

CURRICULUM VITAE

GILBERT N. HANSON

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EDUCATION:

B.A. - University of Minnesota, 1958. Major: Geology Minor: Physics and Math

M.S. - University of Minnesota, 1962. Major: Geology Minor: Physical Chemistry

Ph.D.- University of Minnesota, 1964. Major: Geology Minor: Physical Chemistry

M.S. - Thesis Title: Contact Metamorphic Effect of the Duluth Gabbro upon the Rb-Sr age of the Biotites of the Snowbank Stock. Advisor: Paul W. Gast

Ph.D.- Thesis Title: The Effect of Contact Metamorphism on Mineral Ages in the Snowbank Lake Area Minnesota, and in the Beartooth Mountains, Wyoming. Advisor: Paul W. Gast

POSITIONS HELD:

1964-65 Research Associate, Minnesota Geological Survey, Minneapolis, Minnesota.

1965-66 Research Associate, Swiss Federal Institute of Technology, Zurich, Switzerland.

1966-70 Assistant Professor of Geology, SUNY Stony Brook.

1970-75 Associate Professor of Geology, SUNY Stony Brook.

1975- Professor of Geology, SUNY Stony Brook.

1975-80 Director of Graduate Studies in Earth and Space Sciences, SUNY, Stony Brook.

1980-81 Visiting Senior member of Linacre College, Oxford University and visitor in Department of Geology, University of Oxford.

1982-83 Director of Graduate Studies in Earth and Space Sciences, SUNY, Stony Brook.

1983-93 Chairman, Department of Earth and Space Sciences, SUNY, Stony Brook.

1987-88 Visiting Professor, Department of Geology and Geography, University of Massachusetts, Amherst

2000 Visiting Professor, Institute for Mineralogy, University of Muenster, Muenster, Germany

2000 Distinguished Service Professor, SUNY Stony Brook

PROFESSIONAL AFFILIATIONS:

Member-

American Geophysical Union

Geochemical Society

New York State Council of Professional Geologists

Fellow-

American Geophysical Union

Geochemical Society

Geological Society of America.

Geological Society of India

Secretary- International Project Working Group on Archaean Geochemistry a project sponsored by International Geological Correlation Program (IGCP) 1975-1984

Chairman- U.S. National Working Group on Archaean Geochemistry 1975-1984

Secretary- Volcanology, Geochemistry and Petrology (VGP) Section of A.G.U. 1978 -1980.

President-elect and President - Volcanology, Geochemistry and Petrology (VGP) Section of AGU, 1992-1994 and 1994-1996 respectively.

Member of AGU Council, 1992-96

Member of AGU Committee on Education and Human Resources, 1992-

Member- Editorial Board of Geology 1975-1981

Member- Review Panel for Early Crustal Genesis, NASA 1983 - 1986.

Chairman- Review Panel for Early Crustal Genesis, NASA 1985 - 1986.

Member- Review Panel for University Research Instrumentation Panel, DOE 1985

Chairman- Peer Review Panel on Studies of Calcite and Opaline Silica Deposits as part of Nevada Nuclear Waste Storage Investigations for Waste Management Project Office, DOE - 1987

Field Trip and Meeting Coordinator - Long Island Geologists - 1990-
Member New York State Geological Mapping Advisory Committee
Director of New York State Council of Professional Geologists 1997-2000
Director of Geochemical Society 2003-2005

RESEARCH INTERESTS:

My present research interests include

- 1) the application of geochemistry to groundwater and soil studies:
- 2) the geology of Long Island

GILBERT N. HANSON - PUBLICATIONS - ARTICLES

- Gast, P.W. and Hanson, G.N. Effects of contact metamorphism on Rb-Sr systems, U.S. Natl. Acad. Sci. - Natl. Research Council Pub. 1075, Nuclear Sci. Ser. Report No. 38, 25-33. (1963)
- Craddock, J.C., Gast, P.W., Hanson, G.N. and Linder, H.L., Rubidium- strontium ages from Antarctica, Geol. Soc. Am., Bull., 75, 237-240. (1964)
- Hanson, G.N., El Tahlawi, M.R. and Weber, W. K-Ar and Rb-Sr ages of pegmatites in the South Central Alps, Earth Planet. Sci. Lett. 1, 407- 413. (1966)
- Hanson, G.N. and Gast, P.W. Kinetic studies in contact metamorphic zones, Geochim. Cosmochim. Acta, 31, 1119-1153. (1967)
- Hanson, G.N. and Himmelberg, G.R. Ages of mafic dikes near Granite Falls, Minnesota, Geol. Soc. Am., Bull., 75, 1429-1432. (1967)
- Hanson, G.N. K-Ar ages for hornblende from granites and gneisses and for basaltic intrusives in Minnesota, Rept. of Invest. 8, Minn. Geol. Surv., 20 pp. (1968)
- Hanson, G.N., Grünenfelder, M. and Soptrayanova, G. The geochronology of a recrystallized tectonite in Switzerland -- The Roffna Gneiss, Earth Planet. Sci. Lett., 5, 413-422. (1969)
- Hanson, G.N. Radiogenic argon loss from biotite in whole-rock heating experiments, Geochim. Cosmochim. Acta., 35, 101-107. (1971)
- Hanson, G.N. and Malhotra, R. K-Ar ages of mafic dikes and evidence for low- grade metamorphism in northeastern Minnesota, Geol. Soc. Am., Bull., 82, 1107-1113. (1971)
- Hanson, G.N., Goldich, S.S., Arth, J.G. and Yardley, D.H. Age of the early Precambrian rocks of the Saganaga Lake-Northern Light Lake Area, Ontario-Minnesota, Can. J. Earth Sci., 8, 1110-1124. (1971)
- Catanzaro, E.J. and Hanson, G.N. U-Pb ages for sphene from early Precambrian igneous rocks in northeastern Minnesota-northwestern Ontario, Can. J. Earth Sci., 8, 1319-1324. (1971)
- Hanson, G.N., Catanzaro, E.J. and Anderson, D.H. U-Pb ages for sphene in a contact metamorphic zone, Earth Planet. Sci. Lett., 12, 231-237. (1971)
- Goldich, S.S., Hanson, G.N., Hallford, C.R. and Mudrey, M.G. Jr. Early Precambrian rocks in the Saganaga Lake-Northern Light Lake Area, Minnesota-Ontario, Part I: Petrology and Structure, G.S.A. Mem. 135, 151-177. (1972)
- Hanson, G.N. and Goldich, S.S. Early Precambrian rocks in the Saganaga Lake-Northern Light Lake Area, Minnesota-Ontario Part II: Petrogenesis, G.S.A. Mem. 135, 179-192. (1972)
- Prince, L.A. and Hanson, G.N. Rb-Sr isochron ages for the Giants Range Granite, northeastern Minnesota, G.S.A. Mem. 135, 217-224. (1972)
- Hanson, G.N. The Saganaga batholith, in Geology of Minnesota: A Centennial Volume. P. K. Sims and G. B. Morey, Ed., Minn. Geol. Surv., 102-107. (1972)
- Arth, J.G. and Hanson, G.N. Quartz diorites derived by partial melting of eclogite or amphibolite at mantle depths, Contrib. Mineral. Petrol. 37, 161-174. (1972)
- McGlynn, J.C., Hanson, G.N., Irving, E. and Park, J.K. Paleomagnetism and age of Nonacho Group sandstones and associated Sparrow Dikes of District of McKenzie, Can. J. Earth Sci., 11, 30-42. (1974)
- Sun, S.S. and Hanson, G.N., Genesis of McMurdo Volcanics on Ross Island based on rare earth elements and lead isotopes, Antarctic Jour. of the U.S., 9, 234. (1974)
- Hanson, G.N., ⁴⁰Ar/³⁹Ar spectrum ages on Logan intrusions, a Lower Keweenawan flow and mafic dikes in northeastern Minnesota-northwestern Ontario, Can. J. Earth Sci., 12, 821-835. (1975)
- Hanson, G.N., Simmons, K.R. and Bence, A.E., ⁴⁰Ar/³⁹Ar spectrum ages for biotite, hornblende and muscovite in a contact metamorphic zone, Geochim. Cosmochim. Acta, 39, 1269-1277. (1975)
- Arth, J.G. and Hanson, G.N., Geochemistry and origin of the Early Precambrian crust of northeastern Minnesota, Geochim Cosmochim. Acta, 39, 325-362. (1975)

- Sun, S.S. and Hanson, G.N., Evolution of the mantle: Geochemical evidence from alkali basalts, *Geology*, 3, 297-302. (1975)
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- Sun, S.S. and Hanson, G.N., Evolution of the Mantle: Geochemical evidence from alkali basalt: Reply to comment by J.B. Gill, *Geology*, 4, 626-631. (1976)
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- Stern R.A., Hanson, G.N. and Shirey, S.B., Petrogenesis of mantle-derived, LILE-enriched Archean monzodiorites and trachyandesites (sanukitoids) in southwestern Superior Province: evidence from the Roaring River Complex, *Can. J. Earth Sci.* 26, 1688-1712 (1989).
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- Mezger, K., Hanson, G.N. and Bohlen, S.R., U-Pb ages of metamorphic rutiles: application to the cooling history of high-grade terranes, *Earth Planet. Sci. Letters*, 96, 106-118. (1989)
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- Banner, J.L. and Hanson, G.N., Calculation of simultaneous isotopic and trace element variations during water-rock interaction with applications to carbonate diagenesis, *Geochim. Cosmochim. Acta.* 54, 3123-3137. (1990)
- Kaufman, J., Meyers, W.J. and Hanson, G.N., Burial cementation in the Swan Hills Formation (Devonian), Rosevear Field, Alberta Canada, *J. Sed. Pet.* 60, 918-939. (1990)
- Balakrishnan, S. Hanson, G.N. and Rajamani, V., Pb and Nd isotope constraints on the origin of high Mg and tholeiitic amphibolites, Kolar Schist Belt, South India, *Contrib. Mineral. Petrol.*, 107, 279-292 (1990).
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- Mezger, K. Rawnsley, C.M., Bohlen, S.R., and Hanson, G.N., U-Pb garnet, sphene, monazite and rutile ages: implications for the duration of high-grade metamorphism and cooling histories, Adirondack Mts., New York, *J. Geology*, 99, 415-428. (1991)
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- Sevigny, J.H. and Hanson, G.N., Orogenic evolution of the New England Appalachians of southwestern Connecticut, *GSA Bulletin*, 105, 1591-1605 (1993).
- McLennan, S.M., Hemming, S., McDaniel, D.K., and Hanson, G.N., Geochemical approaches to sedimentation, provenance and tectonics, in "Processes Controlling the Composition of Clastic Sediments", M.J. Johnson and A. Basu (editors), *GSA Special Paper*, 284, 21-39, (1993).
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GRADUATE STUDENT THESIS RESEARCH ADVISED

At Stony Brook some graduate students select thesis research topics with two or more faculty advisors. G.N. Hanson was or is the principal advisor or co-advisor on the following MS and Ph.D. Theses.

M.S. Theses

- Lisha Zhu, in progress, Precipitation and Water Table Levels Long Island
Principal Advisor – G.N. Hanson, Co-Advisor - H. Bokuniewicz
- Soma Das, 2007, Origin of dry valleys south of the Ronkonkoma Moraine, Long Island
Principal Advisor – G.N. Hanson
- Xuan Xu, 2007, Geochemistry of a Sewage Plume from a Cess Pool, Long Island
Principal Advisor – G.N. Hanson
- Liu. Qi, 2005., Modeling Cations in a Contaminant Plume in Saturated Zone
Principal Advisor – G.N. Hanson
- Kundic, Vesna, 2005 Age and Provenance of Long Island Loess
Principal Advisor – G.N. Hanson
- Munster, Jennie, 2004, Evaluating Nitrate Sources in Suffolk County Groundwater, Long Island, New York
Principal Advisor – G.N. Hanson, Co-Advisor – H. Bokuniewicz
- Hongyu, Li, 2002 Marine strontium isotope ratios for the time near the Permian-Pennsylvanian boundary
Principal Advisor – G.N. Hanson , Co-Advisor - E.T. Rasbury
- Zhong, Jian, 2002 Evaluation of Ar-Ar ages of Individual Mica Grains for Provenance Studies of Loess, Long Island, NY
Principal Advisor – G.N. Hanson
- Boguslavsky, Sonya, 2000, Organic sorbtion and cation exchange capacity of glacial sand, Long Island
Principal Advisor - G.N. Hanson
- Lawrence, Stacy-Ann, 1998, Dendrochronology and geochemistry of Long Island trees
Principal Advisor - G.N. Hanson
- Bleifuss, Patti, 1998, Tracing sources of nitrate in the Long Island aquifer system
Principal Advisor - G.N. Hanson, Co-Advisor - M. Schoonen
- Bennett, Andy, 1997, Modeling the effects of stratigraphic heterogeneities of contaminant transport in groundwater
Principal Advisor - G.N. Hanson
- Kolleeny, Jonathan, 1995, Mineralogy, petrology and REE geochemistry of contact metamorphosed calcrete in New Haven Arkose, (Upper Triassic/Lower Jurassic)
Principal Advisor - G.N. Hanson
- Xin, Geng, 1993, Sr isotope study of the Peconic River Watershed, Long Island, New York,
Principal Advisor - G.N. Hanson, Co-Advisor - M. Schoonen
- Liu, Beiling, 1991, Petrogenesis of leucosomes within The Straits Schist, Trumbull, Connecticut.,
Principal Advisor - G.N. Hanson
- Krishnan, Vijayalakshmi, 1990, Late Archean intrusions from Kolar south India: a petrogenetic study
Principal Advisor - G.N. Hanson
- Douthit, Timothy L., 1990, A geochemical analysis of the Irish Waulsortian limestone: implications for the Sr isotopic composition of lower Carboniferous seawater,
Principal Advisor - W.J. Meyers, Co-Advisor - G.N. Hanson
- Davis, Daniel J., 1989, Rare earth element geochemistry of garnet amphibolite, Tuolumne Ultramafic Complex, California,
Principal Advisor - W.D. Sharp, Co-Advisor - G.N. Hanson
- Rawnsley, Christopher M., 1988, U-Pb sphene chronology of Adirondack metamorphism: Evidence for discrete cooling histories between the Highlands and Lowlands,
Principal Advisor - S.R. Bohlen, Co-Advisor - G.N. Hanson
- Evans, Owen C., 1987, The Petrogenesis of the Saganaga Tonalite revisited,
Principal Advisor - G.N. Hanson
- Horan, Mary F., 1984, The origin of Proterozoic mafic rocks in east-central Minnesota,
Principal Advisor - G.N. Hanson
- Kaczor, Sofia, 1984, A petrographic and chemical study of the natural melting of the Rattlesnake Gulch Granite, California,
Principal Advisor - G.N. Hanson

- Frauenthal, Margaret M., 1980, Carbonate stratigraphy of the Helderberg Limestone, New York State
Principal Advisor - G.N. Hanson, Co-Advisor - W.J. Meyers
- Simmons, Kathleen R., 1975, K-Ar age dating of plagioclase from Precambrian mafic dikes,
Principal Advisor - G.N. Hanson
- Prince, Linda, 1971, Rb-Sr isochron ages for the Giants Range Granite, northeastern Minnesota
- Kavanaugh, James E., 1970, Petrography and structure of Icarus Diorite, Saganaga-Northern Light Lakes area,
Ontario
Principal Advisor - G.N. Hanson
- Malhotra, Ramesh , 1970, K-Ar ages and petrography of mafic dikes Vermilion District, Minnesota, Principal
Advisor - G.N. Hanson
- Arth, Joseph G. Jr., 1970, Rb-Sr whole rock and mineral isochron ages of the early Precambrian Northern Light
gneiss, District of Thunder Bay, Ontario,
Principal Advisor - G.N. Hanson
- Hallford, Charles, R., 1969, Petrography and structure of the Saganaga Granite, Saganaga-Northern Light Lakes area,
Minnesota-Ontario
Principal Advisor - G.N. Hanson

Ph. D. Theses

- Munster, Jennie, in progress, Evaluating Perchlorate Sources in Suffolk County Groundwater
Principal Advisor – G.N. Hanson, Co-Advisor – H. Bokuniewicz
- Cole, Jennifer, 2003, U-Pb dating of Pliocene and Quaternary sedimentary calcite
Principal Advisors: E.T. Rasbury and C.W. Marean, Co-Advisor: G.N. Hanson
- Becker, Mona, 2000 Evaluation of U distribution and U-Pb in sedimentary Materials: Correlation of terrestrial and
marine sequences
Principal Advisor - G.N. Hanson
- Wang, Zhaosheng, 2001., U-Pb dating of caliche in early Mesozoic sequences
Principal Advisor - G.N. Hanson, Co-Advisor - W.J. Meyers
- Lev, Steven, 1998, An integrated petrographic and geochemical characterization of rare earth element and uranium
mobility in the Llandello-Caradoc Formation black shales, Wales, U.K.
Principal Advisor - S.M. McLennan, Co-Advisor - G.N. Hanson
- McDaniel, Diane, 1998, Provenance of the Amazon shelf and deep-sea fan sediments
Principal Advisor - S.M. McLennan, Co-Advisor - G.N. Hanson
- Rasbury, E. Troy, 1998, U-Pb ages of Late Paleozoic carbonate paleosols: potential for directly dating sedimentary
sequences
Principal Advisor - G.N. Hanson, Co-Advisor - W.J. Meyers
- Lanzirotti, Antonio, 1995, U-Pb dating of metapelites,
Principal Advisor - G.N. Hanson
- Barbara, Bock, 1995, Geochemistry and geochronology of the Austin Glen member of the Normanskill Formation,
Hudson Valley New York
Principal Advisor - S.M. McLennan, Co-Advisor - G.N. Hanson
- Evans, Owen C., 1994 Late- to post-kinematic granitoids, SW Superior Province,
Principal Advisor - G.N. Hanson
- Hemming, Sidney, 1994 Pb isotope studies of sedimentary rocks and detrital components for provenance analysis
Principal Advisor - S.M. McLennan, Co-Advisor - G.N. Hanson
- Hemming, N. Gary, 1993, Boron isotope systematics in natural and laboratory grown calcium carbonate
Principal Advisor - G.N. Hanson, Co-Advisor - W.J. Meyers
- Fouke, Bruce W., 1992, Dolomitization of the Seroe Domi periplatform carbonates, Aruba, Bonaire and Curacao,
Netherlands Antilles,
Principal Advisor - W.J. Meyers, Co-Advisor - G.N. Hanson
- Hoff, John A., 1992, U-Th-Pb systematics in dolomites,
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- Pedone, Vicki A., 1990, Burial dolomitization of Devonian Reef complexes, Canning Basin, Western Australia,
Principal Advisor - W.J. Meyers, Co-Advisor - G.N. Hanson
- Kaufman, Jonathan, 1989, Sedimentology, petrography and geochemistry of the Swan Hills Formation, Rosevear
Field, Central Alberta,
Principal Advisor - W.J. Meyers, Co-Advisor - G.N. Hanson

- Kolker, Allan, 1989, Petrology and geochemical evolution of the Maloin Ranch Pluton, Laramie Anorthosite Complex, S.E. Wyoming,
Principal Advisor - D.H. Lindsley, Co-Advisor - G.N. Hanson
- Mezger, Klaus, 1989, Dating the P-T evolution of granulites,
Principal Advisor - S.R. Bohlen, Co-Advisor - G.N. Hanson
- Stern, Richard, 1989, Petrogenesis of the Archean Sanukitoid Suite,
Principal Advisor - G.N. Hanson, Co-Advisor - G.N. Hanson
- Krogstad, Eirik, 1988, Timing and sources of late Archean magmatism, Kolar area, South India: Implications for Archean tectonics,
Principal Advisor - G.N. Hanson, Co-Advisor - V. Rajamani
- Spencer, Khalil J., 1987, Isotopic, major and trace element constraints on the sources of granites in an 1,800 Ma old igneous complex near St. Cloud, Minnesota,
Principal Advisor - G.N. Hanson
- Banner, Jay, 1986, Petrologic and geochemical constraints on the origin of regionally extensive dolomites of the Mississippian Burlington and Keokuk Fms., Iowa, Illinois and Missouri,
Principal Advisor - G.N. Hanson
- Walker, Richard J., 1984, The origin of the Tin Mountain Pegmatite, Black Hills South Dakota,
Principal Advisor - J. J. Papike, Co-Advisor - G.N. Hanson
- Shirey, Steven B., 1984, The origin of Archean crust in the Rainy Lake area, Ontario,
Principal Advisor - G.N. Hanson
- Vocke, Robert D., 1983, Petrogenetic modelling in an Archean gneiss terrane, Saglek northern Labrador, Principal Advisor - G.N. Hanson
- Nabelek, Peter, 1983, The geochemical evolution of the inversely zoned Notch Peak granitic stock, Utah.
Principal Advisor - J.J. Papike, Co-Advisor - G.N. Hanson
- Bender, John F., 1980, Petrogenesis of the Cortlandt complex
Principal Advisor - A. E. Bence, Co-Advisor - G.N. Hanson
- Langmuir, Charles H., 1980, A major and trace element approach to basalts,
Principal Advisor - G.N. Hanson, Co-Advisor - A.E. Bence
- Simmons, E. Craig, - 1976, Origin of four anorthosite suites,
Principal Advisor - G.N. Hanson
- Arth, Joseph G. Jr., 1973, Geochemistry of early Precambrian igneous rocks, Minnesota - Ontario,
Principal Advisor - G.N. Hanson

POST DOCTORAL RESEARCH ASSOCIATES

- Gary Solar, 1999- U-Pb dating of garnets
- J. Zachariah, 1992-95, Petrogenesis of metavolcanic rocks of the Ramagiri Schist Belt, India
- James Sevigny, 1990-1993, Geochronology of Appalachian rocks of southwest Connecticut
- N. Siva Siddaiah, 1989 - 91, Origin of gold deposits in Kolar Schist Belt, India
- Eirik Krogstad, 1988 -90, Geochronology and Isotope studies of Penninsular Gneisses, India
- S. Balakrishnan, 1986-1987, Petrogenesis of metavolcanic rocks of the Kolar Schist Belt, India
- Michael Chyi, 1984-86, Isotope Geochemistry of the Burlington-Keokuk Fms., Iowa, Illinois and Missouri
- Shen-su Sun, 1973-1975, Isotope and trace element geochemistry of Ross Island Volcanics, Antarctica