

Youngsook HUH

ADDRESS: School of Earth & Environmental Sciences Tel/Fax: +82-2-880-9167
Seoul National University
599 Gwanak-ro, Gwanak-gu Email: yhuh@snu.ac.kr
Seoul, 151-747
KOREA

EDUCATION

Massachusetts Institute of Technology- Woods Hole Oceanographic Institution	Marine Chemistry & Geochemistry	<i>Ph.D.</i> 1998
Korea University, Seoul, Korea	Physical Chemistry	<i>M.S.</i> 1994
Korea University, Seoul, Korea	Chemistry	<i>B.S.</i> 1992

EMPLOYMENT

Associate Professor, Seoul National University, Seoul, Korea (10/1/2006 – Present).
Assistant Professor, Seoul National University, Seoul, Korea (8/21/2004 – 9/30/2006).
Assistant Professor, Northwestern University, Evanston, IL (6/1/2000 – 8/31/2005).
Adjunct Invited Researcher, Institut de Physique du Globe de Paris, France (9/1/1999-8/30/2000).
Postdoctoral Research Associate, M.I.T., Cambridge, MA (5/19/1998-9/1/1999).
Research & Teaching Assistant, M.I.T., Cambridge, MA (9/1/1993-5/18/1998).
Research Fellow, Woods Hole Oceanographic Institution, Woods Hole, MA (6/1/1993-8/31/1993).
Research Assistant, Korea Institute of Science and Technology, Seoul, Korea (10/1/1992-4/30/1993).
Teaching Assistant, Korea University, Seoul, Korea (3/1/1992-6/25/1993).

HONORS

2002 NSF CAREER Award “Geochemistry of Redox-Sensitive Elements and Osmium Isotopes in Large Pristine Rivers”.
1997-1998 Carl-Gustav Rossby Award for the best thesis in the Program in Atmospheres, Oceans and Climates, Dept. of Earth, Atmospheric and Planetary Sciences, M.I.T.

SYNERGISTIC ACTIVITIES

2005-2007 Participated as lecturer in the Science and Policy Advanced Research Course, College of Natural Sciences, Seoul National University.
2001-2002 Searle Center for Teaching Excellence Junior Fellow, Northwestern University.

PROFESSIONAL SOCIETY MEMBERSHIP

American Geophysical Union
Geochemical Society
Geological Society of America
Korean Geological Society

FIELD EXPERIENCE

February 2008	Geochemistry of the rivers in Patagonia, South America
August 2006	Geochemistry of the Mt. Baekdu and the Tumen River in Jilin, China.
August 2005	Geochemistry of the Min Jiang in Sichuan and the Tumen River in Jilin, China: Chengdu, Yanji, 3 weeks.
August 2004	Geochemistry of the Three Rivers Region in Yunnan, China: Kunming, Dali, Panzhihua, 3 weeks.

December 2002 - January 2003	Geochemistry of the Red River in Vietnam and Yunnan, China (low stage): Hanoi-Laocai-Kunming-Dali, 4 weeks.
August-September 2001	Geochemistry of the Red River in Vietnam and Yunnan, China (high stage): Hanoi-Laocai-Kunming-Dali, 4 weeks.
May-June 2000	Geochemistry of the headwaters of the Mekong, Salween, Chang Jiang and Huang He rivers in western China and Tibet: Chengdu-Chamdo-Nachu-Golmud-Lanzhou, 6 weeks.
May-June 1999	Geochemistry of the headwaters of the Huang He and Chang Jiang rivers in western China and Tibet: Chengdu-Lanzhou-Yushu, 6 weeks.
July 1998	Geochemistry of the Amur River: Khabarovsk-Blagoveschensk, 4 weeks.
November 1997	Geochemistry of rivers draining the Siwalik Ranges: Bombay-Amdahbad-Delhi-Dehra Dun-Simla, 3 weeks
August-September 1997	Geochemistry of the Anadyr and Upper Aldan rivers: Anadyr-Markovo-Yakutsk-Neryungriy, 8 weeks.
July-August 1996	Geochemistry of the Indigirka and Upper Lena rivers: Yakutsk-Belaya Gora-Khonuu, 6 weeks.
July-August 1995	Geochemistry of the Lower Lena, Yana and Omoloy rivers: Yakutsk-Tiksi-Nizhnyansk-Verkhoyansk, 7 weeks.
February 1995	Geochemistry of hot springs at TAG Segment, Mid Atlantic Ridge: R/V Atlantis II, DSV ALVIN, 4 weeks.
July-August 1994	Geochemistry of Lake Baikal and the Upper Lena River: Irkutsk-Zhigalovo-Yakutsk, 4 weeks.

PROFESSIONAL ACTIVITIES

1998 – Present	Reviewed manuscripts for <i>Geochimica et Cosmochimica Acta</i> , <i>Marine Chemistry</i> , <i>Aquatic Geochemistry</i> , <i>Earth and Planetary Science Letters</i> , and <i>Chemical Geology</i> .
1998 – Present	Reviewed NSF proposals for Arctic Natural Sciences, Arctic Research & Education, Geochemistry & Petrology, Geology & Paleontology, Hydrology, and Instrumentation & Facilities programs.

UNIVERSITY SERVICE

2007-2008	Departmental undergraduate advisor; member of Departmental Committee on Academics
2006	Member, Committee on Study of National Grants Indirect Costs
2003-2004	Undergraduate Advisor.
2002-2004	Fellowship Coordinator.
2002-2003	Member, Faculty Search Committee.
2001-2002	Member, Building Committee; Member, Faculty Search Committee.

COURSES TAUGHT

891.307	Environmental Geology
026.010	Understanding Earth
3345.749	Recent Advances in Geology: Instrumental Analyses in Geochemistry
891-404	Geoscientific Information Analysis & Exercise
3345.749	Recent Advances in Geology: Radiogenic Isotopes in Earth Surface Processes
GEOL 450	Advanced Topics in Geology: Global Carbon Cycle (team-taught).
GEOL 440	Advanced Topics in Geochemistry: Analytical Methods in Geochemistry.

GEOL 327 Radiogenic Isotope Geochemistry.
GEOL 318 Stable Isotope Geochemistry.
GEOL 111 Global Environmental Change.
GEOL 102 Freshman Seminar: Time, the Fourth Dimension.

PUBLICATIONS

Yoon J., **Huh Y.**, Lee I., Moon S., Noh H., and Qin J. (2008) Weathering processes in the Min Jiang: major elements, $^{87}\text{Sr}/^{86}\text{Sr}$; $^{34}\text{S}_{\text{SO}_4}$; and $^{18}\text{O}_{\text{SO}_4}$. *Aquatic Geochemistry*, published online April 2008.

Wu L. and **Huh Y.** (2007) Dissolved reactive phosphorus in large rivers of East Asia. *Biogeochemistry* **85**, 263-288.

Moon S., **Huh Y.**, Qin J., and Nguyen v. P. (2007) Chemical weathering in the Hong (Red) River basin: Rates of silicate weathering and their controlling factors. *Geochim. Cosmochim. Acta* **71**, 1411-1430.

Borges J. and **Huh Y.** (2007) Petrography and chemistry of the bed sediments of the Red River in China and Vietnam: Provenance and chemical weathering. *Sediment. Geol.* **194**, 155-168.

Qin J., **Huh Y.**, Edmond J. M., Du G., and Ran J. (2006) Weathering and anthropogenic impact in the Ming Jiang, a headwater tributary of the Yangtze River. *Chem. Geol.* **227**, 53-69.

Wu L., **Huh Y.**, Qin J., Du G., and Van der Lee S. (2005) Chemical weathering in the Upper Huang He (Yellow River) draining the eastern Qinghai-Tibet Plateau. *Geochim. Cosmochim. Acta*. **69**, 5279–5294. (SCI IF = 3.811)

Huh Y., Chan L.-H., and Chadwick O. A. (2004) Behaviour of lithium and its isotopes during weathering of Hawaiian basalt. *Geochem. Geophys. Geosyst.* **5**, doi:10.1029/2004GC000729 (SCI IF = 2.570)

Huh Y., Birck J.-L., and Allègre C. J. (2004) Osmium isotope geochemistry in the Mackenzie River basin. *Earth Planet. Sci. Lett.* **222**, 115-129. (SCI IF = 3.499)

Huh Y. (2003) Chemical weathering and climate — a global experiment: A review. *Geosciences Journal* **7**, 277-288. (SCI Expanded)

Edmond J. M. and **Huh Y.** (2003) Non-steady state carbonate cycling and implications for the evolution of atmospheric PCO_2 . *Earth Planet. Sci. Lett.* **216**, 125-139. (SCI IF = 3.499)

Potter P. E., **Huh Y.** and Edmond J. M. (2001) Deep freeze petrology of Lena River sand, Siberia. *Geology* **29**, 999-1002.

Huh Y., Chan L.-H. and Edmond J. M. (2001) Lithium isotopes as a probe of weathering processes: Orinoco River. *Earth Planet. Sci. Lett.* **194**, 189-199.

Huh Y. and Edmond J. M. (1999) The fluvial geochemistry of the rivers of Eastern Siberia: III. Tributaries of the Lena River draining the basement terrains of the Aldan Shield and the Trans-Baikal Highlands, *Geochim. Cosmochim. Acta* **63**, 967-987.

Huh Y., Panteleyev G., Babich D., Zaitsev A. and Edmond J. M. (1998) The fluvial geochemistry of the rivers of Eastern Siberia: II. Tributaries of the Lena, Omoloy, Yana, Indigirka, Kolyma, and Anadyr draining the collisional/accretionary zone of the Verkhoyansk and Cherskiy ranges, *Geochim. Cosmochim. Acta* **62**, 2053-2075.

Huh Y., Tsoi M.-Y., Zaitsev A. and Edmond J. M. (1998) The fluvial geochemistry of the rivers of Eastern Siberia: I. Tributaries of the Lena River draining the sedimentary platform of the Siberian Craton, *Geochim. Cosmochim. Acta* **62**, 1657-1676.

Huh Y., Chan L.-H., Zhang L. and Edmond J. M. (1998) Lithium and its isotopes in major world rivers: Implications for weathering and the oceanic budget. *Geochim. Cosmochim. Acta*. **62**, 2039-2051.

Huh Y. and Edmond J. M. (1998) On the interpretation of the oceanic variations in $^{87}\text{Sr}/^{86}\text{Sr}$ as recorded in marine limestones. *Proc. Indian Acad. Sci.* **107**, 293-305.

Edmond J. M. and **Huh Y.** (1997) Chemical weathering yields in hot and cold climates. In *Tectonic Uplift and Climate Change*. W. F. Ruddiman and W. Prell eds., Plenum Press, 329-351.

Edmond J. M., Palmer M. R., Measures C. I., Brown E. T. and **Huh Y.** (1996) Fluvial geochemistry of the eastern slope of the northeastern Andes and its foredeep in the drainage of the Orinoco in Colombia and Venezuela. *Geochim. Cosmochim. Acta* **60**, 2949-2976.

Edmonds H. N., German C. R., **Huh Y.**, Gamo T. and Edmond J. M. (1995) Continuation of the hydrothermal fluid time series at TAG and the effects of the ODP drilling. *Geophys. Res. Lett.* **23**, 3487-3489.

Huh Y., Lee J. G., McPhail D. C. and Kim K. (1993) Measurement of pH at elevated temperatures using the optical indicator acridine. *J. Solution Chem.* **22**, 651-661.

ABSTRACTS OF PRESENTATIONS

Han Y. and **Huh Y.** (2008) A Geochemical Reconnaissance of the springs of Mt. Baekdu (Changbai) and the Duman (Tumen) River *Diamond Jubilee of the Physical Research Laboratory, Ahmedhabad, India*.

Yoon J. and **Huh Y.** (2008) Lithium isotopes in the Siberian Rivers: Importance of the evaporite-derived dissolved Li and comparison to the Orinoco River *Diamond Jubilee of the Physical Research Laboratory, Ahmedhabad, India*.

Huh Y. (2008) The CO₂ sink potential of Himalaya-Tibet weathering and erosion *Diamond Jubilee of the Physical Research Laboratory, Ahmedhabad, India*.

Huh Y. (2008) The CO₂ sink potential of Himalaya-Tibet weathering and erosion *Abstract—IGCP 476 Fourth Annual Symposium, Tokyo*.

Huh Y., Ollivier T. and Humayun M. (2007) Dissolved rhenium in the rivers of eastern Tibet: proxy for weathering of organic carbon? European Union of Geosciences, Vienna, Austria.

Huh Y. and Lee D.-C. (2006) Neodymium and hafnium isotope systematics in the rivers of Eastern Tibet. *Goldschmidt Conference, Melbourne, Australia*.

Moon S. and **Huh Y.** (2005) Chemical weathering in the Red River in south China and north Vietnam. *Geological Society of America Annual Meeting*.

Noh H. and **Huh Y.** (2005) Chemical weathering in the Three Rivers region of eastern Tibet. *Geological Society of America Annual Meeting*.

Huh, Y., 2004. Present day chemical weathering in the large rivers of the Tibetan Plateau and adjacent areas. *Annual Meeting of the Geological Society of America*.

Ellis, A., **Huh, Y.**, 2004. Geochemistry and weathering fluxes of the Yangtze headwaters in China. *Annual Meeting of the Geological Society of America*.

Wu, L., **Huh, Y.**, 2004. Major element geochemistry and strontium isotope ratios of the upper reach of the Huang He. *Annual Meeting of the Geological Society of America*.

Borges, J.B., **Huh, Y.**, 2004. Geological and physical constraints on bed-load composition in the Red River drainage system, South China and Vietnam. *Annual Meeting of the Geological Society of America*.

Huh, Y., Chan, L.-H., Chadwick, O.A., 2004. Behaviour of lithium and its isotopes during weathering of Hawaiian basalt. *Annual Meeting of the Geological Society of Korea*.

Huh Y. and Qin J. (2004) Chemical weathering in the Three Rivers of Southeastern Tibet. *Asia-Oceania Geosciences Society, 1st Annual Meeting, Singapore*, 107.

Qin J., **Huh Y.**, Edmond J. M., Du G., and Ran J. (2004) Weathering and anthropogenic impact. *Asia-Oceania Geosciences Society, 1st Annual Meeting, Singapore*, 108

Huh Y. (2004) Present day chemical weathering in the large rivers of the Tibetan Plateau and adjacent areas. *Abstract—IGCP 476 Second Annual Symposium, Shanghai*, 12.

Huh Y. and Stewart A.G. (2003) Iodine in rivers: Indicator of geologic effect on iodine deficiency disorders? *EOS, Trans. Amer. Geophys. Union* submitted.

Ellis A. and **Huh Y.** (2003) Geochemistry of the Red River and Chang Jiang — Constraints on the weathering flux associated with the Indo-Tibetan collision. *EOS, Trans. Amer. Geophys. Union* submitted.

Borges J. B. and **Huh Y.** (2003) Petrology and bulk chemistry of modern bed load sediments from rivers draining the eastern Tibetan Plateau. *EOS, Trans. Amer. Geophys. Union* submitted.

Huh Y., Chan L.-H. and Chadwick O. (2002) Lithium isotopes as a probe of weathering processes: Hawaiian soil climosequence. *Geochim. Cosmochim. Acta* **66**, A346 (abstr.). INVITED.

Huh Y., Chan L.-H. and Edmond J. M. (2001) Lithium isotopes as a probe of weathering processes. *EOS, Trans. Amer. Geophys. Union* **82**, F662.

Huh Y., Birck J.-L. and Allègre C. J. (2000) Osmium isotopes and continental weathering. In *Tenth Annual V. M. Goldschmidt Conference*, p.537. Lunar and Planetary Institute, Houston.

Huh Y., Chan L.-H. and Edmond J. M. (1999) Lithium and its isotopes in river water and suspended material. In *Ninth Annual V. M. Goldschmidt Conference*, p.131. Lunar and Planetary Institute, Houston.

Huh Y. and Edmond J. M. (1997) Chemical weathering yields and Sr isotope systematics from major Siberian rivers. In *Seventh Annual V. M. Goldschmidt Conference*, p.100. Lunar and Planetary Institute, Houston.

Edmond J. M. and **Huh Y.** (1997) Fixation rates of carbon dioxide by chemical weathering in the continental arc of the Western Americas. In *Seventh Annual V. M. Goldschmidt Conference*, Lunar and Planetary Institute, Houston.

Edmond J. M. and **Huh Y.** (1996) Fixation rates of carbon dioxide by chemical weathering in the continental arc of the Western Americas. *EOS, Trans. Amer. Geophys. Union* **77**, F796.

Huh Y. and Edmond J. M. (1996) The isotopic systematics of fluvial Sr: new results from the big rivers of eastern Siberia. *EOS, Trans. Amer. Geophys. Union* **77**, F325.

Zaitsev A., **Huh Y.** and Edmond J. M. (1996) Chemical weathering yields from basement terrains in sub-Arctic climates: the Rivers of Eastern Siberia. *EOS, Trans. Amer. Geophys. Union* **77**, F783.

Edmond J. M. and **Huh Y.** (1995) Controls on the isotopic evolution of seawater strontium. *EOS, Trans. Amer. Geophys. Union* **76**, S295.

Huh Y., Coleman D. and Edmond J. M. (1994) $^{87}\text{Sr}/^{86}\text{Sr}$ in Siberian rivers. *EOS, Trans. Amer. Geophys. Union* **75**, S142.

THESES

The Fluvial Geochemistry of the Rivers of Eastern Siberia and Implications for the Effect of Climate on Weathering. Ph.D. Thesis, MIT/WHOI Joint Program in Oceanography, Cambridge, MA, p.236, 1998.

Measurement of pH at Elevated Temperatures Using the Optical Indicator Acridine. M.S. Thesis, Korea University, Seoul, Korea, 1994.

THESES ADVISORS

Postdoctoral Advisors: Dr. Claude Allègre, IPGP; Dr. John Edmond, MIT (deceased).

Ph.D. Advisor: Dr. John Edmond, MIT (deceased).

M.S. Advisor: Dr. Keon Kim, Korea University.

ADVISEES

Postdoctoral : Andre Ellis

Graduate: Joniell Borges, Seulgi Moon, Hyonjeong Noh, Xinxin Zhang, Lingling Wu, Yeongcheol Han, Jun Yeon Yoon, Soyol-Erdenne, Borom Lee

Undergraduate: Kalysta Harmon, Kiara Lee, Sarah Holsinger, Timothée Ollivier