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Education

Doctor of Philosophy: Cornell University, NY (1991); Igneous Petrology, Isotope Geochemistry, Tectonics, and Remote Sensing. Thesis: "Processes of Lithosphere Evolution: Geochemistry and Tectonics of Mafic Rocks in the Brooks Range and Yukon-Tanana Region, Alaska"
Master of Science: Cornell University, NY (1986); Precambrian Geology and Petrology. Thesis: "Geology and Geochemistry of the Grão Pará Group, Serra dos Carajás, Pará, Brazil"
Bachelor of Science: Beloit College, WI (1982); Geology. Thesis: Geology of the Friday Bay Quadrangle, MN

Experience

Associate Professor	Macalester College, Minnesota	9/96 - present
Adjunct Professor	Beloit College, Wisconsin	Summer 2002
Visiting Research Associate	University of Dar es Salaam, Tanzania	7/00-12/00; 7/01-12/01
Director of Tanzania Program	Associated Colleges of Midwest	7/00-12/00; 7/01-12/01
Visiting Associate Professor	Beloit College, Wisconsin	Summers '98, '99
Visiting Assistant Professor	Stanford University	7/94 - 9/94
Visiting Scientist	Cornell University	3/94 - 9/94
Assistant Professor	Macalester College, Minnesota	11/90 - 9/96
Instructor	Beloit College, Wisconsin	Summers '89, '91, '95, '97
Teaching & Research Assistant	Cornell University, New York	8/83 - 11/90
Geologic Field Assistant	U.S. Geological Survey, Colorado	8/82 - 8/83
	AMAX, Colorado	8/82 - 12/82
	Wallaby Enterprises, Arizona	8/79 - 8/80

Professional Affiliations

Geological Society of America	National Association of Geology Teachers
American Geophysical Union	American Association for Advancement of Science

Training and Certifications

Open Water SCUBA (1984)	Medic First Aid (2001)	Emergency First Responder (2003)
Advanced Open Water (1989)	Enriched Air (2001)	Assistant Instructor (2003)
Rescue Diver (2001)	Divemaster (PADI# 187604; 2003)	Open Water Scuba Instructor (2003)
Emerg. First Responder Instr. (2004)		

Awards, Fellowships, and Grants

Bausch and Lomb Science Award (1977)	Pew Summer Faculty Research Award (1993, 1994)
Pellet Scholarship (1981)	Petroleum Research Fund - Type B Grant (1994)
AMAX Field Fellowship (1981)	NSF Research Opportunity Award (1994)
Haven Fellow Award in Geology (1981)	NSF Instr. and Lab. Improvement Grant (1995, 1996)
Monta E. Wing Scholarship (1982)	Beltmann Physical Sciences Award ('95, '96, '97, '01)
Sigma Xi Grant-in-Aid of Research (1987)	NSF Academic Research Infrastructure Grant (1996)
AAPG Grant-in-Aid of Research (1987)	National Science Foundation Grant (1999)
NASA Graduate Researcher Award (1987, 1988, 1989)	Keck Student-Faculty Collaboration Award (2001)
ACM Faculty Travel Grant (1991)	Keck Geology Consortium Grant (2002, 2005)
Pew Faculty Development Awards (1991, '92, '93, 2002)	Wallace Research and Travel Grant (2004, 2005)
Wallace Research and Travel Grant (1991, 1992, 1994)	NSF Major Research Infrastructure Grant (2005)
Geological Society of America Travel Grant (1991, 1996)	Global Partners East Africa Travel Grant (2005)

Publications

(Undergraduate student co-authors are underlined)

- Anderson, P. and Wirth, K.R., 1981, Uranium potential in Precambrian conglomerates of the central Arizona Arch; Final Report: U.S. Department of Energy Report No. GJBX-2(81), National Uranium Resource Evaluation Program, Bendix Field Engineering, Grand Junction, Colorado, 226 p.
- Wirth, K.R., Gibbs, A.K., and Olszewski, W.J., Jr., 1986, U-Pb ages of zircons from the Grão Pará Group and Serra dos Carajás Granite, Pará, Brazil: *Revista Brasileira de Geociências*, v. 16, n. 2, p. 195-200.
- Gibbs, A.K., Wirth, K.R., Hirata, W.K., and Olszewski, W.J., Jr., 1986, Age and composition of the Grão Pará Group volcanics, Serra dos Carajás: *Revista Brasileira de Geociências*, v. 16, n. 2, p. 201-211.
- Olszewski, W.J., Jr., Wirth, K.R., Gibbs, A.K., and Gaudette, H.E., 1989, The age, origin, and tectonic setting of the Grão Pará Group and associated rocks, Serra dos Carajás, Brazil: Archean continental volcanism and rifting: *Precambrian Research*, v. 42, p. 229-254.
- Harding, D.J., Wirth, K.R., and Bird, J.M., 1989, Spectral Mapping of Alaskan Ophiolites using Landsat Thematic Mapper Data: *Remote Sensing of the Environment*, v. 28, p. 219-232.
- Gibbs, A.K. and Wirth, K.R., 1990, Geologic setting of the Serra dos Carajás iron deposits: in Chauvel, J.-J. et al., editorial board, *Ancient Banded Iron Formations (Regional Presentations)*, Theophrastus Publications, S.A., Athens, Greece, p. 83-102.
- Wirth, K.R., Olivera, E.P., Silva Sa, H., and Tarney, J., 1990, Early Precambrian basic rocks of South America: in Hall, R.P. and Hughes, D.J., editors, *Early Precambrian Basic Magmatism*, Blackie and Sons Ltd., Glasgow, p. 379-404.
- Wirth, K.R., 1991, Processes of lithosphere evolution: Geochemistry and tectonics of mafic rocks in the Brooks Range and Yukon-Tanana region, Alaska: Ph.D. Dissertation, Cornell University, New York; University Microfilms, University of Michigan, 367 p.
- Wirth, K.R. and Bird, J.M., 1992, Chronology of ophiolite crystallization, detachment, and emplacement: Evidence from the Brooks Range, Alaska: *Geology*, v. 20, p. 75 - 78.
- Wirth, K.R., Bird, J.M., Blythe, A.E., Harding, D.J., and Heizler, M.T., 1993, Age and tectonic evolution of western Brooks Range ophiolites, Alaska: Results from $^{40}\text{Ar}/^{39}\text{Ar}$ thermochronometry: *Tectonics*, v. 12, no. 2, p. 410-432.
- Wirth, K.R., Bird, J.M., and Wessels, J., 1994, The diversity of accreted oceanic lithosphere in the Brooks Range, Alaska: in Ishiwatari, A., Malpas, J., and Ishizuka, H., editors, *Circum-Pacific Ophiolites: Proceedings of the 29th Ophiolite Symposium*, VSP International Science Publishers, p. 89-108.

- Wirth, K.R. and Vervoort, J.D., 1995, Nd isotopic constraints on mantle and crustal contributions to Early Proterozoic dykes of the southern Superior Province: in Baer, G. and Heimann, A. (editors), *Physics and Chemistry of Dykes*, Balkema, Rotterdam, p. 237-249.
- Schmitz, M.D., Wirth, K.R., and Craddock, J.C., 1995, Major and trace element geochemistry of Early Proterozoic mafic dykes of northern Minnesota and southwestern Ontario: in Baer, G. and Heimann, A. (editors), *Physics and Chemistry of Dykes*, Balkema, Rotterdam, p. 219-233.
- Wirth, K.R., Vervoort, J.D., Naiman, Z.J., 1997, Petrography and geochemistry of southernmost volcanic rocks exposed in the Midcontinent rift: *Canadian Journal of Earth Sciences*, v. 34, no. 4, p. 536-548.
- Wirth, K.R., Cordua, W.S., Kean, W.F., Middleton, M.M., Naiman, Z.J., 1998, The geology of the southeastern portion of the Midcontinent Rift system, Eastern Minnesota and western Wisconsin: 44th Annual Meeting of the Institute on Lake Superior Geology, Minneapolis, Minnesota, Field Trip Guidebook, v. 44, p. 33-75.
- Cannon, W.F., Daniels, D.M., Nicholson, S.W., Phillips, J., Woodruff, L.G., Chandler, V.W., Morey, G.B., Boerboom, Wirth, K.R., and Mudrey, M.G., Jr., 2001, New map reveals origin and geology of North American Mid-Continent Rift: *Eos (Transactions of the American Geophysical Union)*, v. 82, no. 8, p. 97-101.
- Harpp, Karen S., Wirth, Karl R., Korich, Daniel J., 2002, Northern Galápagos province: hotspot-induced, near-ridge volcanism at Genovesa Island: *Geology*, v. 30, no. 5, p. 399-402.
- Wirth, K.R., Grandy, J., Kelley, K., and Sadofsky, S., 2002, Evolution of crust and mantle beneath the Bering Sea region: Evidence from xenoliths and late Cenozoic basalts: in Miller, E.L., Grantz, A., and Klemperer, S.L., editors, *Tectonic Evolution of the Bering Shelf-Chukchi Sea-Artic Margin and Adjacent Landmasses*: Boulder, CO, Geological Society of America Special Paper 360, p. 167-193.
- Miller, E.L., Ireland, T., Klemperer, S., Wirth, K.R., Akinin, V.V., and Brocher, T.M., 2002, Constraints on the age of formation of seismically reflective middle and lower crust beneath the Bering Shelf: SHRIMP zircon dating of xenoliths from Saint Lawrence Island: in Miller, E.L., Grantz, A., and Klemperer, S.L., editors, *Tectonic Evolution of the Bering Shelf-Chukchi Sea-Artic Margin and Adjacent Landmasses*: Boulder, CO, Geological Society of America Special Paper 360, p. 195-208.
- Harris, R.A., Moore, T.E., Wirth, K.R., Mull, C.G., McBride, J., 2003, Rooted Brooks Range Ophiolite: Implications for Cordilleran terranes: *Comment and Reply: Geology*, v. 31, no. 1, p. 91-92.
- Boerboom, Terry, Holm, Daniel, Wirth, Karl, Woodruff, Laurel, and Cannon, William, 2005, The western margin of the Keweenaw Midcontinent Rift System: Geologic highlights of Archean, Paleoproterozoic, Keweenaw, and Paleozoic bedrock in eastern Minnesota and northwestern Wisconsin: in Robinson, L. et al., *Field trip guidebook for selected geology in Minnesota and Wisconsin*: Minnesota Geological Survey Guidebook 21, p. 181-207.

Wirth, K.R., and Perkins, D., 2005, Knowledge surveys: An indispensable course design and assessment tool: paper submitted to the Innovations in the Scholarship of Teaching and Learning at the Liberal Arts College, St. Olaf College, Northfield, MN, 01-03 April 2005, Conference Proceedings.

Schmitz, M.D., Bowring, S.A., Southwick, D.L., Boerboom, T.J., and Wirth, K.R., 2006, High-precision U-Pb geochronology in the Minnesota River Valley subprovince and its bearing on the Neoproterozoic to Paleoproterozoic evolution of the southern Superior Province: Geological Society of America Bulletin, v., 118, no. 1/2, p. 82-93.

Jeff D. Vervoort, Karl Wirth, Bryan Kennedy, Travis Sandland, and Karen S. Harpp, *in press*, The Magmatic Evolution of the Midcontinent Rift: New Geochronologic and Geochemical Evidence From Felsic Magmatism: Precambrian Research, 54 p.

Wirth, K.R., *in press*, Teaching for Deeper Understanding and Life-Long Learning: Elements, 19 p.

Foreman, B.Z., Rogers, R.R., Deino, A.L., Wirth, K.R., and Thole, J.T., *in review*, Geochemical discrimination and new $^{40}\text{Ar}/^{39}\text{Ar}$ age of bentonites in the Two Medicine Formation (Upper Cretaceous), northwestern Montana, USA: to be submitted to Canadian Journal of Earth Sciences.

Wirth, K.R. and Perkins, D., *in prep*, Knowledge Surveys: An Indispensable Course Design and Assessment Tool: to be submitted to Journal of Geological Education.

Abstracts

(Undergraduate student co-authors are underlined)

Wirth, K.R., Crouse, G., and Woodard, H.H., 1982, Geology of the Friday Bay quadrangle, Minnesota: Institute on Lake Superior Geology, 28th Annual Meeting, Proceedings and Abstracts, International Falls, Minn., p. 52.

Gibbs, A.K. and Wirth, K.R., 1985, Lithostratigraphy of the Grão Pará Group, Serra dos Carajás, Brazil: 98th Annual Meeting of the Geological Society of America, Abstracts with Programs, Orlando, Florida, v. 17, no. 7, p. 591.

Olszewski, W.J., Jr., Gibbs, A.K., and Wirth, K.R., 1985, Rb-Sr and Sm-Nd whole rock analyses of basalts of the Grão Pará Group, Serra dos Carajás, Brazil: 98th Annual Meeting of the Geological Society of America, Abstracts with Programs, Orlando, Florida, v. 17, no. 7, p. 682.

Bird, J.M., Wirth, K.R., Harding, D.J., and Shelton, D.H., 1985, Brooks Range ophiolites reconstructed: EOS, Transactions, American Geophysical Union, San Francisco, California, v. 66, no. 46, p. 1129.

- Harding, D.J., Wirth, K.R., Bird, J.M., and Shelton, D.H., 1985, Ophiolite emplacement, western Brooks Range, northern Alaska: EOS, Transactions, American Geophysical Union, San Francisco, California, v. 66, no. 46, p. 1129.
- Wirth, K.R., Gibbs, A.K., and Olszewski, W.J., Jr., 1985, Archean continental volcanism in the Amazonian Craton: EOS, Transactions, American Geophysical Union, San Francisco, California, v. 66, no. 46, p. 1119.
- Wirth, K.R., Harding, D.J., Blythe, A.E., and Bird, J.M., 1986, Brooks Range ophiolite crystallization and emplacement ages from $40\text{Ar}/39\text{Ar}$ data: 99th Annual Meeting of the Geological Society of America, Abstracts with Programs, San Antonio, Texas, v. 18, no. 6, p. 792.
- Harding, D.J., Wirth, K.R., Bird, J.M., and Blythe, A.E., 1986, Correlation of Angayucham Range and Copter Igneous Sequence basalts in the Brooks Range, Alaska, from Thematic Mapper data: 99th Annual Meeting of the Geological Society of America, Abstracts with Programs, San Antonio, Texas, v. 18, no. 6, p. 628.
- Gibbs, A.K. and Wirth, K.R., 1986, Origin and evolution of the Amazonian Craton: Workshop on Early Crustal Genesis: The World's Oldest Rocks, Godthab, Greenland, June 21-30, 1985, Lunar and Planetary Institute Technical Report 86-04, Houston, Texas, p. 46-50.
- Olszewski, W.J., Jr., Gibbs, A.K., and Wirth, K.R., 1986, Geochemical and isotopic constraints on the tectonic setting of the Serra dos Carajás belt, eastern Pará, Brazil: Workshop on Early Crustal Genesis: The Tectonic Evolution of Greenstone Belts, Houston, Texas, January 16-18, 1986, Lunar and Planetary Institute Technical Report 86-10, p. 162-164.
- Harding, D.J., Wirth, K.R., and Bird, J.M., 1987, Landsat TM studies, Brooks Range, Alaska: Cordilleran Section Meeting of the Geological Society of America, Abstracts with Programs, Hilo, Hawaii, v. 19, n. 6, p. 386.
- Wirth, K.R., Harding, D.J., and Bird, J.M., 1987, Basalt geochemistry, Brooks Range, Alaska: Cordilleran Section Meeting of the Geological Society of America, Abstracts with Programs, Hilo, Hawaii, v. 19, n. 6, p. 464.
- Olszewski, W.J., Jr., Wirth, K.R., Gibbs, A.K., and Gaudette, H.E., 1987, The age, origin, and tectonics of the Grão Pará Group and associated rocks, Serra dos Carajás, Brazil: Archean continental volcanism and rifting: Final Meeting of the Precambrian Evolution of the Amazonian Region (IUGS Project 204), Proceedings, Serra dos Carajás, Pará, Brazil, Sept. 9-14, 1987, p. 117-119.
- Wirth, K. R. and Bird, J.M., 1988, Hot-spot volcanism in northeastern Alaska?: Trace element and isotope evidence from Yukon Flats basalts: EOS, Transactions, American Geophysical Union, San Francisco, California, v. 69, no. 44, p. 1457.
- Wirth, K. R., Bird, J.M., and Cheatham, M.M., 1989, Geochemistry of western Brooks Range basalt, Alaska: Cordilleran/Rocky Mountain Section Meeting of the Geological Society of America, Abstracts with Programs, Spokane, Washington, v. 21, no. 5, p. 160-161.

- Blythe, A.E., Wirth, K.R., and Bird, J.M., 1990, Fission-track and $^{40}\text{Ar}/^{39}\text{Ar}$ ages of metamorphism and uplift, Brooks Range, northern Alaska: Annual Meeting of the Geological Association of Canada and the Mineralogical Association of Canada, Vancouver, Canada, v. 15, p. 12.
- Wirth, K.R., and Bird, J.M., 1990, Trace element and isotope compositions of Late Cenozoic alkaline basalts, northeastern Alaska: Annual Meeting of the Geological Association of Canada and the Mineralogical Association of Canada, Vancouver, Proc., v. 15, p. 142.
- Plumley, P.W., Wirth, K.R., Bird, J.M., and Harding, D.J., 1990, Paleomagnetic results from sheeted dike sequence, western Brooks Range Ophiolite: EOS, Transactions, American Geophysical Union, San Francisco, California, v. 71, no. 43, p. 1295.
- Wirth, K. R. and Karig, D.E., 1991, Geochemistry of volcanic rocks from an intra-arc basin: Marinduque Basin, Philippines: EOS, Transactions, American Geophysical Union, 1991 Fall Meeting, San Francisco, California, v. 72, no. 44, p. 248.
- Wirth, K.R. and Bird, J.M., 1992, The diversity of accreted oceanic lithosphere in the Brooks Range, Alaska: 29th International Geological Congress, Kyoto, Japan, v. 1, p. 133.
- Moshoian, A.D., Wirth, K.R., and Craddock, J.P., 1992, The Kenora-Kabetogama dike swarm: results of trace element studies: Proceedings of the 38th Annual Meeting of the Institute on Lake Superior Geology, Hurley, Wisconsin, v. 38, p. 75 - 77.
- Bartkó, L. and Wirth, K.R., 1993, Petrography of basalts from a volcanic ridge in the Marinduque Basin, Philippines: 1993 Annual Meeting of the North-Central Section, Geological Society of America, Rolla, MO, v. 25, no. 3, p. 5.
- Wessels, J. and Wirth, K.R., 1993, Petrography of plutonic rocks in Brooks Range ophiolites: Presented at: Annual Meeting of the North-Central Section, Geological Society of America, Rolla, MO (Omitted from proceedings volume due to editorial errors).
- Schmitz, M.D., Wirth, K.R., Craddock, J.C., and Moshoian, A.D., 1993, Petrogenesis of early Proterozoic Kenora-Kabetogama dike swarm: Annual Meeting of the Geological Society of America, Boston, MA, Abstracts with Programs, v. 25, no. 6, p. A-97-98.
- Brenner, J.S., Hornbach, D., and Wirth, K., 1993, A study of lattice parameters in freshwater bivalve mollusks: Relation to environmental and genetic variation: Pew Undergraduate Research Symposium, Chicago, IL.
- Schmitz, M.D. and Wirth, K.R., 1993, Petrogenesis of the Early Proterozoic Kenora-Kabetogama dike swarm, northern Minnesota and southern Ontario: Pew Undergraduate Research Symposium, Chicago, IL.
- Kropf, E.P., Craddock, J.P., and Wirth, K.R., 1993, Calcite-bearing pseudotachylite in Archean amphibolite grade rocks of the Minnesota River Valley Terrane: EOS, Transactions,

- American Geophysical Union, 1993 Fall Meeting, San Francisco, California, v. 74, no. 43, p. 577.
- Wirth, K.R., 1993, Evidence of magma mixing in a Philippine intra-arc basin from disequilibrium plagioclase: EOS, Transactions, American Geophysical Union, 1993 Fall Meeting, San Francisco, California, v. 74, no. 43, p. 681-682.
- Schmitz, M.D., Wirth, K.R., and Craddock, J.C., 1994, Origin of the Early Proterozoic Kenora-Kabetogama Mafic Dike Swarm: 40th Annual Meeting of the Institute on Lake Superior Geology, Houghton, MI, May 11-14, Part I - Program with Abstracts, v. 40, p. 62-63.
- Kropf, E.P., Wirth, K.R., Craddock, J.C., 1994, New Archean-hosted pseudotachylite occurrences, western Lake Superior region: 40th Annual Meeting of the Institute on Lake Superior Geology, Houghton, MI, May 11-14, Part I - Program with Abstracts, v. 40, p. 25-26.
- Leslie, M., Wetzel, T., Wirth, K.R., and Craddock, J.C., 1994, Petrography and structure of the Keweenaw-Chengwatana volcanics near Dresser, Wisconsin: 40th Annual Meeting of the Institute on Lake Superior Geology, Houghton, MI, May 11-14, Part I - Program with Abstracts, v. 40, p. 35-36.
- Schmitz, M.D., Wirth, K.R., and Craddock, J.C., 1994, Petrologic models for genesis of Kenora-Kabetogama dike swarm: 27th Annual Meeting of the North-Central Section of the Geological Society of America, April 28-29, Kalamazoo, MI, Abstracts with Programs, v. 26, no. 5, p. 60.
- Sadofsky, S. and Wirth, K.R., 1994, Geology and Geochemistry of the Keweenaw-Chengwatana Volcanics, eastern Minnesota and western Wisconsin: Pew Undergraduate Research Symposium, St. Louis, MO, Oct. 14-16, 1994.
- Grischkowsky, B.A., Craddock, J.P., and Wirth, K.R., 1995, Progressive strain history from the Seward Peninsula: evidence from twinned calcite preserved in Ordovician-Cretaceous sediments: 91st Annual Meeting of the Cordilleran Section, Geological Society of America, Fairbanks, Alaska, Abstracts with Programs, p. 22.
- Sadofsky, S.J. and Wirth, K.R., 1995, Petrology of the Teller Volcanic Field, Alaska: 91st Annual Meeting of the Cordilleran Section, Geological Society of America, Fairbanks, Alaska, Abstracts with Programs, p. 75.
- Beutel, E., Craddock, J., Dean, M., and Wirth, K.R., 1995, Structure and geochemistry of Proterozoic mafic dykes in western Wisconsin, Superior Province, USA: Third International Dyke Conference, Sept. 4-8, Jerusalem, Israel, Program and Abstracts, p. 12.
- Schmitz, M.D., Wirth, K.R., and Craddock, J.P., 1995, Major and trace element geochemistry of Early Proterozoic mafic dykes of northern Minnesota and southwestern Ontario: Third International Dyke Conference, Sept. 4-8, Jerusalem, Israel, Program and Abstracts, p. 63.

- Wirth, K.R., Vervoort, J.D., and Heaman, L.M., 1995, Nd isotopic constraints on mantle and crustal contributions to 2.08 Ga diabase dykes of the western Superior Province: Third International Dyke Conference, Sept. 4-8, Jerusalem, Israel, Program and Abstracts, p. 84.
- Wirth, K.R., Grotta, S., Sadofsky, S., and Vervoort, J.D., 1995, Geochemistry of southernmost Midcontinent Rift lavas in Minnesota and Wisconsin: International Field Conference and Symposium on the Petrology and Metallogeny of Volcanic and Intrusive Rocks of the Midcontinent Rift System: Aug. 19-Sept. 1, Duluth, Minnesota, Proceedings, p. 211-212.
- Wirth, K.R., Ronback, C.M., Grandy, J.S., and Sadofsky, S.J., 1995, Mafic Volcanism and Xenoliths of the Northern Bering Sea Region: EOS (invited), Transactions, American Geophysical Union, 1993 Fall Meeting, San Francisco, California, v. 76, no. 46, p. 589-590.
- Wirth, K.R. and Branlund, J.M., 1996, Magmatic evolution of an Intra-Arc Basin, Marinduque Basin, Philippines: 30th International Geological Congress, Aug. 4-14, 1996, Beijing, China, Abstracts, p. 229.
- Simon, Justin I. and Wirth, Karl R., 1996, Dikes of the Minnesota River Valley: Petrography and major element chemistry: 29th Annual Meeting of the North-Central Section of the Geological Society of America, Ames, Iowa, Abstracts with Programs, v. 28, p. 65.
- Branlund, Joy M. and Wirth, Karl R., 1996, Marinduque Basin, Philippines: Plagioclase zoning and magma mixing: 29th Annual Meeting of the North-Central Section of the Geological Society of America, Ames, Iowa, Abstracts with Programs, v. 28, p. 30.
- Wirth, Karl R. and Branlund, Joy M., 1996, Marinduque Basin, Philippines: Whole-rock geochemistry and source composition: 29th Annual Meeting of the North-Central Section of the Geological Society of America, Ames, Iowa, Abstracts with Programs, v. 28, p. 71.
- Naiman, Zachary, Wirth, Karl R., Morey, G.B., and Miller, James D., 1996, Metamorphism of Chengwatana Volcanic Group near Taylors Falls and from Osseo drill core: 42nd Annual Meeting of the Institute on Lake Superior Geology, Cable, WI, Proceedings, v. 42, p. 40-41.
- Wirth, Karl R., Naiman, Zachary, Vervoort, J.D., Miller, James D., and Morey, G.B., 1996, Geochemistry of Chengwatana Volcanic Group near Taylors Falls and from Osseo drill core: 42nd Annual Meeting of the Institute on Lake Superior Geology, Cable, WI, Proceedings, v. 42, p. 66-67.
- Naiman, Zachary J. and Wirth, Karl R., 1996, Geology and geochemistry of Midcontinent Rift lavas (Chengwatana Volcanic Group) along the St. Croix River: St. Croix River Research Rendezvous, St. Croix Watershed Research Station, Marine on St. Croix, MN, October 15, 1996.
- Pawlich, Melissa S., Craddock, John P., and Wirth, Karl R., 1996, Emplacement and flow direction of Kenora-Kabetogama dike swarm from studies of magnetic susceptibility:

Annual Meeting of the Geological Society of America, Denver, CO, Abstracts with Programs, v. 28, no. 7, p. 247.

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Pawlisch, Melissa S., Craddock, John P., and Wirth, Karl R., 1997, Local and regional AMS results for composite and non-composite dikes, Kenora-Kabetogama Dike Swarm: 30th Annual Meeting of the North-Central Section of the Geological Society of America, Madison, Wisconsin, Abstracts with Programs, v. 29, no. 4, p. 65

Naiman, Zachary J. and Wirth, Karl R., 1997, Geology and geochemistry of midcontinent rift lavas (Chengwatana Volcanic Group) along the St. Croix River: 43rd Annual Meeting of the Institute on Lake Superior Geology, Sudbury, Ontario, Proceedings, v. 43, p. 45-46.

Grandy, Jeffrey S. and Wirth, Karl R., 1997, Petrogenesis of the St. Michael Volcanic Field, Norton Sound region, Alaska: Annual Meeting of the Geological Society of America, Salt Lake City, UT, Abstracts with Programs, v. 29, no. 6, p. 392.

Abbott, Kathleen M., Thole, Jeffrey T., and Wirth, Karl R., 1998, Petrography and geochemistry of Midcontinent rift rhyolite (Chengwatana Volcanics) near Clam Falls, Wisconsin: 44th Annual Meeting of the Institute on Lake Superior Geology, Minneapolis, Minnesota, Proceedings, v. 44, p. 41-42.

Naiman, Zachary J. and Wirth, Karl R., 1998, Composition and sources(s) of Midcontinent rift lavas (Chengwatana Volcanics) near Clam Falls, Wisconsin: 44th Annual Meeting of the Institute on Lake Superior Geology, Minneapolis, Minnesota, Proceedings, v. 44, p. 96-97.

Wirth, Karl R. and Gehrels, George, E., 1998, Precise U-Pb zircon ages of Midcontinent Rift rhyolite (Chengwatana Volcanics), Clam Falls, WI: 44th Annual Meeting of the Institute on Lake Superior Geology, Minneapolis, Minnesota, Proceedings, v. 44, p. 124-125.

Abbott, K.M., Thole, J.T., and Wirth, K.R., 1998, Petrography and geochemistry of Midcontinent rift rhyolite (Chengwatana Volcanics) near Clam Falls, Wisconsin [abstract]: Annual Meeting of the Geological Society of America, Toronto, Ontario, Abstracts with Programs, v. 30, p. 376-377.

Page, F., Wirth, K.R., and Dobrovolskaya, T.I., 1998, Subduction-related mid-Jurassic magmatism of the Crimean Mountains [abstract]: Annual Meeting of the Geological Society of America, Toronto, Ontario, Abstracts with Programs, v. 30, p. 378.

Johnson, A.N., Wirth, K.R., Peck, W.H., and Valley, J.W., 1998, Oxygen isotopes and geochemistry of anorthosite xenoliths, Keweenaw Beaver Bay Complex, northeastern Minnesota [abstract]: Annual Meeting of the Geological Society of America, Toronto, Ontario, Abstracts with Programs, v. 30, p. 377-378.

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