

Curriculum Vitae

PAUL JOSEPH McCARTHY

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EDUCATION

- 1995 Doctor of Philosophy (Environmental Earth Science)
 University of Guelph, Guelph, Ontario, Canada
- 1989 Master of Science (Physical Geography)
 University of Western Ontario, London, Ontario, Canada
- 1986 Bachelor of Science (Honours Geography)
 University of Western Ontario, London, Ontario, Canada

EMPLOYMENT HISTORY

1999-present: Assistant Professor of Geology, Department of Geology and Geophysics, and Geophysical Institute (Tectonics and Sedimentation Research Group), University of Alaska - Fairbanks, Fairbanks, AK.

Current responsibilities include teaching undergraduate and graduate level courses, supervision of graduate students, and research in clastic sedimentology and paleopedology in the Canadian Rocky Mountains, the Brooks Range, Alaska, and Paleozoic coastal sediments in Nova Scotia, Canada.

2000-present: Museum Affiliate, Earth Science Department, University of Alaska Museum.

Collect, research, teach, assist the Museum by adding to the collections, identifying materials, provide technical information for use in Museum exhibits, serve as a consultant in the development of scientific collections of the Museum.

1996-1999: Post-doctoral Fellow, Department of Earth Sciences, The University of Western Ontario, London, Ontario, Canada.

The purpose of this post-doctoral fellowship was to recognize and interpret Cretaceous paleosols present in deltaic and coastal plain rocks of the Cenomanian Dunvegan Formation in NW Alberta and NE British Columbia. Three major research projects were undertaken: (1) Recognition, interpretation and significance of interfluvial paleosols associated with incised valley deposits and the importance of paleosols for sequence stratigraphy in nonmarine rocks; (2) Understanding and evolution of alluvial architecture of the Dunvegan Formation in a detailed outcrop study along the Kiskatinaw River Valley by linking paleosol data with sandstone facies and geometry; and (3) Separation of pedogenic, depositional and diagenetic signals in Cretaceous paleosols using detailed mineralogical and geochemical methods.

Paleopedological consulting:

1997: Micromorphology and thin section analysis of pedogenic features in the Basal Quartz sandstone, Lower Cretaceous Mannville Group, Alberta - contract for PanCanadian Petroleum Ltd., Calgary Alberta.

1996: Micromorphology and paleopedology of Miamboluama paleosols, Mali, Africa - contract for James Tilsley & Assoc., Consulting Geologists and Engineers, Aurora, Ontario.

1995: Research Associate, Department of Land Resource Science, University of Guelph, Guelph, Ontario, Canada.

Responsible for revision of laboratory manual for 4th-year course in Glacial Geology and for the development of three field trip guides to southern Ontario geology for the alumni association of the Ontario Agricultural College.

1990 - 1995: Teaching Assistant, Department of Land Resource Science, University of Guelph, Guelph, Ontario, Canada.

Responsibilities involved teaching/laboratory demonstration for courses in Introductory Geology (on-campus and distance-education).

1990: Field Assistant - Sedimentology, Geological Survey of Canada, Institute of Sedimentary and Petroleum Geology, Calgary, Alberta, Canada.

Summer field assistant for sedimentological- stratigraphical research, Lower Cretaceous, southern Alberta.

1986 - 1988: Teaching Assistant, Department of Geography, University of Western Ontario, London, Ontario, Canada.

Responsible for laboratory demonstration for 2nd year courses

in Physical Geography and Soils and Geomorphology.

1986: Field Assistant - Soil Survey, Ontario Soil Survey, Ontario Ministry of Agriculture and Food, Guelph, Ontario, Canada. Summer field assistant for soil survey.

THESES AND PUBLICATIONS (Underline denotes student author)

A. Refereed Publications

McCARTHY, P.J. and Plint, A.G., 2003. Spatial variability of palaeosols across Cretaceous interfluvies in the Dunvegan Formation, NE British Columbia, Canada: palaeohydrologic, palaeogeomorphologic and stratigraphic implications. **Sedimentology**, 50: 1187-1220.

McCARTHY, P.J., 2003. Alluvial facies and paleosols in the Cretaceous Nanushuk Formation, Kanayut River, North Slope, Alaska: preliminary observations. Alaska Division of Geological and Geophysical Surveys, **Preliminary Interpretive Report, 2003-1**, 21 p.

McCARTHY, P.J., 2002. Micromorphology and development of interfluvial paleosols: a case study from the Cenomanian Dunvegan Formation, NE British Columbia, Canada. **Bulletin of Canadian Petroleum Geology**, 50: 158-177.

Vitali, F., Longstaffe, F.J., **McCARTHY, P.J.**, Plint, A.G. and Caldwell, W.G.E., 2002. Stable isotopic investigation of clay minerals and pedogenesis in an interfluvial paleosol from the Cenomanian Dunvegan Formation, NE British Columbia, Canada. **Chemical Geology**, 192: 269-287.

McCARTHY, P.J., 2002. Review of G.J. Retallack's >Soils of the Past: An Introduction to Paleopedology=. **Geological Magazine**, 139: 97-104.

Plint, A.G., **McCARTHY, P.J.** and Faccini, U.F., 2001. Nonmarine sequence stratigraphy: Upland expression of sequence boundaries and systems tracts in a high-resolution framework, Cenomanian Dunvegan Formation, Alberta Foreland Basin, Canada. **American Association of Petroleum Geologists Bulletin**, 85: 1967-2001.

McCARTHY, P.J., Faccini, U.F., and Plint, A.G., 1999. Evolution of an ancient coastal plain: palaeosols, interfluvies and alluvial architecture in a sequence stratigraphic framework, Cenomanian Dunvegan Formation, Alberta and British Columbia, Canada. **Sedimentology**, 46, 861-891.

McCARTHY, P.J. and Plint, A.G., 1999. Floodplain palaeosols of the Cenomanian Dunvegan Formation, Alberta and British Columbia, Canada: Micromorphology, pedogenic processes and palaeoenvironmental implications. In: S. Marriott and J. Alexander (eds), *Floodplains: Interdisciplinary Approaches*, **Geological Society Special Publication**, 163: 289-310.

McCARTHY, P.J., Martini, I.P., and Leckie, D.A., 1999. Pedogenic and diagenetic influences on compound void coating formation in Lower Cretaceous paleosols from the Mill Creek Formation, southwestern Alberta, Canada. **Geoderma**, 87: 209-237.

McCARTHY, P.J. and Plint, A.G., 1998. Recognition of interfluvial sequence boundaries: Integrating paleopedology and sequence stratigraphy. **Geology**, 26: 387-390.

McCARTHY, P.J., Martini, I.P. and Leckie, D.A. 1998. Use of micromorphology for paleoenvironmental interpretation of complex alluvial paleosols: An example from the Mill Creek Formation (Albian), southwestern Alberta, Canada. **Palaeogeography, Palaeoclimatology, Palaeoecology**, 143: 87-110.

McCARTHY, P.J., Martini, I.P., and Leckie, D.A., 1997. Anatomy and evolution of a Lower Cretaceous alluvial plain: sedimentology and palaeosols in the upper Blairmore Group, south-western Alberta, Canada. **Sedimentology**, 44: 197-220.

McCARTHY, P.J., Martini, I.P., and Leckie, D.A., 1997. Pedosedimentary history and floodplain dynamics of the Lower Cretaceous upper Blairmore Group, southwestern Alberta, Canada. **Canadian Journal of Earth Sciences**, 34: 598-617.

McCARTHY, P.J. and King, R.H., 1997. Characteristics and genesis of two Gray Brown Luvisols, southwestern Ontario, Canada. **The Great Lakes Geographer**, 4: 7-24.

McCARTHY, P.J. and Leckie, D.A., 1991. Preliminary observations on Lower Cretaceous (Albian) paleosols in the Mill Creek Formation of southwestern Alberta. In: **Current Research**, Part B, Geological Survey of Canada Paper 91-1B, p. 51-58.

B. Manuscripts in Preparation/Review

McCARTHY, P.J. and Plint, A.G., 2004. An empirical paleosol-landscape model of a dissected coastal plain. **Geology** (in prep.)

McCARTHY, P.J., 2004. Comparative micromorphology of Cretaceous paleosols in high- and low-accommodation settings: implications for paleoenvironmental interpretation. **Sedimentary Geology** (in prep.)

Finzel, E.S., **McCARTHY, P.J.**, Wallace, W.K. and LePain, D.L., 2004. Sedimentology and fold geometry of syntectonic conglomerate in the Nanushuk Formation, Brooks Range foothills, Alaska. **Geological Society of America, Bulletin** (in prep.)

Finzel, E.S., **McCARTHY, P.J.**, and LePain, D.L., 2004. Sedimentology and facies architecture of fluvial conglomerate in the Nanushuk Formation, Brooks Range foothills, Alaska. Alaska Division of Geological and Geophysical Surveys, **Preliminary Interpretive Report**. (in prep.)

Bouchard, T. and **McCARTHY, P.J.**, 2004. Sedimentology of the Nanushuk Formation at Killik Bend, North Slope, Alaska. Alaska Division of Geological and Geophysical Surveys, **Preliminary Interpretive Report**. (in prep.)

C. Unrefereed Publications and Special Reports

McCARTHY, P.J., 2004. Annual Report for NSF Award EAR-0229196: Regional paleosol variability on a dissected alluvial/coastal plain: a proposal to develop an empirical paleosol-landscape model for nonmarine sequence stratigraphy and terrestrial basin analysis. **Annual Report**, 4 p.

McCARTHY, P.J. (Ed.), 2003. Alaska Geological Society, 2003 Science and Technology Conference, **Abstracts volume**, 68 p.

McCARTHY, P.J. and Plint, A.G., 1999. Evolution of an ancient coastal plain: palaeosols, interfluves and alluvial architecture in a sequence stratigraphic framework, Cenomanian Dunvegan Formation, NE British Columbia, Canada. **Progress report** for sponsor companies, 53 p.

McCARTHY, P.J. and Plint, A.G., 1998. Paleosols and nonmarine sequence stratigraphy of the Cenomanian Dunvegan Formation, Alberta and British Columbia, Canada. **Short Course Notes** for sponsor companies (Husky Oil, Wascana Energy, Amoco Canada, Union Pacific Resources, Petro-Canada), Calgary, Alberta, 145 p.

McCARTHY, P.J. and Plint, A.G., 1998. Recognition of interfluvial sequence boundaries: Integrating paleopedology and sequence stratigraphy. **Progress report** for sponsor companies (Husky Oil, Wascana Energy, Amoco Canada, Union Pacific Resources, Petro-Canada), 17 p.

McCARTHY, P.J. and Plint, A.G., 1998. Nonmarine sequence stratigraphy: Updip expression of paleosols and alluvial architecture in the Cenomanian Dunvegan Formation, Alberta and British Columbia, Canada. Department of Earth Sciences, **Annual Report**, p. 34.

McCARTHY, P.J., 1997. Thin section analysis - Paleopedogenic features in the Basal Quartz sandstone, Alberta. **Final report** to PanCanadian Petroleum, Ltd., Calgary, Alberta, 47 p.

McCARTHY, P.J. and Plint, A.G., 1997. Recognition and interpretation of interfluvial sequence boundaries, Upper Cretaceous Dunvegan Formation, NE British Columbia. **Progress report** for sponsor companies (Husky Oil, Wascana Energy, Amoco Canada, Union Pacific Resources, Petro-Canada), 68 p.

McCARTHY, P.J. and Plint, A.G., 1997. Recognition and genesis of interfluvial sequence boundaries, Dunvegan Formation, Alberta basin. Department of Earth Sciences, **Annual Report**, p. 31.

McCARTHY, P.J., 1996. Micromorphological core description and identification of Miambolouama paleosols, Mali, Africa. **Final report** to James E. Tilsley & Assoc., Consulting Geologists and Engineers, 11 p.

McCARTHY, P.J., Martini, I.P. and Evans, L.J., 1994. Origin of void-related coatings in some Lower Cretaceous paleosols: petrographic and thermodynamic considerations of their formation and diagenesis. Dept. of Land Resource Science, **Annual Report**.

McCARTHY, P.J. and Martini, I.P., 1993. Pedosedimentary history of Cretaceous polygenetic paleosols, Crowsnest Pass, Alberta. Dept. of Land Resource Science, **Annual Report**.

McCARTHY, P.J., Martini, I.P. and Leckie, D.A., 1992. Paleosols of the Lower Cretaceous (Albian) Mill Creek Formation. **Progress report** for Geological Survey of Canada, 44 p.

McCARTHY, P.J. and Martini, I.P., 1992. Micromorphology and microfacies of Lower Cretaceous (Albian) paleosols, southwestern

Alberta, Canada. Dept. of Land Resource Science, **Annual Report**.

McCARTHY, P.J. and Martini, I.P., 1991. Analysis of paleosols and overbank deposits of the Blairmore Group (Lower Cretaceous), Crowsnest Pass and adjacent area, southwestern Alberta. Dept. of Land Resource Science, **Annual Report**.

D. Papers presented at scientific meetings

McCARTHY, P.J., Paleosols, pedosedimentary history and paleolandscape evolution: practical tools for nonmarine sequence stratigraphy and basin analysis. AAPG/SEPM Annual Meeting, Calgary, Alberta, June 19-22, 2005.

McCARTHY, P.J. and Plint, A.G., 2005. An empirical paleosol-landscape model of a dissected coastal plain, Cenomanian Dunvegan Formation, Western Canada Foreland Basin: implications for Nonmarine Sequence Stratigraphy. AAPG/SEPM Annual Meeting, Calgary, Alberta, June 19-22, 2005.

McCARTHY, P.J., LePain, D.L., Kirkham, R., Finzel, E., and Bouchard, T., 2005. Autocyclic and allocyclic controls on sediment deposition in the Albian-Cenomanian upper Torok and Nanushuk formations, east-central Brooks Range, Alaska. AAPG/SEPM Annual Meeting, Calgary, Alberta, June 19-22, 2005.

Mongrain, J., **McCARTHY, P.J.** and Fowell, S.J., 2005. Paleopedology, palynology and paleoenvironmental interpretation of alluvial paleosols, Cretaceous Dunvegan Formation, Western Canada Foreland Basin. AAPG/SEPM Annual Meeting, Calgary, Alberta, June 19-22, 2005.

McCARTHY, P.J., 2004. A paleosol-landscape model of a dissected coastal plain. **Geological Society of America**, Abstracts with Programs, v. 36. Denver, Colorado, November 7-10, 2004.

Mongrain, J., **McCARTHY, P.J.** and Fowell, S.J., 2004. Paleopedology, palynology and paleoenvironmental interpretation of two alluvial paleosols, Cenomanian Dunvegan Formation, Alberta, Canada. **Geological Society of America**, Abstracts with Programs, v. 36. Denver, Colorado, November 7-10, 2004.

Borden, P.W., Ping, C.L., and **McCARTHY, P.J.**, 2004. Effect of pH on clay mineralogy in Gelisols of Sagwon Hills, Alaska. **Soil Science Society of America**, Annual Meeting. Seattle, Washington, November 1-4, 2004.

Gens, R., Toniolo, H., **McCARTHY, P.J.**, and Prakash, A., 2004. Understanding Arctic River Systems: An effort to train undergraduate and graduate students. **American Geophysical Union**, San Francisco, California, December, 2004.

LePain, D.L., **McCARTHY, P.J.** and Kirkham, R., 2004. Outcrop expression of sequence boundaries in the Albian-Cenomanian Nanushuk Formation, central North Slope, Alaska. **American Association of Petroleum Geologists/SEPM** Annual Meeting, Abstract volume, Dallas, Texas, April 2004.

McCARTHY, P.J., 2004. Evolution of an ancient alluvial plain, Cenomanian Dunvegan Formation, Canada. Department of Geology, **University of New Brunswick**, Fredericton, N.B., March 29, 2004.

McCARTHY, P.J., 2004. Nonmarine sequence stratigraphy: theory and practice. Department of Geology, **University of New Brunswick**, Fredericton, N.B., March 30, 2004.

McCARTHY, P.J., 2003. Assessing relative paleosol development in the Cenomanian Dunvegan Formation, Alberta and British Columbia, Canada, using a micromorphological soil development index. **Geological Society of America**, Abstracts with Programs, v. 35, p. 511. Seattle, Washington, November 2-5, 2003.

Finzel, E.S., **McCARTHY, P.J.**, Wallace, W.K. and LePain, D.L., 2003. Architectural analysis and fold geometry of syntectonic fluvial conglomerate in the Nanushuk Formation, Brooks Range foothills, Alaska. **Geological Society of America**, Abstracts with Programs, v. 35, p. 509. Seattle, Washington, November 2-5, 2003.

McCARTHY, P.J., 2003. Interfluvial paleosol variability on a dissected coastal plain: implications for nonmarine sequence stratigraphy. **American Association of Petroleum Geologists/SEPM**, Annual Meeting, Abstract volume, Salt Lake City, Utah, May 2003.

Finzel, E.S., **McCARTHY, P.J.** and Wallace, W.K., 2003. Facies architecture and syntectonic fold geometry of fluvial conglomerate in the Cretaceous Nanushuk Formation, Brooks Range foothills, Alaska. **American Association of Petroleum Geologists**, Pacific Section Meeting, Abstract volume, Long Beach, California, May, 2003.

Finzel, E.S., **McCARTHY, P.J.**, Wallace, W.K. and LePain, D.L., 2003. Facies architecture and syntectonic fold geometry of fluvial conglomerate in the Cretaceous Nanushuk Formation, Brooks Range

foothills, Alaska. **Alaska Geological Society Technical Conference**, Abstract volume, Fairbanks, Alaska, April 25, 2003.

Kirkham, R., LePain, D.L. and **McCARTHY, P.J.**, 2003. Sedimentology, petrology and reservoir characterization of the Torok Formation, Brooks Range foothills, Alaska. **Alaska Geological Society Technical Conference**, Abstract volume, Fairbanks, Alaska, April 25, 2003.

O=Guinn, S., Prakash, A. and **McCARTHY, P.J.**, 2003. Remote sensing - GIS based mapping of channel migration in parts of the Colville River, Alaska. **Alaska Geological Society Technical Conference**, Abstract volume, Fairbanks, Alaska, April 25, 2003.

McCARTHY, P.J., 2002. Variability of interfluvial paleosols with distance from paleo-valleys in the Cenomanian Dunvegan Formation, NE British Columbia, Canada. **Geological Society of America**, Abstracts with Programs, v. 34, p. 278. Denver, Colorado, October 28-30, 2002.

McCARTHY, P.J., 2002. Paleosols as indicators of regional paleodrainage variations: implications for nonmarine sequence stratigraphy. Dept. of Geology & Geophysics Seminar Series, **University of Alaska**, Fairbanks, September 27, 2002.

McCARTHY, P.J., 2002. Sedimentary structures: identification and utility in sedimentary geology. Guest Lectures in GEOS 322 (Stratigraphy & Sedimentation), **University of Alaska**, Fairbanks, September 19 & 24, 2002.

McCARTHY, P.J. and LePain, D.L., 2002. Paleosols in the Nanushuk Formation, Brooks Range foothills, Alaska: preliminary observations and sequence stratigraphic implications. **AAPG/SPE Pacific Regional Conference 2002**, Anchorage, Alaska, May 2002.

LePain, D.L., Kirkham, R. and **McCARTHY, P.J.**, 2002. Shoreline to basin transition? in Albian-Cenomanian strata east of the Sagavinirktok River, Brooks Range Foothills, Alaska. **AAPG/SPE Pacific Regional Conference 2002**, Anchorage, Alaska, May 2002.

McCARTHY, P.J., 2002. Cretaceous paleosols from the Canadian Rocky Mountain foothills: paleoclimatic and paleogeomorphic implications. Gamma Delta Upsilon Society, **University of Alaska**, Fairbanks, March 29, 2002.

McCARTHY, P.J., 2001. Regional paleosol variability on the Dunvegan alluvial/coastal plain: pedogenic insights on

accommodation change, landscape evolution and sequence development.
7th International Conference on Fluvial Sedimentology, University of Nebraska, Lincoln, August 6-10.

McCARTHY, P.J., 2001. Sedimentology and nonmarine sequence stratigraphy of the Kekiktuk Formation, northeastern Alaska. Tectonics and Sedimentation Research Group, Annual Sponsors= Meeting, **University of Alaska**, Fairbanks, April 26.

McCARTHY, P.J., 2000. Earth surface processes and landscape evolution of the Cenomanian Dunvegan Formation: insights from paleopedology. Invited Lecture, Department of Earth Sciences, **Dalhousie University**, Halifax, Nova Scotia, August 14.

McCARTHY, P.J., 2000. Paleosols of the Albian Mill Creek Formation, southwestern Alberta: micromorphology, pedogenic processes and paleoenvironmental implications. Invited Lecture, Department of Earth Sciences, **Dalhousie University**, Halifax, Nova Scotia, August 15.

McCARTHY, P.J. and Plint, A.G., 2000. Practical paleopedology for nonmarine sequence stratigraphy: recognition of interfluves, sequence boundaries and accommodation changes in the Cenomanian Dunvegan Formation, Alberta and British Columbia, Canada. **GeoCanada 2000**, Calgary, Alberta, May 29-June 2.

Plint, A.G., Lumsdon, M.P. and **McCARTHY, P.J.**, 2000. Nonmarine sequence stratigraphy in an active foreland basin: Origin of sequence boundaries and alluvial response to changing accommodation rate, Cenomanian Dunvegan Formation, Alberta and British Columbia. **GeoCanada 2000**, Calgary, Alberta, May 29-June 2.

McCARTHY, P.J., 2000. Sedimentology, paleosols and nonmarine sequence stratigraphy of the Kekiktuk Formation, northeastern Brooks Range and North Slope subsurface, Alaska. **Tectonics and Sedimentation Research Group, Annual Industry Sponsors Meeting**, University of Alaska, Fairbanks, Alaska, May 11.

LePain, D.L., Kirkham, R.A., Ryherd, T., Clough, J.G., Reifenstuhel, R.R. and **McCARTHY, P.J.**, 2000. Stratigraphic variations in the Nanushuk Group along the Nanushuk River between Arc Mountain and Rooftop Ridge, Brooks Range Foothills, Alaska: Implications for reservoir quality. **Alaska Geological Society Technical Conference**, Anchorage, Alaska, April 15-17.

Vitali, F., Longstaffe, F.J., **McCARTHY, P.J.**, Plint, A.G. and Caldwell, W.G.E., 2000. Etude mineralogique et isotopique (O, H)

des argiles d'un paleosol interfluve Cenomanian de la formation de Dunvegan (N.E. Colombie Britannique, Canada). **18^e Reunion des Sciences de la Terre, RST 2000**, April 2000, Paris, France. Abstracts volume, p. 248.

McCARTHY, P.J., 1999. Maximizing the stratigraphic utility of paleosols: Paleopedology and nonmarine sequence stratigraphy of the Cenomanian Dunvegan Formation, Western Canada Sedimentary Basin - potential applicability in Alaska? **Alaska Geological Society**, Luncheon Speaker Series, Anchorage, Alaska, October 21.

Ufnar, D.J., **McCARTHY, P.J.**, Ludvigson, G.A., White, T.S., Gonzalez, L.A. and Brenner, R.L., 1999. Sphaerosiderite dO¹⁸ composition: a proxy for paleoprecipitation, Cenomanian Dunvegan Formation, Alberta and British Columbia, Canada. **Geological Society of America**, Abstracts with Programs, v. 31, Denver, Colorado, October 25-28.

McCarthy, P.J., 1999. Mysteries of mud: a pedosedimentary approach to paleoenvironmental and stratigraphic interpretation of nonmarine rocks. Department of Geology and Geophysics Seminar Series, **University of Alaska**, Fairbanks, Alaska, September 17.

McCarthy, P.J., 1999. Uses and abuses of paleosols in sedimentology and stratigraphy. Guest lecture, GEOS 322 - Stratigraphy and Sedimentation, **University of Alaska**, Fairbanks, Alaska, October 5.

McCARTHY, P.J., 1999. Evolution of an ancient coastal plain: interfluves, palaeosols and alluvial architecture in a sequence stratigraphic framework - a case study from the Cenomanian Dunvegan Formation, Alberta foreland basin, Canada. Invited lecture, Iowa Department of Natural Resources and Department of Geology, **University of Iowa**, Iowa City, Iowa, March 26.

McCARTHY, P.J. and Plint, A.G., 1998. Floodplain sequence stratigraphy: sequence boundaries and systems tracts in the Cenomanian Dunvegan Formation, Alberta and British Columbia, Canada. **Geological Society of America**, Abstracts with Programs, v. 30, Toronto, Ontario, October 26-29, p. A-177.

Ludvigson, G.A., Gonzalez, L.A., White, T.S., Phillips, P.L., Leckie, D.A. and **McCARTHY, P.J.**, 1998. Oxygen isotopic compositions of local vs. regional recharge on Albian coastal plains, proximal foreland basin, western Canada. **Geological Society of America**, Abstracts with Programs, v. 30, Toronto, Ontario, October 26-29, p. A-323.

McCARTHY, P.J., 1998. Evolution of an ancient coastal plain: sedimentology, paleosols and alluvial architecture in a sequence stratigraphic framework, Cenomanian Dunvegan Formation, Alberta and British Columbia, Canada. Invited lecture, **University of Alaska**, Fairbanks, Alaska, October 20.

McCARTHY, P.J., 1998. The sedimentology of meandering river systems: process and environment. Invited lecture, **University of Alaska**, Fairbanks, Alaska, October 19.

McCARTHY, P.J. and Plint, A.G., 1998. Paleosols and nonmarine sequence stratigraphy of the Cenomanian Dunvegan Formation, Alberta and British Columbia, Canada. **Short Course** for sponsor companies (Husky Oil, Wascana Energy, Amoco Canada, Union Pacific Resources, Petro-Canada), Calgary, Alberta, July 27.

McCARTHY, P.J., Faccini, U.F., and Plint, A.G., 1998. Evolution of an ancient floodplain: palaeosols and alluvial architecture in a sequence stratigraphic framework, Cenomanian Dunvegan Formation, NE British Columbia, Canada. **Floodplains '98**, British Sedimentology Research Group and British Geomorphology Research Group, Norwich, U.K., June 25-26.

McCARTHY, P.J., 1997. Paleopedology and nonmarine sequence stratigraphy: progress, problems and potential - a case study from the Cenomanian Dunvegan Formation, Alberta and British Columbia, Canada. Invited lecture, Department of Earth and Atmospheric Sciences, **University of Alberta**, Edmonton, Alberta, November 18.

McCARTHY, P.J., 1997. Paleosols in the Albian Mill Creek Formation, southwestern Alberta, and their significance for paleoenvironmental interpretation and basin analysis. Invited lecture, Department of Earth and Atmospheric Sciences, **University of Alberta**, Edmonton, Alberta, November 17.

McCARTHY, P.J., 1997. Meandering rivers; lectures to 4th year undergraduate class in Sedimentology, **University of Western Ontario**, October 28 & 30.

McCARTHY, P.J., Plint, A.G. and Longstaffe, F.J. 1997. Identification and genesis of interfluvial, sequence-bounding paleosols, Cenomanian Dunvegan Formation, British Columbia, Canada. **IAS 18th Regional European meeting of Sedimentology**, September 2-4, Heidelberg, Germany, p. 234-235.

McCARTHY, P.J., Plint, A.G. and Longstaffe, F.J. 1997. Recognition

and interpretation of interfluvial sequence boundaries, Upper Cretaceous Dunvegan Formation, NE British Columbia. **CSPG-SEPM Joint meeting**, June 1-6, Calgary, Alberta, p. 186.

McCARTHY, P.J., Martini, I.P. and Leckie, D.A., 1997. Complex alluvial paleosols in the Lower Cretaceous Mill Creek Formation, southwestern Alberta: micromorphological features and significance as paleoenvironmental indicators. **CSPG-SEPM Joint meeting**, Calgary, Alberta, p. 185.

Faccini, U.F., **McCARTHY, P.J.** and Plint, A.G., 1997. The development of key surfaces and alluvial architecture in response to changes in accommodation on the Cretaceous Dunvegan deltaic plain, Kiskatinaw River Valley, NE British Columbia. **CSPG-SEPM Joint meeting**, Calgary, Alberta, p. 97.

McCARTHY, P.J., 1997. Mysteries of mud: significance and genesis of teeny, tiny structures in paleosols, Cretaceous, Alberta and British Columbia. **UWO Soft Rock Brown-bag seminar series**, March 31.

McCARTHY, P.J., 1997. Complex alluvial paleosols in the Lower Cretaceous Mill Creek Formation, southwestern Alberta: micromorphology and significance for paleoenvironmental reconstruction. **UWO Department of Geography Seminar Series**, February, 21.

McCARTHY, P.J., 1996. Sedimentology, paleosols and paleoenvironmental interpretation of the Lower Cretaceous Mill Creek Formation, southwestern Alberta, Canada. **UWO/McMaster Joint Sedimentology Seminar Series**, November 12.

McCARTHY, P.J. and Martini, I.P., 1995. Paleopedological features as paleoenvironmental indicators: are fully-developed profiles really required? **First SEPM Congress on Sedimentary Geology**, August 13-16, St. Petersburg Beach, Florida, p. 90.

McCARTHY, P.J., 1995. Approaches to soil and paleosol classification. Guest Lecture, Soil Genesis undergraduate class, Department of Land Resource Science, **University of Guelph**, October 20.

McCARTHY, P.J., 1995. Interpretation and significance of mid-Cretaceous paleosols. Guest Lecture, Soil Genesis undergraduate class, Department of Land Resource Science, **University of Guelph**,

October 22.

McCARTHY, P.J. and Martini, I.P., 1992. Floodplain anatomy and paleosol morphology of the Lower Cretaceous (Albian) Blairmore Group, southwestern Alberta, Canada. **SEPM 1992 Theme Meeting: Mesozoic of the Western Interior**, August 17-19, Ft. Collins, Colorado, p. 46-47.

McCARTHY, P.J. and Martini, I.P., 1992. Paleosols and overbank deposits of the Lower Cretaceous (Albian) Mill Creek Formation. **Central Canada Geological Conference**, February 19-21, Waterloo, Ontario, p. 32.

D. Theses

1995 (Ph.D.) - Anatomy and Evolution of a Lower Cretaceous Alluvial Plain: Continental Sedimentation and Pedogenesis in the Mill Creek Formation, southwestern Alberta, 343 p. (incl. 4 diskettes)

1989 (M.Sc.) - Nature and Genesis of Luvisols in southwestern Ontario, 251 p.

1986 (B.Sc.) - An Examination of Urbanization on Stream Channel Form, 113 p.

RESEARCH FUNDING

08/04 - present: Collaborative Research: An ancient Arctic dinosaur ecosystem from the Late Cretaceous Prince Creek Formation, North Slope, Alaska - a natural case study in a greenhouse climate mode. **National Science Foundation - OPP 04-25636 (\$447, 213)** (with D. Norton, R. Gangloff, UAF, and A. Fiorillo, Dallas Museum of Natural History)

07/04 - present: Petroleum reservoir characterization, source rock potential, fossil fuel resources, and basin analysis, Bristol Bay Basin, Alaska. **AETDL - U.S. Dept. of Energy (\$693, 265)** (with R. Reifenhohl, Alaska Division of Geological & Geophysical Surveys)

01/03 - present: Regional paleosol variability on a dissected alluvial/coastal plain: a proposal to develop an empirical paleosol-landscape model for nonmarine sequence stratigraphy and terrestrial basin analysis. **National Science Foundation - EAR 02-29196 (\$115,792.00)**

11/02-06/04: Stratigraphic studies and paleopedology in the Nanushuk Fm., Brooks Range foothills south of the National Petroleum Reserve - Alaska. **Alaska Division of Geological and Geophysical Surveys (\$23,100.00)**

06/02 - present: Integrated geologic studies related to the stratigraphy and structure of the Brooks Range foothills. **Petroleum Industry [Chevron-Texaco, Petro-Canada, Anadarko] (\$43,500.00)** (with W.K. Wallace, C.L. Hanks and M.T. Whalen, UAF)

11/01-06/02: Sequence stratigraphy and reservoir potential of the Nanushuk Group, Alaska. **Alaska Division of Geological and Geophysical Surveys (\$8,500.00)**

06/01-present: Integrated geologic studies of Northeastern Alaska. **Petroleum Industry [BP, Anadarko] (\$65,000.00)** (with W.K. Wallace, C.L. Hanks and M.T. Whalen, UAF)

03/01-present: Sedimentology and nonmarine sequence stratigraphy of the Kekiktuk Formation, Northeastern Alaska. **University of Alaska, Natural Resources Fund (\$19,265.00)**

02/00-present: Integrated geologic studies of northeastern Alaska. **Petroleum Industry [BP, Chevron] (\$50,000.00)** (with C.L. Hanks, W.K. Wallace and M.T. Whalen, UAF)

RESEARCH ACTIVITIES

A. Current research projects

1. Regional paleosol variability on a dissected alluvial/coastal plain, Dunvegan Fm., Alberta and British Columbia, Canada.
2. Sedimentology, paleopedology and nonmarine sequence stratigraphy of the Nanushuk Fm., North Slope, Alaska.
3. Paleopedology and paleoenvironmental interpretation of alluvial paleosols from Joggins, Nova Scotia, Canada.
4. Evolution of a cold climate fluvial system: Colville River, North Slope, Alaska.
5. Reconstruction of an ancient Arctic dinosaur ecosystem, Prince Creek Fm., North Slope, Alaska.
6. Petroleum reservoir characterization, source rock potential, fossil fuel resources and basin analysis, Bristol Bay Basin, Alaska.

B. Projects in development stage

1. Lateral variability of paleosols at the Jurassic-Cretaceous

- unconformity, central Utah.
2. Paleosols and nonmarine sequence stratigraphy in low accommodation settings (Success and Basal Quartz formations), Alberta and Saskatchewan, Canada.

TEACHING HISTORY

I have taught 11 different courses, as well as five independent study classes and one honors lab section, ranging from introductory undergraduate to advanced graduate level, since my appointment at UAF in June 1999. A listing and brief description of courses taught follows:

- Geos 101** – The Dynamic Earth (Physical Geology): Fall 2003, Fall 2002, Fall 2001
- Geos 101** – The Dynamic Earth – Honors lab section: Fall 2003, Fall 2002
- Geos 112** – The History of Earth and Life: Spring 2001, Spring 2000
- Geos 304** – Geomorphology: Fall 2000
- Geos 370** – Sedimentary/Structural Geology for Petrol. Eng.: Spring 2005, Spring 2003, Spring 2001
- Geos 351** – Field camp: Summer 2003, Summer 1999
- Geos 421** – Sedimentology: Spring 2004, Spring 2002, Spring 2000
- Geos 475/675** – Presentation Techniques in Geoscience: Spring 2005, Spring 2004, Spring 2003
- Geos 482** – Geology Seminar: Fall 2002
- Geos 497** – Independent study (Sequence Stratigraphy): Fall 2001
- Geos 643** – Clastic depositional environments: Fall 2003, Fall 2001, Fall 1999
- Geos 647** – Advanced sedimentology & stratigraphy: Fall 2001
- Geos 692** – Paleopedology: Fall 2002
- Geos 697** – Independent study (Clay mineralogy): Spring 2004
- Geos 697** – Independent study (Sedimentary facies analysis): Fall 2003
- Geos 697** – Independent study (Fluvial sedimentology): Spring 2002
- Geos 697** – Independent study (Advanced microstratigraphy): Fall 2000

SUPERVISION OF STUDENTS

A. Thesis supervisor

- Emily Finzel (M.S. Candidate – defended Spring 2004)
- Russ Kirkham (M.S. Candidate – in progress)
- Jacob Mongrain (M.S. Candidate – in progress)

Tim Bouchard (M.S. Candidate - in progress)
Erik Brandlen (M.S. Candidate - in progress)
Erin Hess (M.S. Candidate - in progress)
Cheryl Robar (M.S. Candidate - in progress)
Beth Caissie (B.S. Undergraduate research project - completed
May 2003)

B. Thesis committee member

Todd Dallage (Ph.D. Candidate - defended Spring 2002)
Scott Broadwell (M.S. Candidate - defended Spring 2001)
Yming Wang (M.S. Candidate - defended Spring 2004)
Rebecca Morgan (M.S. Candidate - in progress)
James Sammons (M.S. Candidate - in progress)
Joanne Avery (M.S. Candidate - in progress)
Diana Jozwick (M.S. Candidate - in progress)
Emily Molhoek (M.S. Candidate - in progress)
Jesse White (M.S. Candidate - in progress)
Zulmacristina Ross (M.S. Candidate - in progress)
Patrick Borden (M.S. Candidate [Nat. Resource Mgmt.] - in
progress)
Sue Morgan (Ph.D. Candidate - in progress)
Michelle McGee (Ph.D. Candidate - defended Fall 2004)
Jim Clough (Ph.D. Candidate - in progress)
Dawn Laybolt (Ph.D. Candidate [Anthropology] - defended Fall
2004)

PROFESSIONAL SERVICE

2003-2004:

- internal review of research proposals at Geophysical Institute
- review of research proposals for the National Science Foundation
- review of manuscripts for *Sedimentology, Can. J. Earth Sciences*
- Research Associate, UAF Museum
- Board of Directors, Alaska Geological Society
- Member, Editorial Board for *Geology* (2004-2006)
- Associate Editor, *Journal of Sedimentary Research*

2002-2003:

- chair of session on "New advances in nonmarine facies analysis and sequence stratigraphy" at AAPG/SEPM Annual Meeting, Salt Lake City, Utah
- internal review of research proposals at Geophysical

Institute

- review of research proposal for the Petroleum Research Fund
- review of research proposal for the co-operative grants program of the U.S. Civilian Research and Development Foundation
- review of manuscripts for *GSA Bulletin*, *J. Sedimentary Research*, *Palaeo-3*
- co-chair of 2003 Alaska Geological Society Technical Conference, Fairbanks, AK
- Research Associate, UAF Museum
- Board of Directors, Alaska Geological Society

2001-2002:

- internal review of research proposals at Geophysical Institute
- co-chair (with A.G. Plint and M.R. Gibling) session on "Alluvial responses to accommodation changes" at 7th International Conference on Fluvial Sedimentology, Lincoln, NE.
- book review of G.J. Retallack's "Soils of the Past" for *Geological Magazine*
- review of research proposal for the Petroleum Research Fund
- review of manuscripts for *Palaeo-3*, *Sedimentary Geology*, *Geoderma*, *IAS Spec. Publ. (Fluvial Sedimentology VII)*
- attended workshop on "Future of fossil energy in Alaska", UAF
- attended Brooks Range foothills work session at Anadarko Petrol., Anchorage, AK
- Research Associate, UAF Museum

2000-2001:

- internal review of research proposals at Geophysical Institute
- review of manuscripts for *Sedimentology*, *J. Sedimentary Research*, *Short Notes in Alaskan Geology*
- Research Associate, UAF Museum

1999-2000:

- internal review of research proposals at Geophysical Institute
- review of manuscript for *J. Sedimentary Research*

1998:

- co-taught (with A.G. Plint) 1-day Short Course on "Paleosols and nonmarine sequence stratigraphy" for petroleum geologists from Amoco Canada, Husky Oil, Wascana Energy, Union Pacific Resources, and Petro-Canada, Calgary, Alberta.

UNIVERSITY SERVICE

2003-2004:

- University Senate representative, College of Science, Engineering & Mathematics
- Member, UAF Senate Administrative Committee
- Chair, UAF Senate Faculty Development, Assessment & Improvement Committee
- Chair, Faculty Development Subcommittee on faculty travel policy
- Member, Faculty Development Travel Awards Subcommittee
- Graduate student recruiting - GSA Seattle

2002-2003:

- University Senate representative, College of Science, Engineering & Mathematics
- Member, UAF Senate Faculty Development, Assessment & Improvement Committee
- Geology representative, CSEM Dean's Strategic Planning Lunch
- Member, ad hoc subcommittee on Faculty Mentor Program
- Member, hiring committee for Petroleum Geologist position,

UAF

- Graduate student recruiting - GSA Denver

2001-2002:

- Geology representative, interviewed by University accreditation review panel
- Member, Geology Dept. space committee
- Graduate student recruiting - GSA Boston

2000-2001:

- Member, Earth Systems Science Program Committee

1999-2000:

- Geology representative, CSEM Dean's retreat
- assisted with preparation of Geology Dept. accreditation report
- Member, Earth Systems Science Program Committee
- outside examiner for UAF Biochemistry Ph.D. defense

PROFESSIONAL MEMBERSHIPS

- International Association of Sedimentologists (IAS)
- Society for Sedimentary Geology (SEPM)
- Geological Society of America (GSA)
- Canadian Society of Petroleum Geologists (CSPG)
- Alaska Geological Society (AGS)
- National Association of Geoscience Teachers (NAGT)
- Soil Science Society of America (SSSA)

ACADEMIC AWARDS AND SCHOLARSHIPS

- 1988 McIntosh Award (Dept. of Geography, Univ. of Western Ont.)
- 1987 Special University Scholarship (Univ. of Western Ont.)
- 1986 Special University Scholarship (Univ. of Western Ont.)
- 1986 University of Western Ontario Gold Medal (B.Sc. Geography)
- 1986 Dean's Honours List