

Curriculum Vitae

Michael Anthony Kruge

Professor Emeritus
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Education

1985	Ph.D.	University of California, Berkeley (Geochemistry) (Thesis advisors: H.R. Wenk, A.L. Burlingame, Melvin Calvin, R.L. Hay)
1982	M.A.	University of California, Berkeley (Geology)
1980	B.A.	San Francisco State Univ. (Geology)

Professional Experience

2019-present	Professor Emeritus, Dept. of Earth & Environmental Studies, Montclair State University (MSU).
2019-present	Colaborador, Instituto de Recursos Naturales y Ordenación del Territorio (INDUROT), University of Oviedo, Spain
2002-2019	Professor, Dept. of Earth & Environmental Studies, Montclair State University (MSU).
2008 (May-June)	Visiting Professor, Dept. of Environmental Geosciences, University of Vienna, Austria (also May-June, 2010)
2002-2008	Associate Dean, College of Science & Mathematics, MSU.
1999-2002	Chair, Dept. of Geology, Southern Illinois Univ. Carbondale (SIUC)
1998-2002	Professor, Dept. of Geology, SIUC
1994 (Jan.-Jun.)	Chargé de Recherche, CNRS-CREGU, Vandœuvre-lès-Nancy, France
1992-1998	Associate Professor, Dept. of Geology, SIUC
1987-1992	Assistant Professor, Dept. of Geology, SIUC
1985-1987	Geochemist, Standard Oil (Ohio), Cleveland, Ohio and Dallas, Texas
1981-1982	Research Assistant, Stanford University
1980-1985	Geologist, Sohio Petroleum Company, San Francisco, Calif.

University and Professional Service

- Chair, Graduate Council, MSU (2010-2012)
- Elected representative of the College to Graduate Council, MSU (2008-2014)
- Member, President's Commission on Affirmative Action and Diversity, MSU (2007-2009)
- Co-Director, Doctor of Environmental Management Program, MSU (2003-2008)
- Co-Director, Environmental Resources & Policy Program, SIUC (2000-2002)
- Member, College of Science Executive Committee, SIU (1999-2002)
- Elected representative of the College of Science to Graduate Council, SIUC (1997-2000)
- Elected by Geology faculty to Departmental Representative Council, SIUC (1998-1999)
- Coordinator, Graduate Studies in Geology, SIUC (1997-1999)
- Associate Editor of *Organic Geochemistry* (1998-1999)

- Member, Editorial board of *International Journal of Coal Geology* (1989-2002)
- Member, Science Advisory Committee, Connecticut Audubon Coastal Center (2000-2004)
- Member, European Association of Organic Geochemists, Geochemical Society, American Chemical Society, American Geophysical Union, Geological Society of America.

Research Interests

Geochemistry of organic contaminants in sediments. Environmental forensics. Marine, estuarine and lacustrine biogeochemistry. Geochemistry of peat. Fossil organic matter as indicator of environmental change. Applications of analytical pyrolysis-gas chromatography/mass spectrometry. Biological marker compounds and polycyclic aromatic hydrocarbons in petroleum, petroleum source rocks, oil shales, coal and sediments. Nature of organic sulfur in fossil fuels, a precursor of acid rain.

Teaching Experience

Organic Geochemistry, Low Temperature Inorganic Geochemistry, Advanced Organic Geochemistry, Environmental Forensics, Petroleum Geology, Energy and the Environment, Physical Geology, Historical Geology, Environmental Geoscience, Physical and Biological Environmental Systems. Chaired or served on numerous M.S. and Ph.D. committees in Geology, Chemistry & Engineering. Technical short courses.

Grants and Contracts

Crelling, J.C., Hippo, E.J. and Kruege, M.A., Characterization of Organic Sulfur in Coal and Pure Macerals. Granted by the Center for Research on Sulfur in Coal. (1 Sep. 1988 - 31 Aug. 1990, \$300,000.)

Kruege, M.A., Hippo, E.J. and Crelling, J.C., Characterization of Organic Nitrogen in Coals. Granted by the Center for Research on Sulfur in Coal. (1 Sep. 1990 - 31 Aug. 1991, \$71,192)

Hippo, E.J., Crelling, J.C. and Kruege, M.A., Molecular Structure of Coal and Coal Macerals. Funded by the Electric Power Research Institute. (1 Apr. 1991- 31 Mar. 1992, \$121,292)

Kruege, M.A. and Palmer, S.R., Analysis of Organic Sulfur and Nitrogen in Coal via Tandem Degradation Methods. Granted by the Center for Research on Sulfur in Coal. (1 Sep. 1991 - 31 Aug. 1992, \$119,125)

Kruege, M.A. and Palmer, S.R., Analysis of Organic Sulfur and Nitrogen in Coal via Tandem Degradation Methods. Granted by the Illinois Clean Coal Institute. (1 Sep. 1992 - 31 Aug. 1993, \$107,051)

Kruege, M. A. and Landais, P., Chemical Characterization of Kerogen Macerals. Granted by the French Centre National de Recherches Scientifiques and the French Centre de Recherches sur la Geologie des Matieres Premieres Minerales et Energetiques. (6 months full support for research during sabbatical leave Jan-Jun 1994.)

Crelling, J.C. and Kruege, M.A., Separation and Characterization of Separated Coal Macerals and Kerogen. Granted by the PG Research Foundation. (1 June 2000-31 May 2002, \$170,635)

Goodey, N. (PI), Krumins, J.A. (CoPI), Kruege, M.A., Forgoston, E., Krumins, V., Li, X., Gallagher, F., RUI: SusChEM: Increasing Soil Enzymatic Function with Targeted Microbial Inocula. National Science Foundation (CBET - Environmental Engineering) June 2016-May 2019, \$320,180.

Kruege M.A. "Professional Learning Community Faculty" member for Vanderklein D.W. (PI), Dalley J., Galster J., Goodey N. (co-PIs). STEM Pioneers: A 3-year pilot study to increase science literacy and STEM enrollment among first-year first-generation students. National Science Foundation (DUE-IUSE - Exploration & Design: Engaged Student Learning) Jan. 2017 - Dec. 2019, \$300,000.

Organic geochemical service contracts from government, university and private concerns, totaling \$45,000 since 1991.

Publications

Thesis

Kruege, M.A., 1985, [Organic geochemistry and comparative diagenesis: Miocene Monterey Formation, Lost Hills Oil Field and Vicinity, West San Joaquin Basin, California.](#) Ph.D. dissertation, Dept. of Geology & Geophysics, University of California, Berkeley. 266 p.

Published Papers

Kruege, M.A. and Williams, L.A., 1982, [Silica diagenesis in the Monterey Formation \(Miocene\) in the Lost Hills oil field, San Joaquin Valley, California.](#) In, Williams, L.A. and Graham, S.A., eds., *Monterey Formation and Associated Coarse Clastic Rocks, Central San Joaquin Basin, California*, Soc. Econ. Paleon. Mineral. Pacific Section, Los Angeles, p. 37-42.

Kruege, M.A., 1983, [Diagenesis of Miocene biogenic sediments in Lost Hills oil field, San Joaquin Basin, California.](#) In, Isaacs, C.M. and Garrison, R.E., eds., *Petroleum Generation and Occurrence in the Miocene Monterey Formation, California*, Soc. Econ. Paleon. Mineral. Pacific Sect., Los Angeles, p. 39-51.

Kruege, M.A., 1986, [Biomarker geochemistry of the Miocene Monterey Formation, West San Joaquin Basin, California: Implications for petroleum generation.](#) In Leythaeuser, D. and Rullkötter, J., eds., *Advances in Organic Geochemistry 1985*, Pergamon Press, Oxford, p. 517-530.

Kruege, M.A., Rimmer, S.M. and Crelling, J.C., 1989, [Organic geochemical and petrographic analysis of pure macerals from the Ohio Shale.](#) In, Lazar, D.J., ed., *Proceedings, 1988 Eastern Oil Shale Symposium*, Institute for Mining and Minerals Research, Lexington, Kentucky, p. 411-417.

Hippo, E.J., Crelling, J.C., Palmer, S.R. and Kruege, M.A., 1989, Macromolecular structure of coal. *Proceedings; Symposium on Biological Processing of Coal and Coal-derived Substances*. EPRI ER-6572, Electric Power Research Institute, Palo Alto, California, p. 1-15 to 1-35.

- Kruger, M.A., Hubert, J.F., Akes, R.J. and Meriney, P. E., 1990, [Biological markers in Lower Jurassic synrift lacustrine black shales, Hartford basin](#), Connecticut, USA. *Organic Geochemistry*, vol. 15, p. 281-289.
- Palmer, S.E., Hippo, E.J., Kruger, M.A. and Crelling, J.C., 1990, [Characterization of organic sulfur compounds in coals and coal macerals](#). In, Orr, W.L. and White, C.M., eds., *Geochemistry of Sulfur in Fossil Fuels*, American Chemical Society Symposium Series 429, p. 296-315.
- Kruger, M.A., Hubert, J.F., Bensley, D.F., Crelling, J.C., Akes, R.J. and Meriney P.E., 1990, [Organic Geochemistry of a Lower Jurassic synrift lacustrine sequence, Hartford Basin, Connecticut, USA](#). In, B. Durand and F. Behar, eds., *Advances in Organic Geochemistry 1989*, Pergamon Press, Oxford, p. 689-701.
- Hippo, E.J., Crelling, J.C., Palmer, S.E. and Kruger, M.A., 1990, Organic sulfur compounds in coals. *Proceedings; 14th Annual Conference on Fuel*, Electric Power Research Institute, Palo Alto, California, p. 6/1-6/28.
- Hippo, E.J., Palmer, S.E., Kruger, M.A. and Crelling, J.C., 1990, Organic sulfur characterization of low rank coals. *Proceedings of the First International Symposium on the Bioprocessing of Coals*, Electric Power Research Institute, Palo Alto, California, p. 1-15.
- Kruger, M.A., Crelling, J.C., Hippo, E.J. and Palmer S.R., 1991, [Aspects of sporinite chemistry](#). *Organic Geochemistry*, vol. 17, p. 193-204.
- Kruger, M.A. and Suarez-Ruiz, I., 1991, [Organic geochemistry and petrography of Spanish oil shales](#). *Fuel*, vol. 70, p. 1298-1302.
- Palmer, S.R., Hippo, E.J., Kruger, M.A., and Crelling, J.C., 1992, Characterization and selective removal of organic sulfur from Illinois Basin coals. *Coal Prep.*, vol. 10, p. 93-106.
- Yawanarajah, S.R., Kruger, M.A., Mastalerz, M. and Sliwinski, W., 1993, [Organic geochemistry of Permian organic-rich sediments from the Sudetes area, SW Poland](#). *Organic Geochemistry* **20**:267-281.
- Yawanarajah, S.R. and Kruger, M.A., 1994, [Lacustrine shales and oil shales from Stellarton Basin, Nova Scotia, Canada: Organofacies variations and use of polyaromatic hydrocarbons as maturity indicators](#). *Organic Geochemistry* **21**:153-170.
- Kruger, M.A., Stankiewicz, B. A., Crelling, J. C., Montanari, A. and Bensley, D. F., 1994, [Fossil charcoal in Cretaceous-Tertiary boundary strata: Evidence for catastrophic firestorm and megawave](#). *Geochimica et Cosmochimica Acta* **58**:1393-1397.
- Palmer, S.R., Kruger, M.A., Hippo, E.J., and Crelling, J.C., 1994, [Speciation of heteroatoms in coal by sulfur-selective and nitrogen-selective techniques](#). *Fuel* **73**:1167-1172.
- Stankiewicz, B. A., Kruger M. A., and Crelling, J. C., 1994, [Geochemical characterization of maceral concentrates from Herrin No. 6 coal \(Illinois Basin\) and Lower Toarcian shale kerogen \(Paris Basin\)](#). In, Curnelle, R. and Sévérac, J.-P., eds., *Pétrologie Organique*, Recueil des Communications, Colloque International des Pétrographes Organiciens Francophones, Publ. Spéc., *Bull. Centres Rech. Explor.-Prod. Elf Aquitaine*, Vol. 18, p. 237-251.
- Kruger, M.A. and Bensley, D.F., 1994, [Flash pyrolysis-gas chromatography/mass spectrometry of Lower Kittanning vitrinites: Changes in the distributions of polyaromatic hydrocarbons as a function of coal rank](#). In, Mukhopadhyay, P. K. and Dow, W.G., eds., *Vitrinite Reflectance as a Maturity Parameter: Applications and Limitations*. American Chemical Society Symposium Series 570, p. 136-148.
- Stankiewicz, B. A., Kruger M. A., Crelling, J. C., and Salmon, G.L., 1994, [Density gradient centrifugation: Application to the separation of macerals of Type I, II and III sedimentary organic matter](#). *Energy & Fuels***8**:1513-1521.

- Kruege, M. A., Stankiewicz, B. A. and Montanari, A., 1994, [Serravallian shales in the Monte dei Corvi pelagic sequence \(Ancona, Italy\): An organic geochemical perspective](#). *Giornale di Geologia*. **56**:173-182.
- Han, Z., Kruege, M.A., Crelling, J.C. and Stankiewicz, B.A., 1995, [Organic geochemical characterization of the density fractions of a Permian torbanite](#). *Organic Geochemistry* **22**:39-50.
- Mukhopadhyay, P.K., Wade, J. A. and Kruege, M.A., 1995, [Organic facies and maturation of Jurassic/Cretaceous rocks, and possible oil-source rock correlation based on pyrolysis of asphaltenes, Scotian Basin, Canada](#). *Organic Geochemistry* **22**:85-104.
- Montanari A., Beaudoin B., Chan L. S., Coccioni R., Deino A., DePaolo D. J., Emmanuel L., Fornaciari E., Kruege M. A., Lundblad S., Mozzato C. Portier E., Renard M., Rio D., Sandroni P. and Stankiewicz A. (1995) [Integrated stratigraphy of the Middle to Upper Miocene pelagic sequence of the Cònero Riviera \(Marche region, Italy\)](#). In, Montanari A., Odin G. S. and Coccioni R. (eds.), *Miocene Stratigraphy: An Integrated Approach*, Developments in Palaeontology and Stratigraphy 15, Elsevier, Amsterdam, p. 409-450.
- Kruege, M.A., Stankiewicz, B. A., Crelling, J. C., Montanari, A. and Bensley, D. F., 1996, [Reply to the comment by T. P. Jones on "Fossil charcoal in Cretaceous-Tertiary boundary strata: Evidence for catastrophic firestorm and megawave"](#). *Geochimica et Cosmochimica Acta*.**60**:721-722.
- Kruege M. A., Landais P. and Bensley D. F. (1996) [Artificial maturation of alginite and organic groundmass separated from torbanites](#). *Organic Geochemistry* **24**:737-750.
- Kruege M. A., Mastalerz M., Solecki A. and Stankiewicz B. A. (1996) [Organic geochemistry and petrology of oil source rocks, Carpathian Overthrust region, southeastern Poland. Implications for petroleum generation](#). *Organic Geochemistry* **24**:897-912.
- Stankiewicz, B. A., Kruege, M. A. and Mastalerz, M. (1996) [A geochemical study of macerals from a Miocene lignite and an Eocene bituminous coal, Indonesia](#). *Organic Geochemistry* **24**:531-545.
- Stankiewicz, B. A., Kruege, M. A., Mastalerz, M. and Salmon G. L. (1996) [Geochemistry of the alginite and amorphous organic matter from Type II-S kerogens](#). *Organic Geochemistry* **24**:495-509.
- Stankiewicz, B. A., Mastalerz, M., Kruege, M. A., van Bergen P. F. and Sadowska, A. (1997) [A comparative study of modern and fossil cone scales and seed of conifers: a geochemical approach](#). *New Phytologist*. 135:375-393.
- Kruege M. A., Landais P., Bensley D. F., Stankiewicz B. A., Elie M., Ruau O. (1997) [Separation and artificial maturation of macerals from Type II kerogen](#). *Energy & Fuels* **11**:503-514.
- Mukhopadhyay P.K., Kruege M.A. and Lewis C.F.M (1997). [Application of Environmental Organic Petrology and Geochemistry to Fingerprint Organic Pollutants in the Recent Sediments of Lake Ontario](#). *Environmental Geosciences* **4**:137-148.
- Mukhopadhyay, P.K., Goodarzi, F., Kruege, M. A. and Alimi, M. H. (1997). [Comparison of source rock geochemistry of selected rocks from the Schei Point group and Ringnes formation, Sverdrup basin, arctic Canada](#). *Int. J. Coal Geol.* **34**:225-260.
- Kuder T.K., Kruege M.A., Shearer J.C. and Miller S.L. (1998) [Environmental and botanical controls on peatification - a comparative study of two New Zealand restiad bogs using Py-GC/MS, petrography and fungal analysis](#). *Int. J. Coal. Geol.* **37**:3-27.
- Crelling J. C. and Kruege M. A., (1998) [Petrographic and chemical properties of Carboniferous resinite from the Herrin No. 6 coal seam](#). *Int. J. Coal Geol.* **37**:55-71.

- Kruege M. A., Mukhopadhyay P. K. and Lewis C. F. M. (1998) [A molecular evaluation of contaminants and natural organic matter in surface sediments from western Lake Ontario](#). *Organic Geochemistry* **29**:1797-1812.
- Kuder T.K. and Kruege M.A. (1998) [Preservation of lignin in sub-fossil plant tissues from raised peat bogs — a potential paleoenvironmental proxy](#). *Organic Geochemistry* **29**:1355-1368.
- Han Z., Kruege M. A., Crelling J. C., and Bensley D. F. (1999) [Classification of torbanite and cannel coal. I. Insights from petrographic analysis of density fractions](#). *Int. J. Coal Geol.* **38**:181-202.
- Han Z. and Kruege M. A. (1999) [Classification of torbanite and cannel coal. II. Insights from organic geochemical and multivariate statistical analysis](#). *Int. J. Coal Geol.* **38**:203-218.
- Kruege M. A. (1999) [Molecular organic geochemistry of New York Bight sediments. Sources of biogenic organic matter and polycyclic aromatic hydrocarbons](#). *Northeastern Geology and Environmental Sciences*. **21**:121-128.
- Burkhart C. N., Stankiewicz B. A., Pchalek I., Kruege M. A. and Burkhart C. G. (1999) [Molecular composition of the louse sheath](#). *Jour. Parasitology* **85**:559-561.
- Han Z. and Kruege M. A. (1999) [Chemistry of maceral and groundmass density fractions of torbanite and cannel coal](#). *Organic Geochemistry* **30**:1381-1401.
- Kruege M.A. (2000) [Determination of thermal maturity and organic matter type by principal components analysis of the distributions of polycyclic aromatic compounds](#). *Int. J. Coal Geol.* **43**:27-51.
- Lewis C.F.M., Mayer L.A., Mukhopadhyay P.K., Kruege M.A., Coakley J.P. and Smith M. (2000) [Multibeam sonar backscatter lineaments and anthropogenic organic components in lacustrine silty clay, evidence of shipping in western Lake Ontario](#). *Int. J. Coal Geol.* **43**:307-324.
- Burkhart C.N., Kruege M.A., Burkhart C.G., and Black C. (2001) [Cerumen composition by flash pyrolysis-gas chromatography/mass spectrometry](#). *Otology & Neurotology* **22**:715-722.
- Kuder T. and Kruege M.A. (2001) [Carbon dynamics in peat bogs - insights from substrate macromolecular chemistry](#). *Global Biogeochemical Cycles* **15**:721-728.
- Hollocher T.C., Chin K., Hollocher K.T., Kruege M.A. (2001) [Bacterial residues in coprolite of herbivorous dinosaurs: Role of bacteria in mineralization of feces](#). *Palaios* **16**:547–565.
- Kruege M.A. and Permanyer A (2004) [Application of pyrolysis-GC/MS for rapid assessment of organic contamination in sediments from Barcelona harbor](#). *Organic Geochemistry* **35**:1395-1408.
- Micić V., Kruege M.A., Koerner P., Bujalski, N., Hofmann T. (2010) [Organic geochemistry of Danube River sediments from Pančevo \(Serbia\) to the Iron Gate dam \(Serbia-Romania\)](#). *Organic Geochemistry* **41**:971:974.
- Kruege M.A., Permanyer A., Serra J., Yu D. (2010) [Geochemical investigation of an offshore sewage sludge deposit, Barcelona, Catalonia, Spain](#). *Journal of Analytical and Applied Pyrolysis* **89**:204-217.
- Micić, V., Kruege, M.A., Köster, J., Hofmann, T. (2011) [Natural, anthropogenic and fossil organic matter in river sediments and suspended particulate matter: a multi-molecular marker approach](#). *Science of the Total Environment* **409**:905-919.
- Laumann S., Micić V., Kruege M.A., Achten C., Sachsenhofer R.F., Schwarzbauer J., Hofmann T. (2011) [Variations in concentrations and compositions of polycyclic](#)

- [aromatic hydrocarbons \(PAHs\) in coals related to the coal rank and origin](#). *Environmental Pollution* **159**:2690-2697.
- Micić V., Kruge M.A., Hofmann T. (2013) [Variations of common riverine contaminants in reservoir sediments](#). *Science of the Total Environment* **458-460**:90-100.
- Kruge M.A. (2013) [Oil pollution in water bodies of restricted circulation](#). In, M. Salgot, ed., *Stagnant Water Bodies Pollution*, Atelier, Barcelona, p. 63-80.
- Kruge M.A. (2015) [Analytical pyrolysis principles and applications to environmental science](#). In, M. Barbooti, ed., *Environmental Applications of Instrumental Chemical Analysis*. CRC Press, Boca Raton (FL), p. 533-569.
- Lara-Gonzalo A., Kruge M.A., Lores I., Gutiérrez B., Gallego J.L.R. (2015) [Pyrolysis-GC-MS for the rapid environmental forensic screening of contaminated brownfield soil](#). *Organic Geochemistry* **87**:9-20.
- Micić V., Köster J., Kruge M.A., Engelen B. and Hofmann T. (2015) [Bacterial wax esters in recent fluvial sediments](#). *Organic Geochemistry* **89-90**:44-55.
- Kruge M.A. (2015) [Geology in environmental management](#). In, D. Sarkar et al., eds., *An Integrated Approach to Environmental Management*. Wiley, pp. 3-45.
- Kruge M.A. (2017) [Dam removal in the USA: Effects on river water quality](#). In, M. Salgot, ed., *Stagnant Water Bodies Pollution II*, Atelier, Barcelona, pp. 37-64.
- Kruge M.A., Gallego J.L.R., Lara-Gonzalo A., Esquinas N. (2018) [Environmental forensics study of crude oil and petroleum product spills in coastal and oilfield settings: Combined insights from conventional GC-MS, thermodesorption-GC-MS and pyrolysis-GC-MS](#). In, Stout S., Wang Z., eds., *Oil Spill Environmental Forensics Case Studies*. Butterworth-Heinemann (Elsevier), Oxford (UK), pp. 131-156.
- Hagmann D.F., Kruge M.A., Cheung M., Mastalerz M., Gallego J.L.R., Singh J.P., Krumins J.A., Li X., Goodey N. (2019) [Environmental forensic characterization of former rail yard soils located adjacent to the Statue of Liberty in the New York/New Jersey harbor](#). *Science of the Total Environment* **690**:1019-1034.
- Hagmann D.F., Kruge M.A., Goodey N.M., Krumins J.A. (2020) [Characterization of coal particles in the soil of a former rail yard and urban brownfield: Liberty State Park, Jersey City \(NJ\), USA](#). *International Journal of Coal Geology*. **217**:103328.
- Kruge M.A., Lara-Gonzalo A., Gallego J.L.R. (2020) [Environmental forensics of complexly contaminated sites: A complimentary fingerprinting approach](#). *Environmental Pollution*. **263B**:114645.
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- Permanyer, A., Kruge, M.A., Gibert, L. (2025) [Onset of the Messinian Salinity Crisis: Insights from molecular organic geochemistry](#). *Marine and Petroleum Geology*, **181**:107532.
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Books

Holliger P., Louvat D., Landais P., Kruege M. and Ruau O. (1997) Organic matter and uraninite from the Oklo natural fission reactors: Natural analogue of radioactive waste containing bitumen and UO₂ irradiated fuel. European Commission Nuclear Science and Technology Series EUR 17614. Luxembourg, Office for the Official Publications of the European Communities, 63 pp.

Extended Abstracts and Preprints

Kruege, M.A., Solecki, A. and Stankiewicz, B.A., 1991, Molecular organic geochemistry of black shales and related strata, Carpathian Mountains, southeastern Poland. In, Manning, D.A.C., ed., *Organic Geochemistry: Advances and Applications in the Natural Environment*, Manchester University Press, Manchester, p. 59-63.

Kruege, M.A. and Landais, P., 1992, Artificial maturation of coal and maceral concentrates: Saturate and polyaromatic molecular markers. *Preprints of Papers Presented at the 204th ACS National Meeting, Washington, D.C.*, American Chemical Society Division of Fuel Chemistry, p. 1595-1600.

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Baudet, N., Kruege, M.A., and Palmer, S.R., 1993, Analysis of organic sulfur and nitrogen in coal via tandem degradation methods. In, Øygard, K., ed., *Organic Geochemistry: Poster sessions from the 16th International Meeting on Organic Geochemistry*, Stavanger 1993, Falch Hurtigtrykk, Oslo, p. 359-361.

Kruege M. A., Landais P. and Bensley D. F., 1995, Artificial Maturation of Alginite and Organic Groundmass Separated from an Oil Shale Kerogen. In, Grimalt J. O. and Dorronsoro C., eds., *Organic Geochemistry: Developments and Applications to Energy, Climate, Environment and Human History*. AIGOA, Donastia-San Sebastian, Spain. pp. 1012-1015.

Abdel Bagi S. T., Kruege M. A. and Salmon G. L., 1996, Flash pyrolysis of anthropogenic and natural organic matter in polluted sediments. *Preprints of Papers Presented at the 212th ACS National Meeting, Orlando, FL*, vol. 36, no. 2, p.247-249, American Chemical Society Division of Environmental Chemistry.

Kruege M.A., Mukhopadhyay P.K. and Lewis C.F.M. (1997) Characterization of recent sediments from Lake Ontario by organic geochemistry and petrology. 18th Int. Meeting on Organic Geochemistry (IMOG), Maastricht, The Netherlands, *Abstracts*, p. 705-706.

Kuder T.K. and Kruege M.A. (1997) Preservation of lignin in sub-fossil plant tissues from raised peat bogs — a potential paleoenvironmental proxy indicator. 18th Int. Meeting on Organic Geochemistry (IMOG), Maastricht, The Netherlands, *Abstracts*, p. 703-704.

Kruege M. A., Utgaard J. E. and Ferry W. (1999) [A biogeochemical comparison of fossil \(Carboniferous\) and modern crustose red algae](#). 19th Int. Meeting on Organic Geochemistry (IMOG), Istanbul, *Abstracts*, p. 695-696.

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- Vaughn D.L. and Kruege M.A. (2001) [Use of Py-GC/MS Analysis Techniques in Animal Waste Management: A Preliminary Survey of Dairy Manures](#). 20th Int. Meeting on Organic Geochemistry, Nancy, France, *Abstracts*.
- Kruege M.A. (2003) Biogeochemistry of contaminated marine and estuarine sediments. 16th International Symposium on Environmental Biogeochemistry, Towadako-machi, Aomori Prefecture, Japan, *Abstracts*.
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