

CURRICULUM VITAE

OLIVIER ROUXEL

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EDUCATION:

Engineer Ecole National Supérieure de Géologie de Nancy, France (1995-1998:)

M.S. Institut National Polytechnique de Lorraine (DEA), France, 1998

Ph.D. Institut National Polytechnique de Lorraine, France, 1998-2002

PROFESSIONAL EXPERIENCE:

9/98-11/02: Research assistant, Centre de Recherches Pétrographiques et Géochimiques (CRPG-CNRS) France.

11/02 - 11/03: Research associate, Department of Earth Sciences, University of Cambridge, UK

12/03 - 5/05: Deep Ocean Exploration Institute Postdoctoral Scholar, Department of Marine Chemistry and Geochemistry, Woods Hole Oceanographic Institution.

5/05 - present: Assistant Scientist, Department of Marine Chemistry and Geochemistry, Woods Hole Oceanographic Institution.

AWARDS

Woods Hole Oceanographic Institution Postdoctoral Fellowship award.

PROFESSIONAL AFFILIATIONS

Member American Geophysical Union (2003-present), Geochemical Society (2003-present), European Geoscience Union (2005-present)

RESEARCH INTERESTS

- * Non-traditional stable isotope systematics in rivers and estuaries; processes controlling the fractionation between continental run-off and the ocean.
- * Non-traditional stable isotope systematics in marine sediments (e.g. black shales) and paleoceanographic implications.
- * Mobility and fluxes of metals and metalloids during seafloor weathering and in seafloor hydrothermal systems.
- * Developments of new stable isotope tracers of the deep biosphere in oceanic basement and marine sediments.
- * Isotope constraints on the sources and biogeochemical cycling of metal and metalloid in seawater.

PROFESSIONAL ACTIVITIES

Steering Committee member of the WHOI Plasma Mass Spectrometer Facility.

Ad-hoc reviewer of manuscripts submitted to *Chemical Geology*, *Comptes Rendus Acad. Sci.*, *Earth Planet. Sci. Lett.*, *Economic Geology*, *G-cubed*, *Geochim. Cosmochim. Acta.*, *Geology*, *Geostandard Newsletter*, *Geosphere*, *GSA Today*, *J. Anal. Atom. Spectrom.*, *Nature*, *Science*, *Talanta*.

Ad-hoc reviewer of book chapters published by the Mineralogical Society of America, Elsevier Science.

Ad-hoc reviewer of proposals submitted to National Science Foundation, European Science Foundation, Petroleum Research Found, NASA, INSU France.

Panel reviewer for NASA to select new Institutional Team Members to the NASA Astrobiology Institute (NAI) (Cooperative Agreement Notice CAN5).

Member of the Editorial Board of *Chemical Geology* (since 2008)

Member of *Nature* Reader Panel (since 2008)

Convenor (with A. Anbar) of a symposium at the Goldschmidt 2005 conference “SS-58: Novel isotopic methods in tracing paleo-oceanographic processes”.

Convenor (with A. Bekker) of a symposium at the Astrobiology 2006 meeting, Washington DC “The environmental impact of life”.

Convenor (with P. De Groot) of a symposium at the EGU 2006 and 2007 meeting, Vienna (Austria) “Stable Isotopes in Geosciences”.

Convenor (with Jean Carignan) of a symposium at the EGU 2008 meeting, Vienna “Novel Analytical Methods for Radiogenic and Non-Traditional Stable Isotope Analysis”.

Convenor (with Thomas Zack) of a symposium at the Goldschmidt 2008 meeting, Vancouver “Stable Isotopes in high-T geochemistry”.

Guest editor with M. Roskosz and R. Caracas of a special volume in *Chemical Geology* “Advances in experimental and theoretical isotope geochemistry” (to be published in 2009).

Guest co-editor of a special volume in *Geostandards and Geoanalytical Research* “Goldschmidt 2008 conference” (to be published in 2009).

PARTICIPATION IN EDUCATION PROGRAM

Fall 2004. MIT/WHOI Marine Biology program. Topic: Fe-isotopes biogeochemistry.

Spring 2004, MIT/WHOI Geodynamics Program. Topic: the rise of atmospheric Oxygen.

Fall 2005, MIT/WHOI program. Course 7.439 “Topics: Mineralogy for Biologists and Chemists” Co-instructor with Katrina Edwards.

Fall 2008, MIT/WHOI Chemical Oceanography program. Topic: metal stable isotope geochemistry.

Committee member of MIT-WHOI Joint Program graduate students Paul Craddock, Dan Rogers.

SUPERVISION AT WHOI

- 09/05-11/05: Supervision of Dr. Yang Yaomin (Guest Investigator) from the Key Laboratory of Marine Sedimentology and Environmental Geology, Qingdao (China).
- 06/06-09/06: Supervision of Noah Planavsky (summer student fellow) from Lawrence University, WI and Sarah Bennett (guest student) from NOC, Southampton (UK)
- 06/07-09/06: Supervision of Elizabeth Boatman (summer student fellow) from Benoit College
- 09/06 – 07/08: Supervision of Raphaelle Escoube (guest student) from University of Pau (France)
- 08/08-09/08: Supervision of Dr. Vesselin Dekov (Guest Investigator) from the University of Sofia, Bulgaria
- 09/07 - present: Supervision of Maureen Wisch (Research Assistant III)

CRUISE PARTICIPATION

- 09/08:** Geochemist, Cruise TN255 (R/V Thompson), “FEMO 2008: Loihi Seamount” (C. Moyer, chief scientist).
- 10/07:** Geochemist, Cruise KM0719 (R/V Kilo Moana), “FEMO 2007: Loihi Seamount” (C. Moyer, chief scientist).
- 10/06:** Geochemist, Cruise MGLN10MV (R/V Melville), “FEMO 2006: Loihi Seamount” (K. Edwards, chief scientist).
- 07/06:** Geochemist, Cruise MGLN06 (R/V Melville), “Hydrothermal Systems in the Eastern Manus Basin” (M. Tivey, chief scientist).
- 11/04:** Geochemist, Cruise AT11-20 (R/V Atlantis), “Ridge integrated studies at 9°N East Pacific Rise” (M. Lilley, chief scientist).
- 05/01:** Petrologist, Cruise IRIS (R/V Atalante), "The Rainbow hydrothermal field (Mid-Atlantic Ridge)" (Y. Fouquet, chief scientist).
- 04/99:** Petrologist, Ocean Drilling Program, Leg 185, "Drilling the Input to the Subduction Factory" (J. Ludden, T. Plank, co-chief scientists).

PUBLICATIONS (§ student solely or principally advised by O. Rouxel)

Articles submitted

- § Bennett S. A., **Rouxel O. J.**, Garbe-Schönberg D., German C.R.. Iron isotope fractionation in a buoyant hydrothermal plume from the Mid-Atlantic Ridge at 5°S *Geochim. Cosmochim. Acta*
- § Escoube R., **Rouxel O.**, Sholkovitz E. and Donard O. Iron Isotope Systematics in Estuaries: The case of the North River, Massachusetts (USA). *Geochim. Cosmochim. Acta*.
- § Planavsky N., **Rouxel O.**, Bekker A., Shapiro R., Fralick P., Knudsen A. Iron-oxidizing microbial ecosystems thrived in late Paleoproterozoic redox-stratified oceans. *Earth Planet. Sci. Lett*

Articles in press

- Toner B.M., Fakra S.C., Manganini S.J., Santelli C.M., Marcus M.A., Moffett J.W., **Rouxel O.**, German C.R., and Edwards K.J.. Iron(II) is Stable in Association with Particulate Organic Carbon in Deep-sea Hydrothermal Plumes. *Nature*

Peer-reviewed articles

- § Craddock P., **Rouxel O.**, Ball L., Bach W. Sulfur Isotope Measurement of Sulfate and Sulfide by High-Resolution MC-ICP-MS. (2008) *Chemical Geology*, **253**,102–113.

- Rouxel O.**, Sholkovitz E., Charette M., Edwards K. Iron isotope fractionation in subterranean estuaries. *Geochim. Cosmochim. Acta*, **72**, 3413-3430.
- Rouxel O.**, Shanks W.C., Bach W. and Edwards K. (2008) Integrated Fe and S isotope study of seafloor hydrothermal vents at East Pacific Rise 9-10°N. *Chem. Geol.*, **252**, 214-227.
- John S.G., **Rouxel O.J.**, Craddock P.R., Engwall A.M., and Boyle E.A. (2008) Zinc isotope composition and fractionation in hydrothermal vent fluids and chimneys. *Earth Planet. Sci. Lett.*, **269**, 17-28.
- Rouxel O.**, Ono S., Alt J., Rumble D. & J. Ludden Sulfur Isotope Evidence for Microbial Sulfate Reduction in Altered Oceanic Basalts at ODP Site 801. (2008) *Earth Planet. Sci. Lett.*, **268**, 110-123.
- Reisberg L., **Rouxel O.**, Ludden J., Staudigel H., Zimmermann C. Re-Os results from ODP Site 801: Evidence for extensive Re uptake during alteration of oceanic crust. (2008) *Chemical Geology*, **248**, 256-271.
- Anbar A. & **Rouxel O.** Metal Isotopes in Paleooceanography. (2007) *Ann. Rev. Earth. Planet. Sci.*, **35**, 717-746.
- Ono S., Shanks III W.C., **Rouxel O.**, and Rumble D. S-33 constraints on the seawater sulfate contribution in modern seafloor hydrothermal sulfides. (2007) *Geochim. Cosmochim. Acta* **71**, 1170-1182.
- Slack J.S., Grenne T., Bekker A., **Rouxel O.** and Lindberg P.A. Suboxic deep seawater in the late Palaeoproterozoic. (2007) *Earth Planet. Sci. Lett.* **255**, 243-256.
- Rouxel O.**, Galy A. and Elderfield H. The geochemistry of Germanium Isotopes in Igneous Rocks and Marine Sediments. (2006) *Geochim. Cosmochim. Acta*, **70**, 3387-3400.
- Dauphas N. and **Rouxel O.** (2006) Mass spectrometry and natural variations of iron isotopes. *Mass Spectrometry Reviews*, **25**, 515-550 (DOI 10.1002/mas.20078)
- Rouxel O.**, Bekker A. and Edwards K. (2006) Response to Comment on “Iron isotope constraints on the Archean and Paleo-Proterozoic Ocean Redox State” by Yamaguchi K. and Ohmoto H. *Science*, **311**, 177b.
- Cloquet C., **Rouxel O.**, Carignan J. and Libourel G. (2005) Natural Cadmium Isotopic Variations in Eight Geological Reference Materials (NIST SRM 2711, BCR 176, GSS-1, GXR-1, GXR-2, GSD-12, Nod-P-1, Nod-A-1) and Anthropogenic Samples, Measured by MC-ICP-MS. *Geostandards Geoanalytical Research*, **29**, 95-106.
- Rouxel O.**, Bekker A. and Edwards K. (2005) Iron isotope constraints on the Archean and Paleo-Proterozoic Ocean Redox State. *Science*, **307**, 1088-1091
- Rouxel O.**, Fouquet Y. and Ludden J. (2004) Subsurface Processes at the Lucky Strike Hydrothermal Field, Mid-Atlantic Ridge: Evidence from Sulfur, Selenium and Iron Isotopes. *Geochim. Cosmochim. Acta*, **68**, 2295-2311.
- Rouxel O.**, Fouquet Y. and Ludden J. (2004) Copper Isotope Systematics of the Lucky Strike, Rainbow and Logatchev Seafloor Hydrothermal Fields on the Mid Atlantic Ridge. *Economic Geology*, **99**, 585-600
- Rouxel O.**, Dobbek N., Ludden J. and Fouquet Y. (2003) Iron Isotope Fractionation During Oceanic Crust Alteration. *Chemical Geology*, **202**, 155-182.
- Rouxel O.**, Ludden J. and Fouquet Y. (2003) Antimony isotope variations in natural systems and implications for their use as geochemical tracers. *Chemical Geology*, **200**, 25-40.
- Rouxel O.**, Ludden J., Carignan J. Marin L. and Fouquet Y. (2002) Natural variations of Se isotopic composition determined by Hydride Generation Multiple Collector Inductively Coupled Plasma Mass Spectrometer, *Geochim. Cosmochim. Acta*, **66**, 3191-3199.

Other publications

- Rouxel O.** (2002) Géochimie Isotopique des Métaux (Fe, Cu, Sb) et Métalloïdes (S, Se) dans la Croûte Océanique. These INPL, 440pp.
- Bebout G., J. Blichert-Toft, R. Carlson, K. Cooper, M. Evans, K. Kelley, J. Konter, C. Reif, **O. Rouxel**, A. Shaw, G. Shields, H. Staudigel, and D. Stegman. (2001) Report on GERM 3, La Jolla, March 6-9, 2001. Newsletter of The Geochemical Society, Vol 108, p 17-19
- Abrams L., J. Alt, R. Armstrong, S. Barr, A. Bartolini, G. Cairns, C. Scutia, M. Fisk, G. Guerin, S. Haveman, T. Hirono, J. Honnorez, K. Kelley, R. Larson, F. Lozar, J. Ludden, R. Murray, T. Plank, T. Plesch, R. Pockalny, **O. Rouxel**, A. Schmidt, D. Smith, A. Spivack, H. Staudigel, M. Steiner, R. Valentine. (2000) Drilling Input to the Subduction Factory: ODP Leg 185. MARGINS Newsletter, v4, p7-9.
- Plank, T., Ludden, J.N., Escutia, C., L. Abrams, J. Alt, R. Armstrong, S. Barr, A. Bartolini, G. Cairns, M. Fisk, G. Guerin, S. Haveman, T. Hirono, J. Honnorez, K. Kelley, R. Larson, F. Lozar, R. Murray, T. Plesch, R. Pockalny, **O. Rouxel**, A. Schmidt, D. Smith, A. Spivack, H. Staudigel, M. Steiner, R. Valentine. (2000). Proc. ODP, Init. Repts., 185 [CD-ROM]. Available from: Ocean Drilling Program, Texas A&M University, College Station TX 77845-9547, USA.

Invited presentations and seminars (outside home institutions) :

- 12/2008 Marine Geochemistry Symposium, Max Plank Insititute (Bremen)
- 11/2008 EGGs Seminar, Princeton University
- 08/2008 Goldschmidt conference, Vancouver (keynote and invited talks)
- 04/2008 Centre de Géochimie de Surface, Strasbourg (CGS-CNRS).
- 2007 Smith Lecture, U. Michigan, Ann Arbor.
- 2006 Invited Keynote, GERM Workshop, Columbia University, New York
- 2005 The Carnegie Institution of Washington, Department Seminars, Geophysical Laboratory and Department of Terrestrial Magnetism.
- 2005 MIT Chemical Oceanography Seminar.
- 2005 Astrobiology Institute, Director's Seminar (Videoconference)
- 2004 LMTG Seminar (Toulouse, CNRS)
- 2002 Geotop Seminar, UQAM-McGill, Montreal.
- 2002 Marine Geology Department Seminar, Institut Physique du Globe, Paris.
- 2001 Invited talk, Applied Isotope Geochemistry IV, Pacific Grove, California.

Conference abstracts:

2008

- Wisch M., **Rouxel O.**, German C., Toner B., Edwards K. Iron Isotope Systematics in Hydrothermal Plume Fall-out at EPR9°50'N. *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract B21A-0338
- Rouxel O.**, Escoubert R., Pokrovsky O.S., Wisch M., Miller C. Iron Isotope Fractionation in Arctic Weathering Environments. *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract C11A-0491
- German C.R., **Rouxel O.**, Edwards K.J. Time-Series Study of Post-Eruption Vent-Fluxes: EPR 9 50N. *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract V53D-01

- Pyenson B.C. Sylvan J.B., Toner B.M. Rouxel O.J. German C.R., Edwards K.J. Microbial Diversity of Hydrothermal Vent Neutrally-Buoyant Plume Particles from 9° North, East Pacific Rise, After a Major Tectonic Event in 2005-2006. *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract OS41E-1274
- Ono S., Rumble D., **Rouxel O.**, Alt J., Shanks P. High-precision total sulfur isotope analysis (32S-33S-34S-36S) and its application to the studies of seafloor hydrothermal deposits and the deep biosphere. *ISI 2008*
- Rouxel O.**, Escoube R & Donard O, Measurement of Germanium Isotope Composition in Marine Samples by Hydride Generation Coupled to MC-ICP-MS (invited). *Goldschmidt 2008 conference, Vancouver. Geochim. Cosmochim. Acta*, 72(12S) A809.
- Planavsky N, **Rouxel O.**, Bekker A & Lyons T, Rare Earth Element Evidence for Redox Structure Evolution. *Goldschmidt 2008 conference, Vancouver.*
- Toner B, **Rouxel O.**, Santelli C & Edwards K, Sea-Floor Weathering of Hydrothermal Chimney Sulfides at the East Pacific Rise 9N: Chemical Speciation and Isotopic Signature of Iron Using X-Ray Absorption Spectroscopy and Laser-Ablation MC-ICP-MS. *Goldschmidt 2008 conference, Vancouver.*
- Rouxel O.**, Sources and Biogeochemical Cycling of Iron Isotopes in Marine Environments (Keynote). *Goldschmidt 2008 conference, Vancouver. Geochim. Cosmochim. Acta*, 72(12S) A809.
- Bekker A, Hofmann A, Rumble D & **Rouxel O.**, Sulfidic Organic-Rich Shales in the Archean Low-Sulfate Ocean: Evidence for Transient Oxygenated Conditions, Enhanced Volcanism, or Low Sedimentation Rates? *Goldschmidt 2008 conference, Vancouver.*
- Ono S., **Rouxel O.**, Alt J., Rumble D., Probing the deep biosphere with multiple-sulfur isotope ratios of pyrite from oceanic basement rocks. (2008) *Astrobiology*, v8, p411.
- Bekker, A.; Barley, M.E.; Fiorentini, M.L.; **Rouxel, O.J.**; Rumble, D.; Beresford, S.W. Multiple S and Fe isotope constraints on the origin of NiS mineralization hosted in Archean komatiites (solicited). *European Geosciences Union General Assembly 2008 Vienna, Austria. EGU2008-A-11593*
- Rouxel, O.**; Toner, B.M.; Craddock, P.; Bach, W.; Edwards, K.J. In situ analysis of Fe and S-isotope composition of hydrothermal chimneys by laser ablation MC-ICPMS. *European Geosciences Union General Assembly 2008 Vienna, Austria. EGU2008-A-11174*
- Escoube, R.; **Rouxel, O.**; Donard, O. Measurement of Germanium isotope composition in marine samples by hydride generation coupled to MC-ICP-MS. *European Geosciences Union General Assembly 2008 Vienna, Austria. EGU2008-A-12035*

2007

- Planavsky, N, **Rouxel, O.**, Bekker, A Widespread Iron Oxidizing Bacterial Communities in a late Paleoproterozoic Marine Environment (2007) *Eos Trans. AGU*, 88(52), Fall Meet. Suppl., Abstract B23G-05
- German, C R, Manganini, S J, **Rouxel, O J.**, Edwards, K J TI: The impact of hydrothermally-sourced Fe on ocean biogeochemistry: new investigations from the East Pacific Rise, 9-10°N. (2007) *Eos Trans. AGU*, 88(52), Fall Meet. Suppl., Abstract B33A-0851
- Escoube, R, **Rouxel, O.**, Sholkovitz, E, Donard, O. Iron Isotope Composition of River Water During Estuarine Mixing: Case of North River (Massachusetts, USA) (2007) *Eos Trans. AGU*, 88(52), Fall Meet. Suppl., Abstract H31C-0513
- Craddock, P R, Tivey, M K, Seewald, J S, **Rouxel, O.**, Bach, W The Role of Magmatic Volatile Input, Near-surface Seawater Entrainment and Sulfide Deposition in Regulating

- Metal Concentrations Within Manus Basin Hydrothermal Systems (2007) *Eos Trans. AGU*, 88(52), Fall Meet. Suppl., Abstract B23G-04
- Rouxel, O J**, Edwards, K J, Moyer, C L, Wheat, G Biogeochemical Cycling of Iron Isotopes at Loihi Seamount (2007) *Eos Trans. AGU*, 88(52), Fall Meet. Suppl., Abstract V34B-05
- Barley M., A. Bekker, M. Fiorentini, **O. Rouxel**, D. Rumble. Multiple sulphur sources for Archaean Komatiite-hosted Nickel sulfides confirmed by S and Fe isotopes : exploration implications (2007) *Geological Society of America Abstracts with Programs*, Vol. 39, No. 6, p. 359
- Bennett S.A., **O.J. Rouxel**, D. Garbe-Schönberg, C.R. German. Iron isotope fractionation in a seafloor hydrothermal system: Variations in end-member vent fluids and changes throughout the buoyant plume (2007) *InterRidge Theoretical Institute 'Biogeochemical interaction at deep-sea vents', Woods Hole, 10th-14th September*.
- Seewald, J.; Reeves, E.; Saccocia, P.; **Rouxel, O.**; Walsh, E.; Craddock, P.; Tivey, M. A.; Bach, W.; Tivey, M. K. Tracing styles of hydrothermal circulation in Manus Basin using vent fluid composition (2007). *European Geosciences Union General Assembly 2007 Vienna, Austria*

2006

- Planavsky N., R. Shapiro, A. Knudsen, **O. Rouxel**. Ocean Structure and ecology of the Animikie Basin Iron-Formations (2006). *Geological Society of America Abstracts with Programs*, Vol. 38, No. 7, p. 125
- German C.R., S.Manganini, D.Adams, **O.Rouxel**, K.Edwards, T.Shank & L.Mullineaux Time-series studies of hydrothermal flux following the EPR 9N 2006 Eruption. (2006) *Eos Trans. AGU*, 87(52), Fall Meet. Suppl., Abstract V23B-0605.
- Toner B., C.M. Santelli, J.J. Marlow, **O. Rouxel**, K.J. Edwards. Microbe-Mineral Interactions in Extinct Hydrothermal Chimneys at East Pacific Rise. (2006) *Eos Trans. AGU*, 87(52), Fall Meet. Suppl., Abstract B14B-02.
- John SG, Geis RW, Park G, Engwall A, Zhang Z, Bergquist BA, **Rouxel O**, Saito MA, Boyle EA. Distribution and fractionation of Zn stable isotopes in the oceans. (2006) *Eos Trans. AGU*, 87(52), Fall Meet. Suppl., Abstract V13E-07.
- Seewald, J, Reeves, E, Saccocia, P, **Rouxel, O**, Walsh, E, Price, R, Tivey, M, Bach, W, Tivey, M, Scientific MGLN06MV. Water-Rock Reaction, Substrate Composition, Magmatic Degassing, and Mixing as Major Factors Controlling Vent Fluid Compositions in Manus Basin Hydrothermal Systems. (2006) *Eos Trans. AGU*, 87(52), Fall Meet. Suppl., Abstract B34A-02.
- Tivey, M, Bach, W, Tivey, M, Seewald, J, Craddock, P, **Rouxel, O**, Yoerger, D, Yeats, C, McConachy, T, Quigley, M, Vanko, D, Scientific MGLN06MV. Investigating the Influence of Magmatic Volatile Input and Seawater Entrainment on Vent Deposit Morphology and Composition in Manus Basin (Back-arc) Hydrothermal Systems (2006) *Eos Trans. AGU*, 87(52), Fall Meet. Suppl., Abstract B34A-01.
- Rafie O., **Rouxel O.**, Edwards K. The role of Neutrophilic Fe-oxidizing bacteria in promoting basalt alteration in the ocean crust. (2006) *Extremophiles 2006*, Brest, France September 2006 [Poster].
- Rouxel O.** The environmental impact of life on Early Earth : Using Iron and Sulfur Isotopes as tracers of redox changes in Proterozoic Oceans. (2006) GERM Workshop, Columbia University, New York May 29-31, 2006 [Keynote]
- Reisberg L., **Rouxel O.**, Ludden J. Zimmermann C. Alteration of oceanic crust: Source or sink of Re? (2006) HSE2006 Meeting.

- Toner B., Santelli C.M., **Rouxel O.**, Edwards K.J. Seafloor weathering of hydrothermal chimney sulfide minerals from East Pacific Rise 9°N: an X-ray absorption spectroscopic study (2006) Goldschmidt Conference, *Geochim. Cosmochim. Acta*, 70, A555
- Ono S., Rumble D., Shanks III W.C., **Rouxel O.** Decoupling hydrothermal and biological sulfur isotope fractionation by S-33 and S-36 (2006) *AGU-Baltimore*
- Bekker, A., Shen, Y., Scott, C., Kocanda, M., Lyons, T., Kenig, F., Anbar, A., **Rouxel, O.** Redox State of the Deep Ocean During the >2.22-2.1 Ga Carbon Isotope Excursion. *AGU-Baltimore*
- Rouxel O.**, Ono S., Alt J., & Rumble D. Multiple Sulfur Isotopes and Sulfur/Selenium Ratios as Tracers for the Subsurface Biosphere in Altered Oceanic Basalts in the Western Pacific. *AGU General Assembly 2006*, Baltimore, 23-26 May. [Oral]
- Shanks III W.C., Ono S., Rumble D., and **Rouxel O.** (2006) Stable Isotope Studies of Seafloor Hydrothermal Systems: Contributions to Understanding Ore-Forming Systems. *GAC-MAC conference*, May 14 to 17, 2006, Montreal.
- Rouxel O.** & Bekker A. (2006) New insights into Precambrian ocean redox state chemistry from coupled iron and sulfur isotope analyses. *Astrobiology*, **6**, 210. *The 4th Astrobiology Science Conference - AbSciCon 2006*, March 26-30, Washington, D.C [Poster]
- Rouxel O.**, Bekker A., Slack J.S., Grenne T. (2006) Record of hydrothermal plume processes in Paleoproterozoic jasper and iron formation: implications for the redox state of the 1.74 Ga deep ocean. *Astrobiology*, **6**, 149. *The 4th Astrobiology Science Conference - AbSciCon 2006*, March 26-30, Washington, D.C [Oral]
- Rouxel O.** & Sholkovitz E. (2006) Large Scale Iron Isotope Fractionation in Subterranean Estuaries. *European Geosciences Union General Assembly 2006* Vienna, Austria, 02 – 07 April [Oral]
- Yang Y., **Rouxel O.**, Shi X., and Liu J. (2006) Fe isotope composition of Fe-Mn crusts in Pacific and its significance for Paleooceanography. *European Geosciences Union General Assembly 2006* Vienna, Austria, 02 – 07 April [Poster]
- 2005**
- Slack J.S., Grenne T., Bekker A., **Rouxel O.** (2005) and Lindberg P.A. Suboxic deep seawater at ca. 1.74Ga: evidence from seafloor hydrothermal jasper and iron formation in the Jerom district, Arizona. GSA Salt Lake City Annual Meeting (October 16–19, 2005). *Geological Society of America Abstracts with Programs*, Vol. 37, No. 7, p. 238
- Craddock, P R, Ball, L, **Rouxel, O**, Bach, W. (2005) In Situ Analysis of ³⁴S/³²S by Laser Ablation MC-ICP-MSEos Trans. AGU, 86(52), Fall Meet. Suppl. Abstract V41D-1480.
- Rouxel O.**, Bekker A., and Edwards K. (2005) Iron Isotope Constraints on the Archean and Paleoproterozoic Ocean Redox State *15th Annual V.M. Goldschmidt Conference*. May 2005, Moscow, Idaho. *Geochim. Cosmochim. Acta* Vol. 69, No.10S , A549 [Oral]
- Rouxel O.** Bekker A., and Edwards K. Iron Isotope Constraints on the Archean and Paleoproterozoic Ocean Redox State. (2005) *NASA Astrobiology Institute conference*. Boulder, Colorado 10-14 April 2005. *Astrobiology* Vol.5, No. 2, pp. 250 [Oral]
- 2004**
- Rouxel O.**, Bekker A., Edwards K. (2004) Iron Isotope Constraints on the Archean and Paleoproterozoic Ocean Redox State. *Eos Trans. AGU*, 85(47), *Fall Meet. Suppl.*, Abstract V54B-06. [Oral]
- Galy A., **Rouxel O.**, Mantoura S., Elderfield H. De La Rocha C (2004). An estimate of the Germanium isotopic composition of the Ocean. *Eos Trans. AGU*, 85(47), *Fall Meet. Suppl.*, Abstract V53B-07. [Oral]
- Rouxel O.**, Galy A. & Elderfield H. (2004) Ge/Si and Ge isotope systematic in marine sediments. *14th Annual V.M. Goldschmidt Conference*. 5-11 June 2004, Copenhagen. *Geochim. Cosmochim. Acta* Vol. 68, No.11S1, A365 [Oral]

2003

Boyce A. **Rouxel O.** & Blakeman R.J (2003). Combining S and Fe isotope data on pyrites to bring insight into fractionation processes - the case of the giant Navan Zn+Pb ore deposit. *The isotopic analysis of minerals, meeting*, London, 15 September 2003

Dauphas N., **Rouxel O.**, A.M. Davis, R.S. Lewis, M. Wadhwa, B. Marty, L. Reisberg, P. Janney and C. Zimmermann. (2003) Iron and Selenium isotope homogeneity in the protosolar nebula? *Lunar and Planetary Sciences Conference*. Houston TX USA (Oral)

2002

Rouxel O & Ludden J. (2002) Abiotic or Biotic Iron Isotope Fractionation during Oceanic Crust Alteration? *12th Annual V.M. Goldschmidt Conference*. August 18-23, 2002 Davos, Switzerland. *Geochim. Cosmochim. Acta* Vol. 66, No.S1, A652 [Oral]

2001

Rouxel O., Ludden J., and Fouquet Y (2001) Selenium and Antimony isotope variations in natural systems determined by MC-ICP-MS : experimental and field studies. *Applied Isotope Geochemistry IV*, Pacific Grove, California, USA June 25-29 2001 [extended abstract]

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