

**Clark M. Johnson**

Vilas Distinguished Professor, Emeritus

Department of Geoscience

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University of Wisconsin-Madison

Madison, WI 53706

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**Education:**

6/86	Ph.D.	Stanford University, Geology
4/84	M.S.	Stanford University, Geology
8/81	B.S.	University of California at Davis, Geology with Honors
10/76-8/79		Foothill College, Los Altos, CA

**Professional Positions:**

3/20-present	Emeritus Professor & Senior Scientist, University of Wisconsin at Madison	
6/96-3/20	Professor, University of Wisconsin at Madison	
6/91-5/96	Associate Professor, University of Wisconsin at Madison	
1/87-5/91	Assistant Professor, University of Wisconsin at Madison	
2/82-12/86	Research Geologist, U.S. Geological Survey, Menlo Park	

**Research Summary:**

Interdisciplinary research in isotope geochemistry and astrobiology, as applied to three themes:

- Environmental and experimental geochemistry, geomicrobiology.
- Ancient Earth environments, evolution of life.
- High-temperature geochemistry, geochronology.

***Research Highlights:***

- Development of “non-traditional” stable isotopes, including Mg, Si, and Fe, applied to the three themes above.
- Application of novel isotope systems to crust-mantle evolution (Lu-Hf and Re-Os).
- Use of short-lived U-series isotopes to trace evolution of active volcanic systems.
- U-Th-Pb geochronology applied to redox proxies in Archean and Proterozoic marine sedimentary rocks.
- Determining sedimentary provenance using isotope geochemistry.
- Evolution of “supervolcano” (large caldera) systems.

Published 189 peer-reviewed articles and book chapters, one edited book, and one major senior-authored book. As of early 2021, Google Scholar reports a total of 17,819 citations for tracked journal articles and an *h-index* of 71. Over 200 papers have been published from Johnson's ICP-TIMS lab. Funded on 53 external grants from NSF, NASA, ACS-PRF, DOD, DOE, and GRI, totaling \$28,552,526 (36 grants as PI, totaling \$20,133,492).

**Education Summary:**

Taught 48 introductory-level courses, 25 intermediate-level majors courses, 31 advanced majors/graduate courses, and 50 field/seminars/special study sections, involving ~9,000 students. Received five UW-Madison teaching awards, and teaching evaluations consistently ranked in top quartile. Advised 8 undergraduate interns and theses (7 as primary advisor), 30 M.S. theses (14 as primary), 26 Ph.D. theses (9 as primary), and 23 Post-Doctoral Fellows. Twenty-five additional students, post-docs, and researchers pursued major projects in the lab.

**Awards:**

- Vilas Distinguished Professor (2013-present)
- Excellence in Teaching, UW-Madison Geoscience Graduate Student Association (2014)
- Honored Instructor, UW-Madison (2012: G-111; 2011: G-375; 2010, 2017: G-160)
- Fellow of the Mineralogical Society of America (elected in 2005)
- Fellow of the Geological Society of America (elected in 2004)
- University of Wisconsin Vilas Fellowship (1997-1999)
- NSF Graduate Fellowship (1982-1985)
- California State Graduate Fellowship (1981-1982)

**Major Administrative Positions:*****Director, WARC: Wisconsin Astrobiology Research Consortium (2007-2018)***

As PI, oversaw interdisciplinary research and education program in astrobiology, with a team focused on development and application of geochemical biosignatures for understanding planetary habitability and the evolution of life on Earth and Mars. With >\$15M in funding from NASA, WARC involved 17 PI's spread across nine institutions, with an additional 16 professional scientific staff, and 164 collaborators across the globe. WARC awarded 35 graduate degrees and trained 27 post-doctoral fellows. Nearly 250 peer-reviewed publications were produced by WARC research, appearing in journals in astronomy, biology, chemistry, geology, and physics. Nearly 60 outreach activities were run through the Geology Museum at UW-Madison and involved 425,000 Wisconsin residents. At the national level, WARC programs runs through the NASA "Solar Systems Ambassadors" and "NASA Nationwide" programs reached over 1.2 million people. Web site:

<http://geoscience.wisc.edu/astrobiology/>

***Director, ICP-TIMS Isotope Laboratory (1988-2019)***

Oversaw research in stable (Mg, K, Si, and Fe) and radiogenic (Rb-Sr, Sm-Nd, Lu-Hf, U-Th-Pb, U-series) isotope geochemistry across a wide range of inter-disciplinary projects in anthropology, astrobiology, biology, and geology. To date, the lab has provided major support for 70 undergraduate and graduate theses and 28 post-docs; an additional 25 researchers have obtained data in the lab. The lab has supported research by 11 UW-Madison faculty. Equipment includes three magnetic-sector mass spectrometers (one TIMS, two MC-ICP-MS), a femtosecond laser-ablation system, and HEPA-filtered clean chemistry labs. To date, the lab has published over 200 peer-reviewed papers. Total lab replacement cost: >\$6M. Web site: <http://geoscience.wisc.edu/icp-tims/>

**Department Chair (2002-2005)**

Directed administrative activities of the Department of Geoscience, which at the time included 21 Faculty, 15 Affiliated Faculty, 18 Administrative and Technical staff, ~30 post-Ph.D. researchers, ~70 graduate students, and ~40 undergraduate majors, with an annual operating budget of >\$7M. Directly supervised seven administrative staff on a daily basis. Worked extensively with Board of Visitors and UW Foundation on Alumni relations and fundraising.

**Major accomplishments:**

- Completed, under budget, a \$5M building addition that was originally \$1M over budget prior to becoming Chair.
- Completed >\$1M Alumni fundraising campaign.
- Re-organized and renovated six existing building spaces, which included \$4M in new laboratories.
- Expanded faculty hires, partially leveraged with Alumni funds, into new research directions in three areas: structural geology, mineralogy, and geomicrobiology.
- Expanded support staff positions, including an Assist. Director of Geology Museum.
- Created minority fellowship program for graduate students, in part funded by industry sponsors.

**Professional Affiliations:**

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

**University and Professional Service:****University Service Highlights**

- College of Letters and Science Academic Planning Council (2012-2015)
- Program Review, Depts. Botany & Zoology, UW-Madison [Committee Chair] (2013-2014)
- College of Letters and Science Facilities Planning Committee (2010-2011)
- Graduate Committee (1987-1990; 2006-2008; 2010-2011)
- Curriculum Committee (1993-1994 [Chair]; 1999-2000; 2009-2010)
- Undergraduate Advisor in Geology (1989-1990; 2009-2010)
- Honorary Titles Committee (2006-2009)
- Department Chair, Geosciences @ UW-Madison (2002-2005)
- Physical Sciences Divisional Committee [tenure cases] (2000-2003)
- Search Committees: Sedimentology (2006-2007); Geophysics (2005-2006); Geomicrobiology [Chair] (2002-2004); Geophysics (2000-2001); Structure [Chair] (1996-1997); Petrology (1997-1998); Geochemistry (1999-2000); Mineralogy (1989); Petrology (1989-1990); Geophysics (1989-1990)
- Department Alumni Relations and Development Committee [Chair] (2011-2015)
- Department E-Newsletter Editor (2013-2015)
- Biology Program Review Committee (2011-2012)

- External Review Committee, Dept. Chemistry, UW Madison (2001)
- Finance Committee [Chair] (1995-2001)
- Department Council (1997-1999)
- Assistant Professor Mentor Committees: Tikoff (Chair); Singer (co-Chair); Sahai (Chair); Carroll; Carlson (Chair)
- L&S College Faculty Appeals Committee (1992-1997)
- Department Newsletter Editor (1991-1994)
- College Faculty Advisor (1988-1990)
- Personnel Committee (1988-1990; 1999-2001)

**Professional Service Highlights**

- Advisory Board, Australian Astrobiology Center, UNSW, Sydney (2021-present)
- Executive Committee, NASA Astrobiology Institute (2007-2018)
- Nanjing University "Short Course: Stable Isotope Geochemistry" (2016)
- Senior Editor, Astrobiology (2014-2016)
- University of Auckland "Short Course: Stable Isotope Geochemistry" (2016)
- AbGradCon 2015 faculty liaison (2014-2015)
- AbSciCon Meeting Science Committee (2011-2012; 2014-2015)
- NASA-NSF workshop "Beyond Habitability: Life and the Early Earth" (2014)
- NSF workshop on future of research infrastructure (2014)
- NASA Astrobiology Roadmap panel of experts (2013-2014)
- Associate Editor, *Geochimica et Cosmochimica Acta* (2005-2015)
- Associate Editor, *Astrobiology* (2008-2013)
- Panel Member: NSF-EAR (2004-2006; 2009-2012); NASA-Exobiology (2008)
- Organized NSF workshop on "Paleoenvironmental proxies" (2006)
- Special sessions organizer: AGU 2006; 2008; 2013, Goldschmidt 2008; 2014
- Advisory Panel for isotope geochemistry, U.S. Geological Survey (2009-2010)
- External review, University of Georgia (2008)
- Editor, *Rev. Min. Geochem. Volume 55, Non-Traditional Stable Isotopes* (2003-2004)
- Short course for Geochemical Society on "Non-traditional stable isotopes" (2004)
- Associate Editor, *Geological Society of America Bulletin* (1995-2001)
- Journal reviewer for AGU, *Amer. Mineralogist*, *Astrobiology*, *Canadian Jour. Earth Sci.*, *Chem. Geol.*, *Contrib. Min. Pet.*, *Earth Planet. Sci. Lett.*, *Environ. Sci. Tech.*, *Geochim. Cosmochim. Acta*, *Geol. Soc. Amer.*, *Int. Jour. Mass Spec.*, *Jour. Volc. Geotherm. Res.*, *Marine Geol.*, *Nature*, *Nature Geosci.*, *Precam. Res.*, *Roy. Society, Science*.
- Grant reviewer for ACS-PRF, NSF, DOE, NASA, USGS, NSERC, SNSF

**Courses Taught:*****Undergraduate Courses***

- G-100 "Introductory Geology" [3 cr] (Terms: F87,F88,S89,F89,S92,S93,F93,S94,S03,S07)
- G-101 "Introductory Geology" [5 cr] (Terms: S90,S91,F96)
- G-106 "Environmental Geology" (Terms: S96)
- G-109 "Geology of National Parks" (Terms: S92,S93,S94,S96,F97,F98,F00,F18,F19)
- G-111 "Volcanoes & Civilization" (16 Terms: F97-S18)
- G-160 "Life in the Universe" (Terms: S10,S11,S12,S13,S14,S15,S17,S18,S19)
- G-199/699 "Directed Study" (Terms: S00,F00,S01,F01,S02,F06)
- G-302 "Physics & Chemistry of the Earth's Interior" (Terms: F05,F06)
- G-304 "Geobiology" (Terms: F12,F13,F14)
- G-370 "Introductory Petrology" (Terms: S92,S93,S94,S98)
- G-375 "Introductory Geochemistry" (Terms: F91,F92,F93,F95,F96,F98,S11,S12,S14,S15,S17,S18)
- G-376 "Geology of the Western USA" (Terms: S99,S00,S01)
- G-556 "Mountain Belts" (Terms: S00)
- G-692 "Senior Thesis" (Terms: F89,S96,F96,F01,S02,S14)

***Graduate Courses & Seminars***

- G-770 "Magmatic Systems" (Terms: S88,S03)
- G-771 "Advanced Igneous Petrology" (Terms: S97,S99,S01,S06,F07)
- G-773 "Phase Equilibria" (Terms: F91)
- G-774 "Radiogenic Isotopes" (Terms: F89,F91,F95)
- G-875 "Stable Isotopes" (Terms: F90)
- G-875 "Trace Element Geochemistry" (Terms: F92)
- G-875 "Cordilleran Geology" (Terms: S92)
- G-875 "Crustal Cross Sections" (Terms: F98)
- G-875 "Active Volcanism" (Terms: F99)
- G-875 "Early Life on Earth" (Terms: F99)
- G-875 "Geomicrobiology" (Terms: F05)
- G-875 "Sedimentary Provenance" (Terms: S07)
- G-875 "Rates of Geologic Processes" (Terms: S07)
- G-875 "Astrobiology" (16 Terms: F07-F17)
- G-875 "Preparing Talks and Posters" (Term: S13,S15)
- G-916/971 "Field Trips" (Terms: S90,S91,S96,S97,F98)
- G-970 "Isotope Geochemistry" (Terms: S87,S98,S01,S04,S06,S08,S10,F15)
- G-991 "Geophysics Seminar" (Terms: F88,S89,F89,F90,S91,F92,F96,S97)
- G-999 "Advanced Independent Reading" (Terms: S88,F88,F89,S93,F93,S96,F96)

**Student and Post-Doctoral Advisees:**

Primary advisees noted in **bold**; advisees listed as “secondary” had major projects in my laboratory (primary advisor noted).

***Undergraduate Theses & Research Interns***

**Anna Bradshaw (primary)**

Ashley Hubbard (Carroll primary)

**Victoria Khoo (primary)**

**Mason Neuman (primary)**

**Julie O'Leary (primary)**

**Rebecca Poulson (primary)**

**Thiruchelvi Reddy (primary)**

**Giovani Sella (primary)**

***M.S. Students***

**Meagan Bosket (primary)**

Ben Bymers (Carroll primary)

Lisa Colville (Carlson primary)

**Heidi Crosby (primary)**

Nathan Fortney (Roden primary)

Sarah Green (Singer primary)

Melissa Harper (Singer primary)

**Breana Hashman (primary)**

**Morgan Herrick (primary)**

Brian Jicha (Singer primary)

**Jim Ludois (primary)**

**Nancy Mahlen (primary)**

Shelly McGavern (Clark primary)

**Marcus Milling, Jr (primary)**

Liz Percak-Dennett (Roden primary)

**Rebecca Poulson (primary)**

**Thiruchelvi Reddy (primary)**

**Ronald Schott (primary)**

**Aaron Shultis (primary)**

Eric Skarman (Carroll primary)

Kate Smith (Singer primary)

Kellen Springer (Lapen primary)

Brooke Swanson (Carroll primary)

**Eva Szilvagy (primary)**

George Tangalos (Roden primary)

Robert Ward (Walker primary)

**Allison Wende (primary)**

M. Ross Vandrey (Simo primary)

Jane Van Heteren (Baumgartner primary)

**Timothy Zeichert (primary)**

***Ph.D. Students***

Nathan Anderson (Singer primary)

M'Bark Baddouh (Carroll primary)

**Brian Beard (primary)**

**Meagan Ankney (primary)**

Caroline De Meyer (Baumgartner primary)

Lauren Chetel (Carroll primary)

Nan-Chin Chu (German primary)

Laura Croal (Newman primary)

Amalia Doebbert (Carroll primary)

Cathy Evans (Clark primary)

Robert Handler (Scherer primary)

Erik Haroldson (Brown primary)

**Garret Hart (primary)**

John Hora (Singer primary)

Brian Jicha (Singer primary)

Andrew Kylander-Clark (Hacker primary)

**Tom Lapen (primary)**

**Nicholas Levitt (primary)**

**Nancy Mahlen (primary)**

Jeff Pietris (Carroll primary)

**Lee Riciputi (primary)**

Merideth Rhodes (Carroll primary)

Erik Scherer (Cameron primary)

**Ronald Schott (primary)**

Susanne Skora (Baumgartner primary)

**Nicholas Van Wyck (primary)**

**Post-Doctoral Fellows (primary advisor to all)**

Jeff Amato	Weiqliang Li
Meagan Ankney	Kent Ratajeski
Karin Barovich	Aaron Satkoski
Jennifer Cappel-Cousins	Silke Severmann
Piyali Chanda	Joe Skulan
Andy Czaja	Sue Welch
Francois-Xavier D'abzac	Rene Wiesli
Joseph Ezzo	Bryce Winter
Andrew Frierdich	Lingling Wu
Adrianna Heimann	Kosei Yamaguchi
Brian Jicha	Xinyuan Zheng
Chris Kennedy	

**Additional students, post-docs, and researchers who worked on major projects in the lab**

Marcia Blanco	Kai Liu
Jan Boyer	Dave Malone
Joan Bruggink	Bill Middleton
Heather Cunningham	Nathalia Migueles
Caroline deMeyer	Sakiko Olsen
Cathy Evans	Benita Putliz
Mike Gerdenich	Alberto Reyes
Martha Gerdes	Kyle Rybacki
Hilary Gittings	Bernie Saini-Eidukat
Mihaela Glamoclija	Bingjie Shi
Ashley Hubbard	Henry Sun
Elliot Jackson	Randy Williams
Elizabeth King	

**External Grants:*****Administrative/Education/Student Support Grants***

NASA, NNX13AP40H, Clumped isotopes in carbonates as a potential biosignature, NASA Earth and Space Science Fellowship (NESSF) Program (science PI: Nick Levitt; **Inst. PI: Clark Johnson**), \$60,000, 9/2014-8/2015.

NSF, 0609120, Funding for Workshop on Paleoenvironmental Proxies (**PI: Clark Johnson**), \$26,289, 2/2006-1/2007.

NSF, 9653146, Three Dimensional Visualization in Introductory Earth Science Courses (**PI: Clark Johnson**; Co-PI: Phil Brown), \$86,617, 12/1996-5/1999.

***Equipment & Facilities Grants***

NSF, 1347056, Analytical method development: Comparison of elemental and isotopic fractionation during femtosecond and nanosecond laser ablation (PI: Brian Beard, **Co-PI: Clark Johnson**), \$141,021, 6/2014-5/2016.

- NSF, 1242728/1028462, Acquisition of a multi-collector, inductively coupled plasma mass spectrometer (MC-ICP-MS) (**PI: Clark Johnson**, Co-PI: Brian Beard), \$429,429, plus \$10,000 supplement, 10/2011-9/2013.
- NSF, 0939981/0901938, Acquisition of a femtosecond laser ablation system (**PI: Clark Johnson**), \$72,000, 1/2009-12/2009.
- NSF, 0824890, Acquisition of an X-ray diffraction unit for earth science research and education at the University of Wisconsin, Madison (PI: Huifang Xu, **Co-PI's:** Nita Sahai, Joseph Mason, Eric Roden, **Clark Johnson**), \$ 48,346, 9/2008-8/2009.
- NSF, 0516725, Technician support for a stable isotope ion microprobe (PI: John Valley, **Co-PI: Clark Johnson**, Noriko Kita), \$224,930, 7/2005-6/2008.
- NSF, 0318213, Technician Support: Request for Phase 1 for MC-ICP-MS Laboratory (**PI: Clark Johnson**), \$194,559, 4/2004-4/2007.
- NSF, 0319230, Acquisition of an ion microprobe for stable isotope analysis (PI: John Valley, **Co-PI's: Clark Johnson**, Daniel Kelly, Dale Schoeller, and Brad Singer), \$2,000,000, 8/2003-7/2005.
- NSF, 9871095, Acquisition of the next-generation magnetic-sector inductively coupled plasma mass spectrometer (**PI: Clark Johnson**, Co-PI: Brian Beard), \$250,000, 6/1999-5/2001.
- NSF, 9406684, Technician support for MC-ICP-MS laboratory – Phase II (**PI: Clark Johnson**), \$85,450, 8/1994-5/1998.
- NSF, 9206456, Acquisition of an electron microprobe (PI: John Valley; **Co-PI's:** Gordon Medaris, Lukas Baumgartner, Phil Brown and **Clark Johnson**), \$331,998, 1/1992-12/1993.
- NSF, 9105966, Technician support for MC-ICP-MS laboratory – Phase I (**PI: Clark Johnson**), \$89,821, 6/1991-5/1994.
- NSF, 8618366, Acquisition of a solid-source mass spectrometer (**PI: Clark Johnson**; Co-PI's: John Valley, Gordon Medaris, and Phil Brown), \$131,000, 6/1987-5/1989.

### **Research Grants**

- PRF/ACS, The origin of illite in sedimentary basins as determined by K, Si, Fe, and Mg isotope analysis: New tools for basin analysis (**PI: Clark Johnson**), \$110,000, 9/2018-9/2021.
- NSF, 170320, Developing a new proxy for silicate weathering: an investigation of K isotope fractionation during clay formation (PI: Brian Beard; **Co-PI's: Clark Johnson**, Xinyuan Zheng), \$335,846, 7/2018-6/2021.
- NSF, 1523697, Archean continental weathering: Revisiting the Sr isotope seawater curve (**PI: Clark Johnson**, Co-I's: Brian Beard, Aaron Satkoski), \$218,697, 8/2015-7/2018.
- NSF, 1451176, SusChEM: Collaborative Research: Influence of Fe<sup>2+</sup>- catalyzed recrystallization on Fe oxide reactivity and C stabilization (PI: Brian Beard, **Co-PI: Clark Johnson**), \$98,172, 6/2015-5/2020.
- NASA, NNA13AA94A, Astrobiology Institute Cycle 6, Habitability, life detection, and the signatures of life on the terrestrial planets (**PI: Clark Johnson**, UW Co-I's: Brian Beard, John Valley, Huifang Xu, Eric Roden, Brooke Norsted; Other Co-I's: Pascale Ehrenfreund [George Wash. Univ], Chris Romanek [Univ. KY], Eric Boyd [MSU], Aaron Cavosei [Univ. Puerto Rico], Max Coleman [JPL], Kay Ferrari [JPL], Bill Schopf [UCLA]), \$7,632,303, plus \$67,800 supplement, 1/2013-12/2018.



- NSF, 1144937, Timescales of deep and shallow magmatic evolution of Mt. Mazama (Crater Lake) (**PI: Clark Johnson**, Co-PI's: Brian Beard and Brian Jicha, \$249,215, 4/2012-4/2016.
- NSF, 1122855, Collaborative Research: Stable isotope investigation of Fe oxide reactivity and natural isotope fractionation (**PI: Clark Johnson**, Co-PI's: Brian Beard and Michelle Scherer), \$259,887, plus \$39,949 supplement, 10/2011-9/2015.
- DOE, DE-SC0006692, Electron transfer and atom exchange between aqueous FeII and structural FeIII in clays: Role in U and Hg(II) Transformations (PI: Michelle Scherer; **Co-PI's: Clark Johnson**, Kevin Rosso, Ken Kemner, Max Boyanov, and Ed O'Loughlin), \$650,000 (UW portion: \$264,010), 9/2011-8/2014.
- NASA, NNA08CN86A, Astrobiology Institute Cycle 4, Detection of the signatures of life on Earth and other planetary bodies from its organic and mineralogical record (**PI: Clark Johnson**, UW Co-I's: Brian Beard, John Valley, Nita Sahai, Huifang Xu, Eric Roden, Brooke Norsted; Other Co-I's: Pascale Ehrenfreund [George Wash. Univ], Chris Romanek [Univ. KY], Max Coleman [JPL], Kay Ferrari [JPL], Mahadeva Sinha [JPL]) \$6,513,429, plus \$788,398 in supplemental funding, 11/2007-12/2013.
- NSF, 0635593, Collaborative Research: Experimental determination of iron (Fe) isotope fractionations in sulfide minerals (**PI: Clark Johnson**, Co-PI's: Brian Beard, Greg Druschel, Martin Schoonen), \$149,834 1/2007-12/2009.
- NSF, 0506679, NIRT: Nanoparticle Fe as a Reactive Constituent in Air, Water, and Soil (PI: Michelle Scherer, **Co-PI's:** John Coates, Vicki Grassian, **Clark Johnson**, Martin St. Clair), \$1,991,852 (UW portion: \$370,583), 8/2005-7/2009.
- NSF, 0525417, Mechanisms of Fe isotope fractionation during biological Fe(III) reduction (**PI: Clark Johnson**, Co-PI's: Brian Beard and Eric Roden), \$336,225, 7/2005-6/2008.
- NSF, 0337667, A new generation of timescales for arc magmatic processes (PI: Brad Singer, **Co-PI's: Clark Johnson** and Brian Beard), \$427,036, 1/2004-12/2007.
- NSF, 0309853, How long does it take to make and preserve a HP/UHP terrane? Petrologic and geochronologic studies of the Zermatt-Saas and Monte Rosa units of the Western Alps (**PI: Clark Johnson**, Co-PI: Brian Beard), \$348,628, 6/2003-5/2007.
- NASA, Exobiology program, Biogeochemistry of iron in a near-neutral pH iron-depositing hot spring with phototrophic microbial mats (PI: Beverley Pierson, **Co-PI's:** Brian Beard and **Clark Johnson**), \$ 336,558 (UW portion: \$84,718), 5/2002-4/2005.
- NASA, ASTID program, Measurement of the isotopic composition of iron oxides as a biosignature on Mars (PI: Mahadeva P. Sinha (JPL); **Co-PI's:** Brian Beard and **Clark Johnson**), \$101,687 (UW part), 8/2002-7/2004.
- NASA, NCC2-5449, Fe isotope studies of microbial ecology (**PI: Clark Johnson**, Co-PI: Brian Beard), \$187,664, 8/2001-7/2004.
- NSF, 0106614, Collaborative Research: Experimental determination of abiological and inorganic Fe and O isotope fractionation (**PI: Clark Johnson**, Co-PI: Brian Beard), \$225,156, 8/2001-7/2004.
- NSF, 0073692, Collaborative Research: Integrated isotopic, geochronologic, and paleomagnetic investigations of Cretaceous coastal basins: Assessment of northward translation of the 'Baja-BC' (**PI: Clark Johnson**; Co-PI: Basil Tikoff), \$150,000, 6/2000-5/2004.

- NSF, 9903252, Fe isotopes and biological processing of Fe in the pre-oxygenated Earth: Archean to mid-Proterozoic Banded Iron Formations (**PI: Clark Johnson**, Co-PI: Brian Beard), \$170,000, 6/1999-5/2001.
- NSF, 9980512, The role of mafic crust in orogenic magmatism - New perspectives from Re-Os isotopes (**PI: Clark Johnson**), \$141,756, 12/99-4/03.
- NASA-JPL, 1213550, Detection of biological signatures in minerals by isotopic measurements (**PI: Clark Johnson**, Co-PI: Brian Beard), \$21,000, 12/1999-11/2000.
- NASA Astrobiology Institute, Coevolution of planets and biospheres: Lessons from Earth and Mars (**PI: Clark Johnson**, Co-PI: Brian Beard; member of JPL [Ken Nealson] consortium), \$517,676 (amt. to Johnson), 7/1998-2/2004.
- NASA/NSF, 9713968, The isotopic composition of iron: A chemical fingerprint for ancient life (PI: Brian Beard; **Co-PI's: Clark Johnson** and Ken Nealson), \$126,000. 9/1997-8/1999.
- NSF, 9706363, Collaborative Research: Contrasting evolution of the Indian Peak and Central-Nevada calderas (**PI: Clark Johnson**), \$12,023, 7/97-6/99.
- NSF, 9628549, Chemical and isotopic compositions of late-Cretaceous and early Tertiary conglomerates, Western California: Constraints on paleogeography (**PI: Clark Johnson**), \$58,044, 6/1997-1/1999.
- NSF, 9506612, Thermo-mechanical and isotopic evolution of the Death Valley Volcanic Field (**PI: Clark Johnson**), \$40,000, 6/1995-8/1997.
- DOD, Preliminary study of Sr isotopes in Viet Nam War casualties (**PI: Clark Johnson**), \$12,750, 6/1995-5/1997.
- NSF, 9316277, Deep crustal xenoliths (**PI: Clark Johnson**; Co-PI: Karen Barovich), \$23,901, 1/1994-12/1995.
- NSF, 9304455, Hafnium isotopes and crust-mantle evolution (**PI: Clark Johnson**, Co-PI: Karin Barovich), \$150,000, 6/1993-5/1995.
- ACS-PRF, 25677-AC8, U/Pb ages in carbonates (**PI: Clark Johnson**; Co-PI: Bryce Winter), \$40,000, 1/1992-12/1993.
- NSF, 9122741, Sr and Nd isotopes in the Arctic Ocean (PI: Dave Clark; **Co-PI: Clark Johnson**), \$130,337, 6/1991-5/1993.
- NSF, 9106271, Hafnium isotope studies of crust-mantle evolution (**PI: Clark Johnson**; Co-PI: Jennifer Cousins), \$135,692, 6/1991-5/1993.
- NSF, 9111680, Sr isotopes in Archaeology (PI: Doug Price; **Co-PI's: Jim Burton and Clark Johnson**), \$76,738, 6/1991-5/1993.
- NSF, 9004795, Evolution of the Bohemian Massif, (PI: Gordon Medaris; **Co-PI's: Clark Johnson** and Herb Wang) \$68,700, 6/1990-5/1992.
- GRI, 89-0744-014, Gas Research Institute: The Michigan Basin, (PI: Bob Dott; **Clark Johnson 1 of 7 Co-PI's**), \$1,229,813 (amt. to Johnson: \$189,00), 6/1989-5/1992.
- ACS-PRF, 21311-G8, Evolution of the Rio Grande Rift (**PI: Clark Johnson**), \$18,000, 6/1989-5/1991.
- NSF, 8803892, Evolution of the San Juan volcanic field, (**PI: Clark Johnson**), \$80,300, 6/1988-5/1990.

*Funding agencies above:* NASA, National Aeronautics and Space Administration; NSF, National Science Foundation; ACS-PRF, American Chemical Society-Petroleum Research Foundation; GRI, Gas Research Institute; DOE, Department of Energy; DOD, Department of Defense.

**Publications:**

No abstracts listed below. Underlined denotes student or post-doc advisee.

***Submitted or in revision***

Shi, B, Smeaton, CM, Roden, EE, Lee, S, Liu, K, Xu, H, Kendall, B, **Johnson, CM**, Parsons, CT, and Van Cappellen, P. Decreasing bioreducible Fe(III) in nontronite NAu-1 during consecutive Fe redox cycles: Combining chemical extractions, solid-phase characterization and stable Fe isotopes, *Geochim Cosmochim Acta*, in revision.

***Authored Books (peer-reviewed)***

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