

**CURRICULUM VITAE OF
THOMAS G. PLYMATE**

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Springfield, MO 65804

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EDUCATION

- Ph.D. University of Minnesota, 1986, Geology (Mineral Physics/Solid Earth Geophysics).
Advisor: Dr. James H. Stout.
 - M.A. Indiana University, 1978, Geology (Sedimentary Petrology).
Advisor: Dr. Lee J. Suttner.
 - B.S. Indiana University, 1976, Geology (with Honors).
Advisor: Dr. Judson Mead.
- Awards Exxon Graduate Fellowship, University of Minnesota, 1982-1985.
Charles F. Deiss Geology Field Camp Scholarship, Indiana University, 1974.
Earth Science Scholarship, Indiana University, 1971-1972.

TEACHING EXPERIENCE

- Professor of Geology, Southwest Missouri State University, Springfield, Missouri,
Fall 2003 to present (Acting Department Head, October 2004 to present).
 - Associate Professor of Geology, Southwest Missouri State University, Springfield, Missouri,
Fall 1993 to Spring 2003.
 - Assistant Professor of Geology, Southwest Missouri State University, Springfield, Missouri,
Fall 1986 to Spring 1993 (tenured since Fall 1988).
 - Instructor of Geology, Southwest Missouri State University, Springfield, Missouri,
Fall 1978 to Spring 1982.
 - Instructor of Geology, St. Francis College, Fort Wayne, IN, Summer 1978.
 - Instructor of Geology, Ball State University, Muncie, IN, Spring 1978 (sabbatical replacement).
 - Associate Instructor of Geology, Indiana University, 1976-1977.
- Courses Taught: Petrology
Optical Mineralogy/Petrography
X-ray Mineralogy
Writing II: Reporting Geological Information
Physical Geology Lecture, both regular and Honors sections
Physical Geology Laboratory, both regular and Honors sections
Field Geology
Environmental Geology

PROFESSIONAL AFFILIATIONS

Geological Society of America
American Geophysical Union
Mineralogical Society of America
Council on Undergraduate Research
Missouri Academy of Sciences
Association of Missouri Geologists (President, 2003-2004)
Missouri Registered Geologist # RG 0474

PUBLICATIONS IN REFEREED SCIENTIFIC JOURNALS

- Plymate, T.G. and Suttner, L.J., 1983, Evaluation of Optical and X-ray Techniques for Detecting Source-rock-controlled Variation in Detrital Potassium Feldspars, *Journal of Sedimentary Petrology*, v. 53, p. 509-519.
- Cavaleri, M.E., Plymate, T.G., and Stout, J.H., 1988, A Pressure-Volume-Temperature Equation of State for Sn(β) by Energy Dispersive X-ray Diffraction in a Heated Diamond Anvil Cell, *Journal of Physics and Chemistry of Solids*, v. 49, p. 945-956.
- Plymate, T.G., Stout, J.H., and Cavaleri, M.E., 1988, Pressure-Volume-Temperature Behavior and Heterogeneous Equilibria of the Non-quenchable Body-centered Tetragonal Polymorph of Metallic Tin, *Journal of Physics and Chemistry of Solids*, v. 49, p. 1339-1348.
- Plymate, T.G. and Stout, J.H., 1989, A Five-parameter Temperature-corrected Murnaghan Equation for P-V-T Surfaces, *Journal of Geophysical Research*, v. B94, p. 9477-9483.
- Plymate, T.G. and Stout, J.H., 1990, Pressure-Volume-Temperature Behavior of Fayalite Based on Static Compression Measurements at 400°C, *Physics and Chemistry of Minerals*, v. 17, p. 212-219.
- Plymate, T.G., Daniel, C.G., and Cavaleri, M.E., 1992, Structural State of the K-feldspar in the Butler Hill–Breadtray Granite, St. Francois Mountains, Southeastern Missouri, *Canadian Mineralogist*, v. 30, p. 367-376.
- Plymate, T.G. and Stout, J.H., 1994, Pressure-Volume-Temperature Behavior of γ -Fe₂SiO₄ (Spinel) Based on Static Compression Measurements at 400°C, *Physics and Chemistry of Minerals*, v. 21, p. 413-420.
- Plymate, T.G., Kendall, J., Shepard, L.M., and Clark, K.C., 2001, Structural State of the K-feldspar in the Ring Plutons and Rhyolitic Ash-Flow Tuffs in the Butler Hill–Breadtray Caldera Complex, St. Francois Mountains, Southeastern Missouri, *Canadian Mineralogist*, v. 39, p. 73-83.
- Mathenia, C.M. and Plymate, T.G., 2003, Structural State of K-feldspar in the Younger Granites of the Western St. Francois Mountains, Southeastern Missouri: Further Evidence for Pervasive Alteration of the Mesoproterozoic St. Francois Mountains Complex, *Transactions of the Missouri Academy of Science*, v. 37, p. 50-58.
- Plymate, T.G., Evans, K.R., Gutierrez, M., and Mantei, E.J., 2005, Alumni of Geology B.S. Program Express Strong Support for Field Geology and Related Field and Laboratory Experiences, *Journal of Geoscience Education*, v. 52, n. 2, p. 215-216.
- Plymate, T.G., Mickus, K.L., and Smith, J.E., Late Cenozoic Mafic Volcanism in and near Petrified Forest National Park, Northeastern Arizona, *Rocky Mountain Geology*, accepted 8/9/2004 (pending revisions).
- Plymate, T.G., Moeglin, T.D., and Van Schmus, W.R., Geochemistry and U-Pb Zircon Geochronology of Proterozoic Granitoids Exposed in the Northern Mummy Range, North-central Colorado, submitted 1/14/2005 to *Rocky Mountain Geology*.
- Plymate, T.G., Johnson, A.W., Woolsey, A.M., and Craig, M.M., The “Silver Mine Quartz Basalt”: An Unusual Xenocryst-bearing Basaltic Dike Exposed in the St. Francois Mountains, Southeastern Missouri, in preparation for *Transactions of the Missouri Academy of Science*.
- Plymate, T.G. and Moeglin, T.D., Geology of the Comanche Peak 7 1/2' Quadrangle, Larimer County, Colorado, in preparation for publication by the U.S. Geological Survey as part of the 1:24,000 Geologic Quadrangle Series.

OTHER SIGNIFICANT PUBLICATIONS (NON-REFEREED)

- Plymate, T.G., 1981, *Guidebook for Field Geology*, Southwest Missouri State University Department of Geosciences, 215p. (In-house guidebook for GLG 413, the summer Field Geology course required for all our senior Geology majors at SMSU.)
- Fagerlin, S., Plymate, T., and Rovey, C., 2001, *Wisconsin and Upper Michigan*, Southwest Missouri State University Department of Geography, Geology, and Planning, 36p. (In-house guidebook for GLG 360 Directed Fieldtrip conducted May 19-27, 2001.)
- Plymate, T.G. (ed.), 2004, *Field Trip Guidebook of the Association of Missouri Geologists 50th Annual Meeting, Springfield, Missouri, September 26-27, 2003*, Missouri Department of Natural Resources, Geological Survey and Resource Assessment Division, Report of Investigation No. 75 (Guidebook No. 26), 78 p.
- Plymate, T.G., Evans, K.R., Thomson, K.C., Miller, J.F., Rovey, C.W., II, Davis, G.H., and Cutler, J., 2004, Field Trip III: Ordovician and Mississippian Stratigraphy and Structural Geology of the Springfield-Branson Area, Southwestern Missouri, in Plymate, T.G. (ed.), *Field Trip Guidebook of the Association of Missouri Geologists 50th Annual Meeting, Springfield, Missouri, September 26-27, 2003*, Missouri Department of Natural Resources, Geological Survey and Resource Assessment Division, Report of Investigation No. 75 (Guidebook No. 26), p. 43-62.
- Rovey, C.W. and Plymate, T.G., 2004, *Laboratory Coursepack for GLG 110: Principles of Geology*, Southwest Missouri State University Department of Geography, Geology, and Planning, 78p. (In-house laboratory coursepack required for all sections of our introductory Physical Geology course at SMSU.)

PUBLISHED ABSTRACTS OF PRESENTATIONS AT SCIENTIFIC MEETINGS (* = PRESENTER)

- *Plymate, T.G. and Suttner, L.J., Evaluation of Optical and X-ray Techniques for Detecting Source-rock-controlled Variation in Detrital Feldspars, Geological Society of America Annual Meeting, San Diego, CA, November, 1979. (Abstract published in *Geological Society of America Abstracts with Programs*, v. 11, p. 496.)
- *Plymate, T.G. and Stout, J.H., A Temperature-corrected Murnaghan Equation of State for P-V-T Surfaces, American Geophysical Union Fall Meeting, San Francisco, CA, December 10, 1986. (Abstract published in *EOS: Transactions of the American Geophysical Union*, v. 67, p. 1217.)
- *Stout, J.H., Plymate, T.G., and Cavaleri, M.E., Volume and Entropy Systematics of Sn(β) and Sn(II) by *in situ* Energy Dispersive Diffraction in a Heated Diamond Anvil Cell, American Geophysical Union Fall Meeting, San Francisco, CA, December 10, 1986. (Abstract published in *EOS: Transactions of the American Geophysical Union*, v. 67, p. 1216.)
- Plymate, T.G. and *Stout, J.H., Static Compression of the α (Fayalite) and γ (Spinel) Polymorphs of Fe₂SiO₄ at 400°C (abs.), American Geophysical Union Fall Meeting, San Francisco, CA, December 11, 1988. (Abstract published in *EOS: Transactions of the American Geophysical Union*, v. 69, p. 1518.)
- *Daniel, C.G., Plymate, T.G., and Cavaleri, M.E., Structural State of the K-feldspar in the Butler Hill–Breadtray Granite, St. Francois Mountains, Southeastern Missouri, Geological Society of America North-central Section Meeting, Notre Dame, IN, April 20, 1989. (Abstract published in *Geological Society of America Abstracts with Programs*, v. 21(4), p. 9.)
- *Moeglin, T.D. and Plymate, T.G., Precambrian Structural Geology of the Northern Mummy Range, North-central Colorado, Geological Society of America Rocky Mountain Section Meeting, Ogden, UT, May 13, 1992. (Abstract published in *Geological Society of America Abstracts with Programs*, v. 24(6), p. 53.)
- *Woolsey, A.M., Plymate, T.G., and Craig, M. M., Compositional Variation in K-Feldspar Xenocrysts in a Basaltic Dike: an Example of the Use of SEM X-ray Elemental Mapping in Igneous Petrology. Missouri Academy of Science Annual Meeting, Kansas City, MO, April 23, 1993. (Abstract published in *Transactions of the Missouri Academy of Science*, v. 27.)

- *Plymate, T.G., Moeglin, T.D., Sabin, T.G., and Van Schmus, W.R., U-Pb Zircon Geochronology of Proterozoic Granitoids Exposed in the Northern Mummy Range, North-central Colorado, Geological Society of America Rocky Mountain Section Meeting, Durango, CO, May 4, 1994. (Abstract published in *Geological Society of America Abstracts with Programs*, v. 26(6), p. 59.)
- *Ervin, S.D., Plymate, T.G., and Moon, D., Effects of Springfield's Southwest Sewage Treatment Plant on the Water Quality in Wilson's Creek and James River. Missouri Academy of Science Annual Meeting, Cape Girardeau, MO, April 29, 1994. (Abstract published in *Transactions of the Missouri Academy of Science*, v. 28, p. 130.)
- *Shepard, L.M., Kendall, J., Clark, K.C., and Plymate, T.G., Structural State of the K-feldspar in the Rhyolitic Tuffs and Ring Pluton Granites of the St. Francois Mountains, Southeastern Missouri. Missouri Academy of Science Annual Meeting, Springfield, MO, April 19, 1996. (Abstract published in *Transactions of the Missouri Academy of Science*, v. 30, p. 128.)
- *Johnson, A.W., Plymate, T.G., and Craig, M.M., Geochemical Analysis of an Unusual Xenocryst-bearing Basaltic Dike Exposed in the Silver Mine Area of the St. Francois Mountains, Southeastern Missouri. Missouri Academy of Science Annual Meeting, Warrensburg, MO, April 18, 1997. (Abstract published in *Transactions of the Missouri Academy of Science*, v. 31, p. 90.)
- Homburg, R.L., *Moeglin, T.D., and Plymate, T.G., Shear-sense Indicators Supporting Southeast-side-up Movement for the Skin Gulch Shear Zone, Northern Mummy Range, North-central Colorado, Geological Society of America Annual Meeting, Denver, Colorado, October 26, 1999. (Abstract published in *Geological Society of America Abstracts with Programs*, v. 31(7), p. 205)
- *Plymate, T.G. and Moeglin, T.D., Proterozoic Granitoids of the Northern Mummy Range, North-central Colorado: Discrimination and Tectonic Interpretation Based on Field, Petrographic, and Geochemical Evidence, Geological Society of America Annual Meeting, Reno, Nevada, November 16, 2000. (Abstract published in *Geological Society of America Abstracts with Programs*, v. 32(7), p. A-453.)
- *Mathenia, C.M. and Plymate, T.G., Structural State of K-feldspar in Granites of the Taum Sauk Caldera, St. Francois Mountains, Southeastern Missouri. Missouri Academy of Science Annual Meeting, Joplin, MO, April 21, 2001. (Abstract published in *Transactions of the Missouri Academy of Science*, v. 35, p. 73-74)
- *Plymate, T.G. and Mickus, K.L., and Smith, J.E., Late Cenozoic Basaltic Volcanic Structures in and near Petrified Forest National Park, Northeastern Arizona, Geological Society of America Rocky Mountain Section Meeting, Albuquerque, New Mexico, April 30, 2001. (Abstract published in *Geological Society of America Abstracts with Programs*, v. 33(5), p. 6.)
- *Evans, K.R., Rovey, C.W., II, Mickus, K.L., Miller, J.F., Plymate, T.G., and Thomson, K.C., Weaubleau-Osceola Structure, Missouri: Deformation, Event Stratification, and Shock Metamorphism of a Mid-Carboniferous Impact Site, Third International Conference on Large Meteorite Impacts, Nordlingen, Germany, August 2, 2003.
- *Rovey, C.W., II, Evans, K.R., Mickus, K.L., Miller, J.F., Plymate, T.G., and Thomson, K.C., Impact Origin of the Weaubleau-Osceola Structure in Southeastern Missouri, Geological Society of America Annual Meeting, Seattle, Washington, November 4, 2003. (Abstract published in *Geological Society of America Abstracts with Programs*, v. 35(6), p. 339.)
- *Evans, K.R., Rovey, C.W., II, Davis, G.H., Mantei, E.J., Mickus, K.L., Miller, J.F., Moeglin, T.D., and Plymate, T.G., Oblique Impact at the Weaubleau-Osceola Structure, Missouri. (Abstract accepted for presentation at Geological Society of America Annual Meeting, Denver, Colorado, November, 2004; abstract will be published in *Geological Society of America Abstracts with Programs*, v. 36(6).)

RESEARCH FUNDING: EXTERNAL

Plymate, T.G., Rovey, C.W., II, Castillon, D.A., Moeglin, T.D., James, H.R., Ross, B.S., Thielmann, V.J., and Mayanovic, R.A., 1992, Purchase of a New Scintag XDS-2000 X-ray Diffraction System, National Science Foundation: Earth Sciences/Instrumentation, \$60,000 (with \$60,000 in matching funds from SMSU).

Plymate, T.G. and Mickus, K.L., 1998, Petrology, Geochemistry, and Geochronology of Igneous Rocks and Volcanic Structures in Petrified Forest National Park, Arizona, Petrified Forest Museum Association, \$3800.

RESEARCH FUNDING: IN-HOUSE (SMSU FACULTY GRANTS COMMITTEE)

Plymate, T.G., 1979, Effects of Structural State on the Weathering of Plutonic K-feldspars, \$707.

Plymate, T.G., 1988, Geologic Mapping of the Precambrian Bedrock of the Comanche Peak Quadrangle, Larimer County, Colorado, \$2391.

Plymate, T.G., 1990, Major-element whole-rock Chemical Analysis using SMSU's New Scanning Electron Microscope, \$2900.

Plymate, T.G., 1991, Radiometric Age Determination for Rock Samples from the Mummy Range, Northern Colorado, \$2190.

Plymate, T.G., 1997, Quantitative Geochemical Analysis of the Silvermines Quartz Basalt, St. Francois Mountains, Southeastern Missouri, \$1383.

UNDERGRADUATE RESEARCH PROJECTS SPONSORED

Jason Rudolph, Fall 2002 through Spring 2003. Jason conducted a petrographic and structural investigation of the rhyolites exposed at Hughes Mountain in the St. Francois Mountains, southeastern Missouri, to determine the cause of the unusual columnar jointing in this rock unit.

Christopher Stitz, Spring 2001. Chris used the ArcInfo GIS system to compile and plot the significant amount of structural attitude data Tom Moeglin and I had collected over the preceding decade in the Mummy Range of north-central Colorado.

Cheryl Mathenia, Fall 2000 through Spring 2001. Cheryl used x-ray diffraction to study the structural state of the K-feldspar in the granites exposed in the Taum Sauk Caldera of the Proterozoic Saint Francois Mountains Complex of southeastern Missouri. Cheryl presented the results of her study at the annual meeting of the Missouri Academy of Science at Missouri Southern State College in Joplin on April 20, 2001. Cheryl was awarded first prize in the Geology Section of the Collegiate Division for her presentation. The results of this study were published as a full-length journal article in *Transactions of the Missouri Academy of Science* in 2003.

Meredith Kenworthy, Spring 1999 through Spring 2000. Meredith conducted a detailed petrographic study of the Early Proterozoic biotite schist exposed in the northern Mummy Range in north-central Colorado. Meredith prepared thin sections of a number of samples and identified the metamorphic minerals present in this rock unit.

Donnie Inman, Spring 1999 through Summer 1999. Donnie conducted a detailed petrographic study of the Early Proterozoic amphibolite exposed in the northern Mummy Range in north-central Colorado. Donnie prepared thin sections of a number of samples and identified the metamorphic minerals present in this rock unit.

- Jason Smith, Summer 1998 through Spring 1999. In a research project funded by a grant from the Petrified Forest Museum Association, Jason collected and analyzed samples from the three mafic volcanic structures exposed within Petrified Forest National Park. He studied these samples petrographically and geochemically to determine the genetic relationship between these rock bodies and the more extensive fields of volcanic structures in northern and eastern Arizona. Results of this study were presented at the annual meeting of the Rocky Mountain Section of the Geological Society of America in Albuquerque, New Mexico, in April 2001.
- Aaron Johnson, Fall 1996 through Spring 1997. As a continuation of Amy Woolsey's study (below), Aaron performed bulk geochemical analyses on samples of the mafic dikes exposed in the Silvermines area of the St. Francois Mountains of southeastern Missouri. His data was combined with that from Amy's study to quantify the geochemical effects of the quartz and feldspar xenocrysts on the crystallization of these late-stage mafic magmas. Aaron presented the results of his study at the annual meeting of the Missouri Academy of Science at Warrensburg on April 18, 1997. Aaron was awarded second prize in the combined Chemistry/Geology Section of the Collegiate Division for his presentation.
- Jennifer Rusher, Fall 1996. Jennifer made thin sections of all the samples studied by Kendall, Shepard, and Clark (below) and examined those thin sections petrographically to determine the extent of the hydrothermal alteration of the feldspars. Jennifer's work was acknowledged in a journal article that Kendall, Shepard, Clark, and I published in *Canadian Mineralogist* in 2001.
- Lisa M. Shepard, Fall 1995 through Spring 1996. Lisa used x-ray diffraction to study the structural state of the K-feldspar in the Stono Mountain Granite, a small pluton exposed near the northwestern corner of the Proterozoic Saint Francois Mountains Complex of southeastern Missouri. Lisa presented the results of her study, along with the results of the studies by Kendall and Clark described below, at the annual meeting of the Missouri Academy of Science at Drury College on April 19, 1996. Lisa was awarded first prize in the Geology Section of the Collegiate Division for her presentation. The results of this study were published as a full-length journal article in *Canadian Mineralogist* in 2001.
- Kenneth C. Clark, Fall 1994 through Spring 1995. K.C. used our new x-ray diffraction system to study the structural state of the K-feldspar in the rhyolitic tuffs exposed around the perimeter of the Butler Hill–Breadtray caldera in the Proterozoic Saint Francois Mountains Complex of southeastern Missouri. The results of K.C.'s study were combined with those of Kendall (below) and Shepard (above) and published as a full-length journal article in *Canadian Mineralogist* in 2001.
- James Kendall, Fall 1993 through Spring 1994. Jim used x-ray diffraction to study the structural state of the K-feldspar in the ring plutons surrounding the Butler Hill–Breadtray Granite, exposed near the center of the Proterozoic Saint Francois Mountains Complex of southeastern Missouri. Jim's study was the first to make use of our newly acquired \$120,000 Scintag XDS-2000 x-ray diffraction system. The results of Jim's study were combined with those of Clark and Shepard (above) and published as a full-length journal article in *Canadian Mineralogist* in 2001.
- Sheryl Ervin, Fall 1993 through Spring 1994. Sheryl's second GLG 499 project under my direction was a study of the effect of Springfield's Southwest Sewage Treatment Plant on the quality of the water in Wilson's Creek and the James River. Each week for an entire year Sheryl sampled the water at five separate sites and analyzed these samples for pH and dissolved chlorides, phosphates, and nitrates. Sheryl presented the results of this study at the annual meeting of the Missouri Academy of Science in Cape Girardeau on April 29, 1994.
- Amy Woolsey, Fall 1992 through Spring 1993. Amy studied the chemical alteration of K-feldspar xenocrysts in a basaltic dike exposed in the St. Francois Mountains of southeastern Missouri. She used the energy-dispersive x-ray microanalysis system on our scanning electron microscope to map the migration of several elements between the xenocrysts and the basaltic matrix. Amy presented the results of her study at the annual meeting of the Missouri Academy of Science in Kansas City on April 23, 1993.

- Sheryl Ervin, Fall 1992 through Spring 1993. Sheryl compiled and statistically analyzing the 10,000+ water quality analyses performed over the past ten years by the Greene County Health Department to determine if there were any patterns in this massive data set which would indicate significant changes in the quality of our drinking water.
- William Eilers, Fall 1992 through Spring 1993. Bill conducted a detailed petrographic study of the Early Proterozoic granitic gneiss exposed in the northern Mummy Range in north-central Colorado. Bill prepared thin sections from approximately fifty samples of this rock unit and performed detailed modal analyses (point counts) on these thin sections to determine the range and spatial distribution of the mineralogical variation within this rock unit.
- David Overhoff, Summer/Fall 1991. Dave served as a summer field assistant for Tom Moeglin and me in our mapping of the Proterozoic geology of the northern Mummy Range in north-central Colorado.
- Richard Heyman, Fall, 1991. Richard adapted several geologic computer programs that I had written in FORTRAN on a mainframe so that they could run on our newly acquired Macintosh microcomputers.
- Michael Morton, Fall 1990. Mike developed the procedure for fusing rock samples in molten lithium tetraborate to produce glass disks that can be analyzed chemically using the energy-dispersive x-ray microanalysis system on our scanning electron microscope.
- David Joslyn, Spring 1990. Dave collected samples of the rhyolitic ash-flow tuffs exposed in the St. Francois Mountains of southeastern Missouri and studied these rocks petrographically to determine the textural and mineralogical variation in each mapable unit.
- Scott Helm, Spring 1988 through Summer 1989. Scott did the preliminary petrographic analysis of the plutonic and metamorphic rocks exposed in the remote central portion of the northern Mummy Range in north-central Colorado. The purpose of Scott's project was to characterize each of the rock units that Tom Moeglin and I were mapping in this high-grade Proterozoic terrane. During the three semesters of this project Scott cut numerous thin sections and petrographically analyzed each of these to estimate the range of abundance of each of the minerals present in each of our rock units. Scott also served as our summer field assistant on this project in both 1988 and 1989.
- Chris Daniel, Fall 1987 through Spring 1989. Chris studied the structural state of the K-feldspar in the Butler Hill–Breadtray Granite, the largest pluton exposed in the Proterozoic Saint Francois Mountains Complex of southeastern Missouri. Chris used both petrographic and x-ray techniques to determine the range of variation of Al-Si ordering and the extent of hydrothermal/metasomatic alteration of the K-feldspar in this pluton. Results of this study were presented at the annual meeting of the north-central section of the Geological Society of America in Notre Dame, Indiana, in April, 1989, and were subsequently published as a full-length journal article (Plymate, Daniel, and Cavaleri, 1992).
- Tom Pallesen, 1981. Tom used the universal stage on our research petrographic microscope to study the variation in the optic angle $2V$ for the alkali feldspars in a suite of granodiorite samples from the Rader Creek Pluton in southwestern Montana. These samples were the same ones I had studied in my M.S. research project at Indiana University. Tom found some of the same structural state variation I had found using x-ray techniques, but he concluded that this optical technique was significantly less efficient than the x-ray techniques I had developed. His conclusion was incorporated into the article I published on this study in *Journal of Sedimentary Petrology* in 1983.
- Danja Feeback, 1980. Danja studied a suite of andesitic sills exposed in Cottonwood Canyon in southwestern Montana. She collected a set of samples from these sills, separated the potassium feldspar from the fine-grained matrix in each sample, and analyzed these K-feldspar concentrates by x-ray diffraction to determine the variation in structural state.

SERVICE ACTIVITIES

Service to International, National, and Statewide Professional Organizations

Association of Missouri Geologists

President, 2003-2004

- presided over the annual business meeting, Rolla, MO, October 1, 2004
- proposed (and membership ratified) amendments to AMG constitution redefining organization's fiscal year and creating new office of Historian

President-Elect, 2002-2003

- organized and hosted the annual banquet and field trips, Springfield, MO, September 26-27, 2003

Webmaster, 2000-present

- created and continue to maintain associations web page: www.missourigeologists.org
- with former President Bob Beste, created and posted PDF versions of fieldtrip guidebooks from past years: <http://missourigeologists.org/FieldtripsandGuidebooks.htm>

Secretary, 1999-2001

- proposed (and membership ratified) amendments to AMG constitution creating new membership classes for retired professionals and undergraduate students

Member-at-Large of the Executive Committee, 1992-94

Geological Society of America

SMSU Campus Representative, 1990-present

- responsible for recruiting and certifying SMSU Geology students for membership in GSA

National Science Foundation

- reviewed 9 proposals requesting funding from the Earth Sciences Instrumentation and Facilities Program, 1994-date

International Journal of Physics and Chemistry of Solids

- reviewed 4 papers submitted for publication, 1991-date

Canadian Mineralogist

- reviewed 2 papers submitted for publication, 1996-date

Community Service

Greater Springfield Area Science Fair (formerly Southwest Missouri Regional Science Fair)

Judge for the Senior Division in the Earth and Space Sciences, 1988-present

Grand Prize Selection Committee, 1989, 1992, 1997

Science Olympiad

With Dr. Lynda Plymate of the SMSU Mathematics Department, organized and supervised the "Metric Mastery" event, 1999-2004

"Tell Me Why" Coordinator

For four years (1987-1991) I served as SMSU coordinator for the "Tell Me Why" column that appeared each month in the Springfield News-Leader. The purpose of the column was to provide a means by which Junior High and High School students could receive authoritative answers to questions they may have concerning the world of science. My duties included soliciting questions from area students, distributing the questions to SMSU faculty for answers, and editing the questions and answers for submission to the newspaper.

University Service

SMSU Faculty Senate

Chair, 2001-2002

Chair-Elect, 2000-2001

Executive Committee, 2000-2003

Judicial Review Committee, 2002-2004

GGP Departmental Representative, 1996-2000

SMSU Equal Opportunity Advisory Committee

Faculty Senate Representative, 2002-2003

Chaired subcommittee for revision of SMSU non-discrimination statement

- recommended explicit inclusion of “sexual orientation” in non-discrimination statement; rejected by President Keiser
- recommended inclusion of the new sentence “In addition, the University does not discriminate on any basis not related to the applicable educational requirements for students or the applicable job requirements for employees.”; accepted by President Keiser and ratified by Board of Governors

SMSU Academic Integrity Committee

Member, 2002-2004

SMSU Web Advisory Committee

Faculty Senate Representative, 2002-2003

SMSU Budget and Priorities Committee

Ex Officio Faculty Senate Representative, 2001-2002

SMSU Faculty Handbook Revision Committee

Ex Officio Faculty Senate Representative, 2001-2002

SMSU Information Technology Council

Faculty Senate Representative, 2000-2002

SMSU Faculty Concerns Committee

Ex Officio Faculty Senate Representative, 2000-2001

SMSU Faculty Senate *Ad Hoc* Committee to Expedite the Curricular Process

CGEIP Representative, 1999-2002

SMSU Academic Relations Committee

College Representative, 1999-2000; Chair, 1999-2000

SMSU Citizenship and Service Learning Oversight Committee

College Representative, 1999-2000; Faculty Senate Representative, 2000-2001

SMSU General Education Faculty Development Committee (GEFDC)

College Representative, 1996-2000; Chair, 1997-2000

SMSU Committee for General Education and Intercollegiate Programs (CGEIP)

College Representative (one of two), 1996-99; Chair, 1997-99

SMSU Instructional Technology Advisory Committee

Faculty Senate Representative, 1997-1999

SMSU Writing Center Advisory Committee

College Representative, 1997-1998

SMSU Assessment Committee

Departmental Representative, 1993-1996

College Service

(CNAS = College of Natural and Applied Sciences; CSAM = College of Science and Mathematics)

CNAS Student Recruitment Committee, Departmental Representative, 1998-200; 2004-present

CNAS Honors Committee, Departmental Representative, 1997-1999

CNAS College Fair Committee: Departmental Representative, 1989-97; Coordinator, 1990-95

CNAS Equipment Repair/Service Committee, Departmental Representative, 1994-95

CSAM Computer Committee, Departmental Representative, 1992-93

CSAM Instrument Usage Committee, Departmental Representative, 1988-90

CSAM Motor Pool Committee, Departmental Representative, 1987-89

CSAM Scholastic Appeals Committee, Departmental Representative, 1986-88

Departmental Service

Acting Department Head, October 2004-present

Geology Program Coordinator, 2002-present

- surveyed all 350 graduates of the SMSU geology program from 1971-2000, spring 2003
- compiled and edited comprehensive review of geology program for campus-wide internal review of academic programs, summer 2003

Departmental Webmaster (with Rex Cammack), 1999-present

- redesigned and continue to maintain departmental web site: www.geosciences.smsu.edu

Geology Curriculum Committee, Member, 1986-present

- led the effort in Spring 1998 to redesign the requirements for both our comprehensive and non-comprehensive B.S. programs in geology

Geology Program Assessment Committee: Member, 1988-present; Chair, 1988-present

- responsible for administering and evaluating the assessment examination given each semester to our graduating seniors in geology

Geology Student Recruitment Committee: Member, 1989-present; Chair, 1989-present

- designed original geology program brochure in 1989; oversaw production of revised and updated versions in 1994, 1999, and 2004

Geology 110 Assessment Committee: Member, 1997-present; Chair, 1997-present

- responsible for coordinating and evaluating the pre-test/post-test assessment of our General Education course in Physical Geology (GLG 110).

M.S.—Resource Planning Program Oversight Committee, Member 1994-97

Departmental Computer Lab Coordinator, 1991-96

Departmental "Special Events" Coordinator, 1991-96