evidence for the origin of land plants. Marine Biological Laboratories weekly seminar, Woods Hole, MA, December 12, 1990.

Biogenicity criteria for the assessment of Archean microfossils and stromatolites. Early life on earth: what the rock record tells us" American Association for the Advancement of Science, February, 1990.

The origin of the land flora. Department of Botany, University of Massachusetts, Amherst, departmental seminar, December, 1988.

Geological evidence for the origins of life on the Earth. International Astronomical Union, Baltimore, August, 1988.

Palynomorphs from the copper-bearing Nonesuch Formation (late Precambrian). American Association of Stratigraphic Palynologists, City University of New York, October, 1986.

ADDITIONAL PROFESSIONAL PRESENTATIONS

Cryptospores as a record of the canalization of meiosis in plants. 33rd Northeast-Midcontinent Paleobotanical Colloquium, Cornell University, May 13-15, 2016.

On the composition of early terrestrial floras: Tales from the Lang Collection at the Natural History Museum. Linnaean Society of London, Palæobotany Specialist Group meeting, "New Discoveries in Old Collections." [26th October 2005]

Which physiochemical factors control phytoplankton diversity? Presentation at the PhytoPal Workshop, Université des Science et technologies de Lille, Villeneuve d'Ascq, France. December 15-17, 2004

Middle and Late Cambrian acritarchs from Inner Clastic Belt of Laurentia. Presentation at the PhytoPal Workshop, Université des Science et technologies de Lille, Villeneuve d'Ascq, France. December 15-17, 2004

Cryptospores indicate the possibility of a Cambrian origin of the land plants. Departmental seminar, The Natural History Museum, London, May 10, 2000.

Cryptospores from the Middle Cambrian: Implications for plant evolution. 16th Annual Mid-Continent Paleobotanical Colloquium, University of Kentucky, May, 1999.

Spore and cryptospore evolution. 16th Annual Mid-Continent Paleobotanical Colloquium, University of Kentucky, May, 1999. (w/ J. H. Beck).

Allochthonous land plant debris from the Silurian Arisaig Group, Nova Scotia. 12th Mid-Continent Paleobotanical Colloquium, University of Pennsylvania, May, 1995. (w/ J. H. Beck).

The transitional terrestrial ecosystem hypothesis. 12th Mid-Continent Paleobotanical Colloquium, University of Pennsylvania, May, 1995.

Research on early terrestrial floras in central Pennsylvania. Sixth Mid-Continent Paleobotanical Colloquium, University of Illinois, June 1988.

Scraps of ?plants? from the latest Ordovician and earliest Silurian of Pennsylvania. (with A. Traverse), Seventh Annual Northeast Paleobotanical Conference, November, 1984.

Attempts to establish the morphology of Nematothallus pseudo-vasculosa. The Sixth Northeast Paleobotanical Conference, Harvard Forest, Petersham, Massachusetts, November, 1983.

Additional notes on Silurian plants. Fourth Northeastern Paleobotanical Conference, Harvard Forest, Petersham, Massachusetts, November 1981.

Non-vascular land plants--paleobotanical perspectives. The Northeast Paleobotanical Meetings, Harvard Forest, Petersham, Massachusetts, November, 1980.

FIELD EXPERIENCE

Southern Ontario 2017: Microfossil collections in Siluro-Ordovician (Power Glen Fm) and Precambrian (Gunflint & Rove Fms).

Canada 2011: Microfossil and stromatolites collections from the Belcher Islands and Richmond Gulf area (Paleoproterozoic).

Scotland 1980, 2008-2012: Microfossil collection from the Torridonian Group (Proterozoic).

Cambrian, Ordovician and Proterozoic field studies (2002-2010): Wyoming, Idaho, Utah, Arizona, Texas, Colorado and Tennessee.

Grand Canyon 1996-2010: Palynology and paleoecology of the Tonto Group (Middle Cambrian). 2014: Palynology of the Chuar Group at Nankoweap Butte.

Avalonian Terrain: Precambrian/Cambrian microfossils from the Boston Basin (1980-1982), Organic-rich shales from the Random Formation, Newfoundland (1988), Palynology of the Arisaig Group, Nova Scotia (1988-1993).

Northern Appalachians 1979, 1981, 1983: Silurian plants/problematica from NE Maine (*Eohostimella*, palynological sampling).

Central Appalachians 1975-present: Paleontology, sedimentology & paleoecology of non-marine Silurian deposits from Tennessee to New York.

Europe: Palynological collections in lower Paleozoic of Brittany, NW Spain, Sardinia 1992, 1997, 2004. Prague Basin 1992, 1996: Palynology/Paleobotany of Ordovician-Silurian strata.

Southern Florida and Bahamas 1986, 1989, 1990: Microbial mats in recent carbonate environments, subtidal stromatolites.

Belt Supergroup 1985: collections of stromatolites.

NW Australia 1978, 1981: Precambrian field studies, 1978 Precambrian/Cambrian boundary in the Amadeus Basin, Central Australia.

Eastern Transvaal, South Africa 1978: Archæan paleontology & sedimentology of the Barberton Greenstone Belt.

Southern Wales 1980: Silurian plant collections (w/ D. Edwards).

Thule Basin, NW Greenland 1977, 1978: Thesis fieldwork on microbiotas from intertidal carbonate microbial mats of late Proterozoic age.

Northern Michigan 1977, 2009, 2012: Palynology of the Nonesuch Shale, beginning with thesis work on shale microbiotas of Proterozoic age.

Field Camp, Red Lodge, Montana 1975.

SUPERVISED RESEARCH

Graduate Dissertation Supervision

Leslie, Campbell. (2008). Petrographic analysis of bioturbated fabrics and paleoecology of the Rogersville Shale, Conasauga Group, eastern Tennessee, USA. Masters thesis (first reader).

Reimer, Adria. 2006. Carbon storage in marine and terrestrial sediments. Unpublished Masters Thesis, Boston College (second reader).

Smith, Amy. 2005. Testing the silica hypothesis: Measuring how Si dissolution varies with temperature, dissolved organic carbon concentration, and Aluminum concentration. Unpublished Masters Thesis, Boston College (second reader).

Grasso, Neal. 1999. Effects of the Evolution and Expansion of the Grassland Biome on Miocene Climate: A Modeling/Palynological Study. Unpublished Masters Thesis, Boston College, p. 89 (first reader).

Beck, J. H. 1998. Paleopalynology of the Silurian Arisaig Group, Nova Scotia. Unpublished PhD Thesis, Boston University, p. 300 (first reader).

Enzien, Michael. 1990. Studies in Microbial Geochemistry including field and experimental determination of silica mobility in the subaerial microbial mats at Laguna Figueroa, Baja California, Mexico. Unpublished PhD Thesis, Boston University, p. 121 (co-advisor with L. Margulis).

DeSimone, L. A. 1988. Paleoenvironmental interpretation of the lower Silurian Tuscarora Formation palynomorph suite in central Pennsylvania. Unpublished Masters Thesis, Boston University, p. 136 (first reader).

Freile, D. 1988. A sedimentological and ichnostratigraphical paleofacies interpretation of the upper Ordovician Juniata Formation and the lower Silurian Tuscarora Formation of central Pennsylvania. Unpublished Masters Thesis, Boston University, p. 250.

Azmi Mohammed Yakzan. 1987. Pollen Analysis and Diatom Stratigraphy from Essex Bay Marsh, Massachusetts. Unpublished Masters Thesis, Boston University, p. 85 (first reader).

Undergraduate Research Projects

2010: Studies on *Nematothallus* (Michael O'Neill)
2009-2010: Sedimentology of the Williamsport Sandstone (Noel Schaff)
1999-2000- Stable carbon isotopes from an isolated basin in the Bright Angel Shale (B. Halley)

1996-1997: Ichnofossil analysis of the Bright Angel Shale (T. McNulty)

1990-1991: Morphometrics of *Arthrophycus* (L. Cadmus)

1989-1990: Morphometrics of the *Galaxiopsis-Kakabekia* complex (K. Pooler), Micro-sedimentological analysis of an early terrestrial plant-bearing site in central Pennsylvania (P. Betz)

1988-1989: Using *MacClade* to analyze embryophyte phylogeny. (C. Letton)

1986-1987: Computer simulations of algal population growth (J. King)

1984-1985: A critical morphometric analysis of *Huroniospora* Barghoorn (K. Tobin)

1983-1984: Classification of foraminifera in the paleontological collections at Boston Univ. (K. Tobin)

1982-1983: Analysis of eurypterid fragments from the Tuscarora Formation (M. Denslow)

PROFESSIONAL SOCIETIES & ACTIVITIES

American Association for the Advancement of Science (AAAS)
(elected Fellow, February, 1990)

American Association of Stratigraphic Palynologists, now *AASP - The Palynological Society*
President (2010-2011), GSA Liason (2007-2013), Technical Editor for *Palynology*, Webmaster (1998-2002), Chair Awards Committee (2004-2006), Chair for 1997 Annual Meeting at Woods Hole, Co-chair for 2005 annual meeting in St. Louis, Board of Directors member at large (1998-2000), and member nomination committee.

American Institute of Biological Sciences (1976 to 1991)
Botanical Society of America (Paleobotanical Section)
Commission Internationale du Microflore du Paléozoïque (CIMP)
Geological Society of America (Northeast Section)
International Federation of Palynological Societies (IFPS)
International Organization of Paleobotany (IOP)

International Phycological Society (1983-1989)
International Society for the Study of the Origins of Life (ISSOL)
Revue de Micropaléontologie, Associate Editor (for palynology) 2012-2017
Sigma Xi Scientific Research Society
Society of Economic Paleontologists and Mineralogists (SEPM)
The Palæontological Association (London)
The Paleontological Society, Patron
(President, Northeast Section, 1998-1999)

PERSONAL ACTIVITIES

Music Discography

2015 *Bed Bug Blues* The Hi-tone Ramblers (October Mt Music)
2014 *Mass Ave Bridge* The Tuna Rangers (Muddy River MRCD2060)
2012 *Inner Space* The Hi-tone Ramblers (October Mt Music)
2008 *The Chicken Chokers* The Field Recorders' Collective (FRC603)
2007 *Chokers 07* The Chicken Chokers (Muddy River MRCD2051)
2000 *Second Slam* Twang (Muddy River MRCD2035)
1997 *The Leavin's* Primitive Characters (Chubby Dragon 1002)
1994 *The Boston Sessions* Spider John Koerner (Muddy River MRCT1015)
1987 *Shoot Your Radio* The Chicken Chokers (Rounder 0234)
1985 *Chokers and Flies* (Rounder 0213)

Recent music performances (with John Koerner)

2017 The Cedar Cultural Center, Minneapolis MN
2014 Big Top Chautauqua, Bayfield WI
2012 Newport Folk Festival, Newport RI
2011 Cork X Southwest Music & Arts Festival, Skibbereen, West Cork, Ireland

Other

2013 Co-Curator of *Ancient Microworlds* McMullen Museum of Art, Boston College