
Yongjun Gao

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Professional Appointments:

- 2008- Research Assistant Professor (Since 1st, September), University of Houston
- 2005- 2008: Postdoctoral fellow, Principle Investigator of USSSP funded project, University of Houston, Houston, TX, USA
- 2004-2005: Postdoctoral fellow, Max-Planck Institut für Chemie, Abt. Geochemie, Mainz, Germany.
- 2001-2004: Project Scientist of German Research Foundation (DFG) project Göttingen University, Göttingen, Germany; Max-Planck Institut für Chemie, Mainz, Germany.
- 2000-2001: Guest Scientist, Max-Planck Institut für Chemie, Mainz, Germany.
- 1999-2000: Research Assistant, Peking University, Beijing, China.
- 1996-1999: Graduate Research Assistant, Peking University, Beijing, China.
- 1992-1996: Undergraduate Research Assistant, China Ocean University, Qing Dao, China.

Academic Degrees:

- Ph.D.** (2004) Geochemistry, University of Goettingen, Goettingen, Germany
- M. Sc.** (1999) Geochemistry, Peking University, Beijing, China
- B. S.** (1996) Marine Geology, China Ocean University, Qing Dao, China

Awards and Funding:

- 2013 Decode the Lithium Isotopic Fractionation During Slab Dehydration- A mineral Study on Lithium Systematics in High Pressure Metamorphic Rocks, **PI**, \$251,406, **NSF**, Pending
- 2012 Inter-mineral lithium isotopic fractionation investigations– taking rocks from the Dabie-Sulu area as examples, **CO-PI**, ¥900,000, **CNSF**, China
- 2011 Depth-profile of geochemical compositions and alterations of basement rock prior to subduction front: IODP drilling site C0012, **PI**, \$14,957, **U.S. Science Support Program**, USA
- 2011 Trace element and isotope study on allanite-epidote in Dabie-Sulu UHP gneiss and eclogite, **CO-PI**, ¥840,000, **CNSF**, China
- 2006 Down-Hole Major, Trace, and Isotopic Variation of Whole Rocks and Minerals in IODP Hole 1256D, **PI**, \$26,928, **U.S. Science Support Program**, USA
- 2005 University of Houston Postdoctoral Fellowship, USA
- 2004 Max-Planck Society Postdoctoral Fellowship, Germany

- 2001-2004 German Research Foundation (DFG) project "¹⁸O-in-situ Microanalysis of minerals from Hole 735B lower crustal section", Germany
2000 Scholarship from Gottlieb Daimler- und Karl Benz-Stiftung, Germany

Professional Service and Memberships:

External Reviewer, NSF Petrology and Geochemistry
Sigma Xi, The Scientific Research Society (Full membership)
American Geophysical Union (Member)

Cruise Experience:

- 2010: Igneous Petrologist, **IODP Leg 333**, NanTroSEIZE Stage 2: Subduction Inputs 2 and Heat Flow, West Pacific Ocean
2005: July-Sept. Geochemist/Igneous Petrologist **IODP Leg 309**: Hole 1256D, East Pacific Ocean
2004: July-Aug. Petrologist **ARK XX/2**: Lena Trough, Arctic Ocean
2001: July-Oct Petrologist **ARK XVII/2**: Gakkel Ridge, Arctic Ocean

Student Advised: Carmen A. Dragoi (MS, UH); Raul Benavidez (MS, UH); Nam Nguyen (MS, UH); Weihang Yang (MS, UH); He Sun (Ph.D, USTC).

Course Teach: Analytical Methods in Inorganic Geochemistry

Publications:

Peer-reviewed Articles (by publication year)

1. **2013**, Sun, H., Y.L. Xiao, **Y. Gao** (student as first author), J.Q. Lai, Z. Hou, Y. Wang, 2012, Fluid and melt inclusions in the Mesozoic Fangcheng basalt from North China Craton: implications for magmaevolution and fluid/melt-peridotite reaction, *Contrib. Mineral. Petrol.* 165(5), 885-901.
2. **2013**, Junbao Yu, Hongfang Dong, Yunzhao Li, Huifeng Wu, Bo Guan, **Yongjun Gao**, Di Zhou, Yongli Wang, 2013, Spatiotemporal distribution characteristics of soil organic carbon in newborn coastal wetlands of the Yellow River Delta estuary, CLEAN–Soil, Air, Water, DOI: 10.1002/clen.201100511.
3. **2012**, **Gao, Y.**, F. Vils, K. M. Cooper, N. Banerjee, M. Harris, J. Hoefs, D. A. H. Teagle, J. F. Casey, T. Elliott, C. Laverne, J. C. Alt, K. Muehlenbachs, 2012, Down-hole variation of lithium and oxygen isotopic compositions of oceanic crust at East Pacific Rise, ODP Site 1256, *Geochem. Geophys. Geosyst.*, doi:10.1029/2012GC004207.
4. **2012**, Huang, J. Y. Xiao, **Y. Gao** (correspondence author), Z. Hou, W. Wu, 2012, Nb-Ta fractionation induced by fluid-rock interaction in subduction-zones: Constraints from UHP eclogite- and vein-hosted rutile from the Dabie orogen, Central-Eastern China, *J. Metamorph Geol.* 821-842.
5. **2012**, Yu, J., Wang, Y., Li, Y., Dong, H., Zhou, D., Han, G., Wu, H.; Wang, G., Mao, P., **Gao, Y.** 2012, Soil organic carbon storage changes in coastal wetlands of the modern Yellow River Delta from 2000 to 2009, *Biogeosciences*, 9, 2325-2331.
6. **2012**, G. Han, L. Yang, J. Yu, G. Wang, P. Mao, **Y. Gao**, 2012, Environmental Controls on Net Ecosystem CO₂ Exchange Over a Reed (*Phragmites australis*) Wetland in the Yellow River Delta, China, *Estuaries and Coasts*, DOI 10.1007/s12237-012-9572-1.

7. **2012**, G. Han, L. Yang, J. Yu, G. Wang, P. Mao, **Y. Gao**, 2012, Winter Soil Respiration from Different Vegetation Patches in the Yellow River Delta, China, *Environmental Management*, 50:39–49.
8. **2011**, **Gao, Y***, Snow, J.E., Casey, J.F., Yu, J., 2011. Cooling-induced fractionation of mantle Li isotopes from the ultraslow-spreading Gakkel Ridge. *Earth. Planet. Sci. Lett.* 301, 231-240.
9. **2011**, **Gao, Y.**, Casey, J.F., 2011. Lithium isotope composition of ultramafic geological reference materials: JP-1 and DTS-2. *Geostand. Geoanal. Res.* doi:10.1111/j.1751-908X.2011.00117.x.
10. **2011**, J. Yu, Y. Fu, Y. Li, G. Han, Y. Wang, D. Zhou, W. Sun, **Y. Gao**, and F. X. Meixner, 2011, Effects of water discharge and sediment load on evolution of modern Yellow River Delta, China, over the period from 1976 to 2009, *Biogeosciences*, 8, 2427–2435.
11. **2011**, Snow, J.E., Hellebrand E., v.d. Handt, A., Nauret, F., **Gao, Y.**, Schencke, H.W., 2011, Oblique nonvolcanic seafloor spreading in Lena Trough, Arctic Ocean, *Geochemistry Geophysics Geosystems*. DOI: 10.1029/2011GC003768.
12. **2011**, Expedition 333 Scientists, 2011. NanTroSEIZE Stage 2: subduction inputs 2 and heat flow. *IODP Prel. Rept.*, 333. (**Yongjun Gao** is the member of the Scientists committee)
13. **2010**, Yu, J.B., J.S. Liu, F. X. Meixner, J.D. Wang, **Y. Gao**, Y. Wang, X.N. Qi, and X.B. Chen. 2010. Estimating NPP and nutrient stock in plant in freshwater marsh, northeastern China. *Clean-soil, air, water* 38(11),1080-1086.
14. **2009**, **Yongjun Gao***, Jian Huang, John F. Casey, 2009, Data report: Trace element Geochemistry of oceanic crust formed at a super-fast spreading ridge, Hole1256D, *Proceedings of the Integrated Ocean Drilling Program, Expedition 309/312, Super Fast Spreading Rate Crust*.
15. **2006**, **Yongjun Gao***, Jochen Hoefs, Eric Hellebrand, Anette von der Handt and Jonathan E. Snow, 2006, Trace element zoning in pyroxenes from ODP Hole 735B gabbros: Diffusive exchange or synkinematic crystal fractionation? *Contributions to Mineralogy and Petrology*. V. 153 (4), Pages 429-442.
16. **2006**, **Yongjun Gao***, Jochen Hoefs, Reinhold Przybilla, Jonathan E. Snow, 2006, A complete oxygen isotope profile through the lower oceanic crust, ODP Hole 735B, *Chemical Geology*. Volume 233, Issues 3-4, 15 October 2006, Pages 217-234
17. **2006**, Expedition 309 and 312 Scientists, 2006. Superfast spreading rate crust 3: a complete in situ section of upper oceanic crust formed at a superfast spreading rate. *IODP Prel. Rept.*, 312. doi:10:2204/iodp.pr.312.2006. (**Yongjun Gao** is the member of the Scientists committee)
18. **2005**, Wilson, D. S., Teagle, D. A. H., Alt, J. C., Banerjee, N. R., Umino, S., Miyashita, S., Acton, G. D., Anma, R., Barr, S. R., Belghoul, A., Carlut, J., Christie, D. M., Coggon, R. M., Cooper, K. M., Cordier, C., Crispini, L., Durand, S. R., Einaudi, F., Galli, L., **Gao, Y.**, Geldmacher, J., Gilbert, L. A., Hayman, N. W., Herrero-Bervera, E., Hirano, N., Holter, S., Ingle, S., Jiang, S., Kalberkamp, U., Kerneklian, M., Koepke, J., Laverne, C., Vasquez, H. L. L., Maclennan, J., Morgan, S., Neo, N., Nichols, H. J., Park, S. H., Reichow, M. K., Sakuyama, T., Sano, T., Sandwell, R., Scheibner, B., Smith-Duque, C. E., Swift, S. A., Tartarotti, P., Tikku, A. A., Tominaga, M., Veloso, E. A., Yamasaki, T., Yamazaki, S., and

- Ziegler, C., Drilling to Gabbro in Intact Ocean Crust. *Science*, 312(5776): 1016-1020.
19. 2005, Expedition 309 Scientists, 2005. Superfast spreading rate crust 2: a complete in situ section of upper oceanic crust formed at a superfast spreading rate. *IODP Prel. Rept.*, 309. doi:10.2204/iodp.pr.309.2005. (Yongjun Gao is the member of the Scientists committee)
 20. 2005, Zhang, Z.M., Xiao, Y.L., Shen, K., Gao, Y.J., 2005, Garnet growth compositional zonation and metamorphic P-T path of the ultrahigh-pressure eclogites from the Sulu orogenic belt, eastern Central China. *Acta Petrologica Sinica*, 21 (3), 809-818.
 21. 2005, Jochum, K.P., B. Stoll, K. Herwig, M. Willbold, A.W. Hofmann, M. Amini, S. Aarburg, W. Abouchami, I. Raczek, A. Stracke, O. Alard, C. Bouman, S. Becker, M. Dücking, H. Brätz, R. Klemm, D. de Bruin, D. Canil, D. Cornell, C.-J. de Hoog, C. Dalpé, L. Danyushevsky, Y. Gao, J. E. Snow, N. Groschopf, D. Günther, C. Latkoczy, M. Guillong, E.H. Hauri, H. E. Höfer, Y. Lahaye, K. Horz, D. E. Jacob, S. Kasemann, A.J.R. Kent, T. Ludwig, T. Zack, P.R.D. Mason, A. Meixner, M. Rosner, K. Misawa, B. P. Nash, J. Pfänder, W. R. Premo, W. Sun, M. Tiepolo, R. Vannucci, T. Vennemann, D. Wayne, J. D. Woodhead. 2005, MPI-DING Reference Glasses for In-Situ Microanalysis: New reference values for element concentrations and isotope ratios. *Geochemistry Geophysics Geosystems*. Vol. 7, Q02008, doi:10.1029/2005GC001060, 2006.
 22. 2005, Zhang, Z., Rumble, D., Liou, J.G., Xiao, Y.L. and Gao, Y. J. 2005 Oxygen isotope geochemistry of rocks from the Pre-Pilot Hole of the Chinese Continental Scientific Drilling Project (CCSD-PPH1). *American Mineralogist*, v. 90, 857-863.
 23. 2004, Snow, J. E. and petrology group ARK XX-2 (sub), 2004, Petrology of Lena Trough and Gakkel Ridge in: P. Lemke et al. (sub). Cruise Report, Polarstern ARK XX-2. *Reports on Polar and Marine Research*, Alfred-Wegener-Institut for Polar and Marine Research, Bremerhaven, Germany. (Yongjun Gao is the member of the petrology group).
 24. 2004, Tao Wang, Yadong Zheng, Tianbin Li and Yongjun Gao. 2004. Mesozoic granitic magmatism in extensional tectonics near the Mongolian border in China and its implications for crustal growth. *Journal of Asian Earth Sciences*, 23 (2004) pp. 715-729.
 25. 2002, Snow, J. E. and Petrology Group, ARK VXII-2 (2002) ARK XVII/2 Petrology cruise report: Petrogenesis of magmatic and amagmatic crust along the world's slowest spreading mid-ocean ridge. In: Thiede, J. (ed) (2002) Cruise report, ARK XVII/2, *Reports on Polar and Marine Research*. (Yongjun Gao is the member of the petrology group).
 26. 2002, Wang, T, Zheng, YD, Li, TB, Gao, YJ, Ma, MB, 2002, Forceful emplacement of granitic plutons in an extensional tectonic setting: Syn-kinematic plutons in the Yagan-Onch Hayrhan metamorphic core complex, *Acta Geologica Sinica-English Edition*, 76 (1): 81-88.
 27. 2001, Mu Zhiguo, Gao Yongjun, 2001, The Laser Microprobe Dating Drives K-Ar Geochronology into A New Milestone at the End of 20th Century (in Chinese), *Acta Scientiarum Naturalium Universitatis Pekinensis*, Vol. 37, No. 1, pp. 136-142.

28. 2000, **Gao Y J**, Mu Z G, Liu Y L, Huang B L, 2000, K-Ar Dating of Mariana Trough Basalts and Its Significance (in Chinese), *Geology-Geochemistry*, Vol. 28, No. 3, pp.65-69.
29. 2000, **Gao Y J**, Mu Z G, Wu S Y, 2000, Geochemistry and Geochronology of Mariana Trough Basalts (in Chinese), *Marine Geology & Quaternary Geology*, Vol. 20, No. 3, pp. 53-61.
30. 1999, **Gao Y J**, Mu Z G, Ma P X, 1999, The application of Re-Os isotope system to geoscience (in Chinese), *Geology-Geochemistry*, Vol.27, No. 3, pp.102-110.
31. 1998, Huang B.L., **Gao Y.J.**, Mu Z.G., 1998, New development on ^{40}Ar - ^{39}Ar dating of single-grain glauconies (in Chinese), *Advance in Earth Sciences*, Vol. 13, No. 4, pp.407-408.

Selected conference presentations:

- Casey, J. F.; **Gao, Y.**; Benavidez, R.; Dragoi, C., 2010, The Lowest $\delta^7\text{Li}$ Yet Recorded in MORB Glasses: The Connection with Oceanic Core Complex Formation, Refractory Rutile-bearing Eclogitic Mantle Sources and Melt Supply, American Geophysical Union, Fall Meeting 2010, abstract #V11A-2245.
- J. F. Casey, **Y. Gao**, 2008, Ultradepleted Residual Mantle Refertilized by Enriched Percolating Melt Within Megamullion-rich Segments of the Mid-Atlantic Ridge Between 13 and 16 °N, *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract T43C-2040.
- Y Gao**, J.F. Casey, J.E. Snow, 2008, Isotopic fractionation of Li during cooling of mantle peridotite from Gakkel Ridge, *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract V32A-03.
- Yongjun Gao**, Jochen Hoefs et al., 2007, Down-Hole variation of lithium and oxygen isotopic composition in Hole 1256D. *AGU fall meeting 2007*.
- Huang, J, Casey, J.F., **Gao, Y.**, 2007, Trace Element Geochemical Signature of Basalts and Diabases from the Bay of Islands Ophiolite in Western Newfoundland. *AGU fall meeting 2007*.
- Barzoi, C.A., Casey, J. F., **Gao, Y.**, Lapen, T., Trace Element Study of MORB Glasses from 14 °-16 °N along Mid-Atlantic Ridge by LA-ICP- MS. *AGU fall meeting 2007*.
- Yongjun Gao**, John F. Casey et al., 2007, Trace element geochemistry of oceanic crust formed at a super-fast spreading ridge, Hole 1256D. 2nd Post-cruise meeting of IODP Expedition 309&312, Tokyo.
- Yongjun Gao**, Jochen Hoefs, Kari Cooper et al., 2007, Down-Hole variation of lithium and oxygen isotopic composition in Hole 1256D. 2nd Post-cruise meeting of IODP Expedition 309&312, Tokyo.
- Y. Gao**, J. Hoefs, E. Hellebrand, A. von der Handt and J. E. Snow, 2005, Trace element diffusion in natural clinopyroxene: Faster than we thought? Geophysical Research Abstracts, Vol. 7, 07927, 2005.
- Snow, J. E.; Hellebrand, E.; Handt, A. V.; Nauret, F.; **Gao, Y.**; Feig, S.; Jovanovic, Z., 2005, Arctic Lena Trough -- NOT a Mid-Ocean Ridge, American Geophysical Union, Fall Meeting 2005, abstract #T33G-08.
- Y. Gao**, J. Hoefs, E. Hellebrand, A. von der Handt and J. E. Snow (2004): Diffuse trace element zoning in clinopyroxene: Indications for melt transport in the lower oceanic crust, 82. Jahrestagung der Deutschen Mineralogischen Gesellschaft, Karlsruhe:*European Journal of Mineralogy* 16, Suppl. 1:42.
- Y. Gao**, J.E. Snow, E. Hellebrand, A. von der Handt and J. Hoefs (2003): Petrology of

- gabbros from Gakkel Ridge, EGU-AGU Meeting, Nice: *Geophysical Research Abstracts* 5, 14591.
- Y. Gao**, J. Hoefs and J. E. Snow, 2002, Oxygen isotope profile of the lower ocean crust: an in-situ study by UV-laser-ablation oxygen isotope microprobe, *Geochimica et Cosmochimica Acta*. 66; 15A, Pages 262.
- Yongjun Gao**, Jochen Hoefs and Jonathan E. Snow, 2002, Oxygen isotope profile of the lower ocean crust: an in-situ study by UV-laser-ablation oxygen isotope microprobe. SWIR meeting, Southampton, UK.
- Yongjun Gao**, Jochen Hoefs, and Jonathan E. Snow, 2001, Oxygen isotope evolution of the lower ocean crust: an in-situ study by UV-laser-ablation oxygen isotope microprobe, *AGU fall meeting* 2001.
- J.E.Snow, E. Hellebrand, A. von der Handt, F. Nauret, **Y.Gao**, S.Feig, Z. Jovanovic, S. Gauger (2004), Lena Trough (Arctic Ocean): An oblique 'amagmatic' rift. Arctic Ocean. *Eos Trans. AGU*, 85(47), Fall Meet. Suppl., Abstract T11G-01.
- E. Hellebrand, J.E.Snow, S.Feig, **Y.Gao**, Z. Jovanovic, F. Nauret (2004), Melt Extraction Versus Melt Stagnation Along the Ultraslow Spreading Lena Trough, Arctic Ocean. *Eos Trans. AGU*, 85(47), Fall Meet. Suppl., Abstract V22A-07.
- F. Nauret, J. E. Snow, E. Hellebrand, A. von der Handt, **Y. Gao**, S. Feig, Z. Jovanovic (2004) Lena Trough Basalts: Low degree garnet melting signatures. *Eos Trans. AGU*, 85(47), Fall Meet. Suppl., Abstract T12A-07.
- A. von der Handt, E. Hellebrand, J.E.Snow, S. Feig, **Y. Gao**, Z. Jovanovic, F. Nauret (2004) Fresh Abyssal Peridotites -- not an Oxymoron! *Eos Trans. AGU*, 85(47), Fall Meet. Suppl., Abstract T13B-1358.