MARIE C. JOHNSON, PhD

Dan Black Dean, College of Natural Sciences and Mathematics

California State University, Fullerton

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Education

Ph.D. Geological Sciences ([redacted]) Brown University.

M.Sc. Geological Sciences ([redacted]) Brown University.

A.B. Geological Sciences (*Magna cum laude,* [redacted]) Harvard College.

Appointments

Dan Black Dean, College of Natural Sciences and Mathematics, California State University, Fullerton, July 2016 to present.

Environmental Program Director, Department of Geography and Environmental Engineering, United States Military Academy, June 2008 to June 2016.

Professor of Geology, Department of Geography and Environmental Engineering, United States Military Academy, August 2005 to June 2016.

Sabbatical Fellow, Army Environmental Policy Institute and Georgia Institute of Technology, August 2001 to June 2002.

Associate Professor, Department of Geography and Environmental Engineering, United States Military Academy, August 1999 to July 2005.

Assistant Professor, Department of Geography and Environmental Engineering, United States Military Academy, July 1995 to July 1999.

Associate Research Scientist, Lamont-Doherty Earth Observatory, Columbia University, September 1992 to June 1995.

Lamont-Doherty Post-Doctoral Fellow, Lamont-Doherty Earth Observatory, Columbia University, September 1990 to August 1992.

Administrative Leadership Accomplishments

Dan Black Dean, College of Natural Sciences and Mathematics, CSUF, 2016 to present

Retreat rights with tenure as Professor of Geological Sciences

Cal State University, Fullerton is the largest campus in the 22-campus California State University system, the largest public higher education system in the United States. CSUF is an urban, public, comprehensive, R2, Hispanic- and Minority-Serving Institution (HSI, MSI, AANAPISI) with approximately 46,000 students. The College of Natural Sciences and Mathematics (annual budget of $21 million excluding benefits) includes 5 departments, 5 centers, 120 full-time and 120 part-time faculty members, 40+ staff, and 5,300 diverse FTES across 8 undergraduate and 7 graduate degree programs. The college advances the teacher-scholar model, integrating teaching and research through undergraduate and master's student research. CSUF operates within a shared governance environment and has 10 labor unions representing faculty, staff, and student employees.

Institutional change leadership

- Serve as chief academic officer for the College of Natural Sciences and Mathematics and member of the Council of Deans (Provost, Deans) and Senior Leadership Team (President, Vice Presidents, Deans), contributing to institution-wide strategic planning and governance.
- Led the $40M McCarthy Hall Modernization project (2019 – 2022), delivering fire/life/safety upgrades to a fully occupied 7-story building, including a down-to-the-studs redesign and reprogramming of the second floor as student friendly, science-on-display space with modern classrooms, research and teaching labs, faculty, department, and graduate student offices, and informal student learning spaces.
- Led and identified funding for over $1.5M in additional renovations to modernize classrooms, offices, laboratories, and meeting spaces to promote teaching and learning and student, staff, and faculty well-being.
- Initiated and led a system wide task force to restart in-person laboratory and field research halted in March 2020 by the COVID-19 pandemic.

- Advanced interdisciplinary collaboration by leading a university wide team of faculty members across 4 colleges to envision, plan, and implement first a Data Science Minor and then an approved Data Science Major with broad appeal across disciplines.
- Founded and funded an innovative computation and applied mathematics center that scaled into the Titan Supercomputing Center, now providing university wide high performance super computing capabilities to faculty members and students.
- At the Provost's request, led a university wide committee to design a required, proactive undergraduate advising model integrating professional and faculty advisors.
- Led university wide implementation of a system mandate to grant academic credit for Term 1 mathematics. Supported faculty redesign of remedial mathematics to comply with this mandate.
- Served on the university wide strategic planning committee (2023 – 2024) with sub-committee focus on student financial and basic needs support. Serve on the Strategic Plan Oversight Committee (2024 – present) monitoring progress on the university's Strategic Plan goals.
- Partnered with central academic support units (Registrar, Information Technology, Facilities, Environmental Health and Safety) to improve operational effectiveness and support student success. Implemented block enrollment for first-time, first-year majors; refreshed classroom technology and upgraded lab/classroom equipment and spaces; and addressed safety and compliance requirements supporting teaching and research.
- Chaired dean searches (College of the Arts, College of Health and Human Development).
- Served on the search committee for Provost and Vice President of Academic Affairs (2024 – 2025).

Student academic success
- Led a faculty and staff team to design and implement CNSM 101 Think Like Einstein, an innovative, college wide, first-year experience course for math and science majors that builds critical thinking skills and fosters belonging, particularly for underrepresented students. Team taught by tenure track faculty members from each NSM department. Approved as part of the university General Education curriculum.
- Led a summer mathematics support initiative for incoming first-time, first-year (FTFY) students in calculus-required majors across 3 colleges. Improved NSM FTFY placement in Calculus I from 20% to 33% and passing rates in the first term from 16% to 27%.
- Led the college's implementation of the California State University Graduation Initiative 2025 goals, which focused on doubling 4-year graduation rates and eliminating equity gaps. Increased NSM 4-year graduation rates from 17.5% to 34.8%.

Faculty development
- Oversee 240 unionized faculty across 5 academic departments, supporting continuous curriculum improvement to promote student success and workforce preparation.
- Recruit, hire, and onboard approximately 5 new tenure-track faculty members annually, championing inclusive hiring practices that increased diversity and representation across departments.
- Lead retention, tenure, and promotion efforts for tenure track faculty, post-tenure reviews for tenured faculty, and evaluation processes for part-time faculty members.
- Promote research excellence by mentoring faculty members who annually submit proposals totaling $25M+ to external funding agencies, supporting scholarship and life-changing hands-on research experiences for graduate and undergraduate students across lab, field, classroom, and computational settings.
- Raise $75K annually to fund a Best Good Idea faculty innovation program. Review proposals and select projects advancing student retention, success, and inclusive excellence.

Financial leadership and fundraising
- Lead a college with 5 departments, 5 centers, 240 full- and part-time faculty members, 2,800 undergraduate majors and 300 master's students, ~5,300 FTES per term, 8 undergraduate and 7 graduate degree programs, and an annual budget of $21M (excluding benefits).
- Manage the college's total annual budget (state, indirects, and philanthropic) to support faculty and student success, including professional development, equipment acquisition, repair, and maintenance, capital projects, and strategic margin of excellence investments.

- Fundraise and cultivate donors annually. Raise $1M+ in philanthropic gifts each year, including one of the largest gift in university history ($7M) to support our Gravitational Wave Physics and Astronomy Center, a $3.2M gift to endow the first named deanship at CSUF, and a $7M gift to improve outcomes for STEM transfer students. Founded and chair the Dean's Philanthropic Board to guide strategy and advance the college mission.

Inclusive excellence and equity
- Established and led the college's first Diversity, Equity, and Inclusion Committee with faculty representation from all NSM departments. Focus included reducing equity gaps and DFW rates in large enrollment, 100-level courses and expanding undergraduate research opportunities.
- Created a website showcasing 1–2 minute videos on undergraduate research, where students answered why they participated, what preparation they had, and what they learned about themselves through the experience.
- Supported a faculty learning community to strengthen inclusive teaching practices through syllabus and course design revision, enhancing the classroom experience for students from all backgrounds.
- Established faculty hiring protocols to recruit diverse applicant pools and strengthen equitable search practices.

Environmental Program Director, Department of Geography and Environmental Engineering, United States Miliary Academy, 2008 to 2016

The United States Military Academy (West Point) is the premier leader development institution for the United States Army. The Academy enrolls 4,400 cadets each year at no cost to students. Graduates earn a Bachelor of Science degree and commission as Second Lieutenants, with a minimum of a 5-year service commitment. The Environmental Program within the Department of Geography and Environmental Engineering offers B.S. degrees in Environmental Engineering and Environmental Science. The Program Director role is comparable to a department chair, with responsibilities adapted to the Academy's mission and structure.

Institutional change leadership
- Led national ABET accreditation for the Environmental Engineering program. Inherited an accreditation crisis upon appointment as Program Director (2008) and worked collaboratively with faculty in the program and across the Academy over 2 years to revise curricula and resolve deficiencies.
- Led all aspects of the 2014 ABET accreditation review cycle. Served as the lead author of the 403-page self-study. Led site visit preparation and execution, resulting in full accreditation with strong commendations.
- Served on the Academy wide ABET Committee (2008 – 2016), monitoring ABET accreditation standards, sharing best practices, and reviewing program self-study drafts.
- Served twice on the USMA Middle States 10-Year Reaccreditation Committee. Strategic Planning subcommittee (2008 – 2009). Faculty Development subcommittee (1997 – 1998).
- Led assessment at institutional and program levels. Served on the Academy-wide Assessment Steering Committee (2003 – 2009). Chaired the Academy-wide Creativity Goal Team (2003 – 2009). Authored annual outcomes assessment reports for the Environmental Engineering and Environmental Science programs. Strengthened sustainable assessment processes.

Program leadership
- Served in a chair-equivalent role, providing short- and long-term academic leadership. Recruited, developed, and evaluated faculty. Advised and mentored students. Led curriculum assessment and continuous improvement. Administered program budget. Maintained engineering program's national ABET accreditation.
- Allocated program resources to support student and faculty enrichment and research, including undergraduate research experiences, faculty conference travel, laboratory supplies and maintenance, and capital equipment improvements.
- Redesigned the Environmental Science program to clarify its purpose and distinction from Environmental Engineering. Developed and implemented new courses in biology, ecology, and environmental security. Strengthened program identity and branding. Doubled the number of majors. Individually advised 30 of 60 junior and senior majors.
- Advised at least one undergraduate senior research project each academic year.

Student development

- Volunteered as Head Coach, Army Women's Competitive Club Lacrosse (1995 – 2010). As an All-American collegiate lacrosse player, volunteered to coach the team for 15 seasons. Taught strategy and performance under pressure. Built a team culture focused on accountability, resilience, and "team above self." This role strengthened my team building and leadership skills through continuous real-time feedback.
- Mentored senior men's rugby cadet-athletes through a team culture and values crisis. Facilitated candid dialogue, accountability, and alignment with Army values. Reinforced expectations for respectful conduct and the responsibility to intervene when harm occurs. Supported sustained behavior change and leadership growth.

Faculty development

- Recruited, onboarded, and trained 3 – 5 new faculty members each academic year.
- Provided formal and informal mentoring and coaching to all program faculty members (~14 faculty members). Assigned teaching loads and additional duties.
- Led annual faculty evaluation processes. Met formally 3 times per year with each faculty member. Observed at least one class per faculty member each fall and spring, with follow-up feedback and mentoring that began with specific classroom observations and then expanded to broader issues related to our distinctive role as scholars and educators.
- Served as an Academy-wide Master Teacher mentor (2002 – 2009). Provided guidance and mentorship to faculty at all career stages and in disciplines beyond my own.

Awards

Department of the Army Meritorious Civilian Service Award May 2016 for service at West Point which embodied inspirational leadership and undying commitment to the development of cadets and faculty, resulting in a legacy of leaders of character serving the Army.

Department of the Army Superior Civilian Service Award December 2014 for exceptionally meritorious performance as the Environmental Program Director with full responsibility for the Environmental Engineering Program's mission critical successful ABET reaccreditation.

Department of the Army Superior Civilian Service Award August 2011 for exceptionally meritorious performance as the Environmental Program Director.

Teaching activity selected for inclusion in the Climate Literacy and Energy Awareness Network (CLEAN), an NSF funded project which identifies exemplary teaching materials related to Climate and Energy, May 2011.

Department of the Army Commander's Award for Meritorious Civilian Service January 2010 for meritorious service as a member of the Strategic Planning Working Group writing the institutional reaccreditation self-study.

Coach Mike Krzyzewski Teaching Character through Sport Award, inaugural winner, United States Military Academy, NY, May 2007. Presented by Coach K in the USMA Mess Hall in front of the Corps of Cadets.

Department of the Army Commander's Award for Meritorious Public Service October 2007 for exceptionally meritorious service as a member of the university wide Assessment Steering Committee whose work resulted in the timely and comprehensive review of the West Point core curriculum.

Department of the Army Commander's Award for Meritorious Civilian Service December 2003 for exceptionally meritorious service as a superb educator, mentor and role model for the Corps of Cadets and for selfless dedication to coaching the women's lacrosse team which produced championship teams and superb leaders for the Army.

Department of the Army Commander's Award for Meritorious Civilian Service December 1999 for professional and dedicated service as a member of the faculty working group writing the institutional accreditation self-study which resulted in substantial improvements to the Academy's programs and in the reaccreditation of the Academy.

Phi Kappa Phi National Honor Society (West Point Chapter) elected member May 1998.

Sigma Xi Award for Outstanding Graduate Student in Geological Sciences, Brown University, May 1990.

Harvard College Scholarship, 1985.

Elizabeth Carey Agassiz Award for Academic Excellence, Harvard College, 1982, 1985.

All-American Division I, Lacrosse Goalie, Harvard College Women's Lacrosse, 1984.

Post-doctoral and faculty member accomplishments

Teaching Experience

Department of Geography and Environmental Engineering, United States Military Academy
EV388a Physical Geology, EV399a Geology Field Course, EV391b Environmental Geology, EV301 Environmental Science, EV471 Ecology, EV487 Environmental Security, EV388b Geomorphology, EV350 Environmental Engineering, EV450 Environmental Engineering for Community Development

Federal External Research Awards

U.S. Department of Labor, Strengthening Institutions Program Award Number 26D60SI000368-01-00 "RAISE-UP (Research, Apprenticeships, Internships in STEM and Employer-University Partnerships)" $3,000,000 to Megan Drangstveit, Principal Investigator and Marie Johnson, Sang June Oh, and Sridhar Sundaram, Co-Principal Investigators (California State University, Fullerton) 2026-2031

National Science Foundation EAR-9417780 "Collaborative Research: An experimental study of sediment dehydration and melting in subduction zones" $129,946 to M. C. Johnson (Columbia University) and $97,000 to T. Plank (University of Kansas) 1995-1998. Transferred to West Point July 1995.

Department of Energy DE-FG02-84ER13287 "Energetics of melts from thermal diffusion studies" $373,216 to D. Walker and M. C. Johnson (Columbia University) 1993-1995

PhD Thesis Advised

"Pyroxene and Garnet High Pressure Phase Equilibria", Keith Putirka, Ph.D. in Geological Sciences, Columbia University, 1997.

Undergraduate Senior Projects Advised

Scott Diddams (fall 2015) – sapwood filter breakthrough time
Tanner Ellison (fall 2015) – efficiency of different reseeding techniques after major forest fires
Colby Hyde (fall 2015) – economic and environmental consequences of vertical farming
Nate Marks (fall 2015) – West Point Plain geese management plan
Nate Pieringer (fall 2015) – correlation between urban street density and government effectiveness
Courtland Adams (fall 2014) – using sapwood as a low-tech filter for drinking water
Will Anderson (fall 2013) – promoting growth in rye grass using actively aerated compost tea
McKenzie Hudgins (fall 2013) – quantifying impact of land navigation training on species diversity
Mike Van Sickle (fall 2011) – designing an urban water collection system for a Yonkers community garden
Bradley Potts (fall 2011) – developing a West Point community garden for teaching and learning
Corey Saunders (spring 2011) – maximizing yield on a North Carolina farm
Dan Thueneman (fall 2010) – building a solar cooker from junk car parts
Craig Aman (fall 2008) – greening the West Point Association of Graduates building
David Weart (fall 2007) – energy use on military posts
Ehren Linderman (fall 2005) – plant biodiversity in different field habitats
Dan Tran (spring 2003) – radon hazard in the cadet area
Matthew Garrett (spring 2001) – Iona Island, New York natural and human history
Adam Martin (fall 2000) – Iona Marsh, New York water quality
Jesse Brewster (spring 2000) – portrayal of geoscience in disaster movies
Darren Moniot (spring 2000) – light pollution at West Point caused by exterior building lights
Scott Blanchard (fall 1999) – feasibility of recycling cadet trash
Matthew Birck (spring 1999) – pre-Revolutionary War iron mines in the Hudson Valley
Paul Colbert (spring 1999) – landslides along Rt. 218, Cornwall, New York
David Pounds (fall 1998) – West Point building stones

Professional Activities

Becoming a Provost Academy, American Association of State Colleges and Universities, yearlong program providing comprehensive preparation in the areas of most critical concern to provosts, 2026 – 2027.

Associate Editor, *Journal of Geoscience Education*, October 2002 – 2010.

Completed American Sport Education Program *Coaching Principles* course, November 2000.

Invited member of five-day National Science Foundation sponsored short course in "Innovative and Effective Teaching in the Geosciences" held at College of William and Mary, 7-11 July 1998.

Invited reviewer of proposals for three-day National Science Foundation Undergraduate Education Instrumentation and Laboratory Improvement panel, January 1998.

Reviewer of manuscripts for *Earth and Planetary Science Letters*, *Geochimica et Cosmochimica Acta, Nature, Contributions to Mineralogy and Petrology, Tectonophysics, and Journal of Geoscience Education*.

Reviewer of research proposals for the National Science Foundation and NASA.

Member of American Geophysical Union and Geological Society of America.

Journal Articles and Monographs

*Johnson, MC and AR Pfluger. Constructing field expedient solar water pasteurizers from junk. *Open Environmental Sciences, 7,* 7-13, 2013. (benthamscience.com/open/toenvirj/openaccess2.htm)

*Johnson, MC and MA Smith. Promoting a sustainability ethic in future Army leaders at West Point. Chapter 12, pp. 393-416, *Sustainability and National Security,* edited by James Hartman, Kent Butts, Brent Bankus and Steven Carney, published by U.S. Army War College, Carlisle, PA. ISBN 978-0-9835110-1-4, 2012.

*Butkus, MA and MC Johnson. Reevaluation of phosphate as a means of retarding lead transport from sandy firing ranges. *Soil and Sediment Contamination*, *20:2,* 172-187, 2011.

*Butkus, MA and MC Johnson. Influence of phosphate on the transport properties of lead in sand. *Journal of Hazardous Materials*, *185*, 275-280, 2011.

*Johnson, MC and MA Smith. Designing appropriate scaffolding for student science projects. *The Journal of College Science Teaching, 38,* 24-29, 2008.

*Wheeler, KT, D Walker and MC Johnson. Galena stability to 26 kbar. *American Journal of Science*, *307*, 590-611, 2007.

*Johnson, MC. Thermal and geochemical changes in soil vitrified using a plasma arc torch. *Environmental Engineering Science*, *22,* 294-309, 2005.

Johnson, MC. New York State iron and steel industry. *New York State Encyclopedia*, Editor in Chief Peter Eisentadt, Syracuse University Press, 788-790, 2005.

*Johnson, MC and CA Gellasch. Geology in the West Point, New York region and its influence on three centuries of local land use. *Northeastern Geology and Environmental Geosciences, 26,* 285-297, 2004.

Butkus, MA, MC Johnson and JC Lynch. Linking courses and essential experiences in an undergraduate environmental engineering curriculum. *Proceedings of the 2004 American Society for Engineering Education Annual Conference,* American Society for Engineering Education, Salt Lake City, UT, 2004. Available on CD-ROM.

Johnson, MC. On vitrifying wastes using a plasma arc torch. *Army Environmental Policy Institute,* 78 pp., 2002. (monograph)

Johnson, MC. Plasma torches convert waste to energy, and remediate soils. *Environmental Practice (Journal of the National Association of Environmental Professionals), 4,* 14-16, 2002.

*Walker, D, SM Clark, LMD Cranswick, MC Johnson and RL Jones. O_2 volumes at high pressure from $KClO_4$ decomposition: D" as a siderophile element pump instead of a lid on the core. *Geochemistry, Geophysics and Geosystems*, paper number 2001GC000225, 2002. See http://gcubed.magnet.fsu.edu/.

*Johnson, MC and PL Guth. Using GPS to teach more than accurate positions. *Journal of Geoscience Education*, 50, 241-246, 2002.

*Johnson, MC, D Walker, SM Clark and RJ Jones. Thermal decomposition of rhombohedral $KClO_3$ from 29-76 kilobars and implications for the molar volume of fluid oxygen at high pressures. *American Mineralogist, 86,* 1367-1379, 2001.

*Johnson, MC and J Malinowski. Navigating the active learning swamp. *The Journal of College Science Teaching*, *XXXI,* 172-177, 2001.

Johnson, MC. Rock hounding in Colorado. *Assembly* (USMA alumni magazine), January 2001.

Johnson, MC. Two hundred years of iron mining in the Highlands. *From the Hudson to the Hamptons: Snapshots of the New York Metropolitan Area*. Miyares, Pavlovskaya, and Pope, Editors. American Association of Geographers, 29-36, 2001.

*Johnson, MC and T Plank. Dehydration and melting experiments constraint the fate of subducted sediments. *Geochemistry, Geophysics and Geosystems, 1*, paper number 1999GC000014, 1999. See http://gcubed.magnet.fsu.edu/.

*Johnson, MC and PL Guth. A microcomputer exercise to teach basic geologic reasoning. *Journal of Geoscience Education*, *45*, 349 – 353, 1997.

*Putirka, K, M Johnson, R Kinzler, J Longhi, D Walker. Thermobarometry of mafic igneous rocks based on clinopyroxene-liquid equilibria, 0-30 kbar. *Contributions to Mineralogy and Petrology, 123,* 92 - 108, 1996.

*Johnson, MC, AT Anderson, Jr, MJ Rutherford. Pre-eruptive volatile contents of magmas. Chapter 8, *Volatiles in Magmas*, Mineralogical Society of America, M. R. Carroll and J. R. Holloway (Editors), 281-30, 1994.

*Johnson, MC and D Walker. Brucite [$Mg(OH)_2$] dehydration and the molar volume of water to 15 GPa, *American Mineralogist, 78,* 271-284, 1993.

Rutherford, MJ and MC Johnson. Comment on Blundy and Holland's (1990) "Calcic amphibole equilibria and a new amphibole-plagioclase geothermometer". *Contributions to Mineralogy and Petrology, 111*, 266 - 268, 1992.

*Johnson, MC, MJ Rutherford, and PC Hess. Chassigny petrogenesis: melt compositions, intensive parameters, and water contents of Martian (?) magmas. *Geochemica Cosmochemica Acta, 55,* 349 - 366, 1991.

*Johnson, MC and MJ Rutherford. Experimental calibration of the aluminum-in-hornblende geobarometer with application to the Long Valley Caldera (California) volcanic rocks. *Geology, 17,* 837 - 841, 1989.

*Johnson, MC and MJ Rutherford. Experimentally determined conditions in the Fish Canyon Tuff, Colorado, magma chamber. *Journal of Petrology, 30,* 711 - 737, 1989.

*Johnson, MC. The solar nebula redox state as recorded by the most reduced chondrules of five primitive chondrites. *Geochemica Cosmochemica Acta, 50,* 1497 - 1502, 1986.

* *Denotes work that has been peer reviewed.*

Papers Presented

Johnson, MC, J Hoffman, L Gardiner. From grid to home. Climate Literacy and Energy Awareness Network, http://serc.carleton.edu/NAGTWorkshops/energy/activities/32718.html, 2009.

Johnson, MC, M Butkus, J Block. Using phosphate to immobilize lead on small arms firing ranges. *Geological Society of America Abstracts*, vol. 39, no. 6, p. 62, 2007.

Johnson, MC, M Butkus, P Dacunto and J Lynch. Immobilization of lead on small arms firing ranges via phosphate amendment. *Geological Society of America Abstracts*, vol. 38, no. 7, paper 111277, 2006.

Johnson, MC. Thermal and geochemical changes in soils vitrified using a plasma arc torch. *Geological Society of America Abstracts*, vol. 36, no. 5, paper 74312, 2004.

Johnson, MC. Local geology and its influence on human history in the West Point region. *Geological Society of America Abstracts*, vol. 35, no. 6, paper 66994, 2003.

Johnson, MC and CA Gellasch. The influence of local geology on the human history of the West Point region. USMA sponsored conference on Military Geology and Geography, June 2003.

Johnson, MC. Two hundred years of iron mining in the Hudson Highlands. *Geological Society of America Abstracts*, vol. 32, 295, 2000.

Johnson, MC and PL Guth. "I'll buy a strike and dip": Interactive microcomputer exercise to teach geology map interpretation. *Geological Society of America Abstracts*, vol. 31, 1999.

Plank, T and MC Johnson. Crustal fluxes to the deep mantle: Processing of sediment through the Subduction Factory. *EOS Trans. AGU*, *XX,* 1999.

Walker, D, SM Clark, MC Johnson and RL Jones. The $\alpha_0 * K_0$ = constant form fits hot compression of B2 KCl, rhombohedral $KClO_3$, orthorhombic $KClO_4$ and O_2 gas to 96 kbar calibrated against B1 NaCl. *Ninth annual V. M. Goldschmidt Symposium*, Harvard University, August 1999.

Walker, D, SM Clark, MC Johnson and RL Jones. Surprisingly small O_2 gas volumes from 22-96 kbar at 600 °C are confirmed from decomposition of orthorhombic $KClO_4$. Ninth annual V. M. *Goldschmidt Symposium*, Harvard University, August 1999.

Johnson, MC and T Plank. Melting and dehydration experiments on a pelagic red clay and the fate of sediments during subduction. *EOS Trans. AGU*, *79,* F995, 1998.

Johnson, MC, D Walker, SM Clark and RL Jones. Rhombohedral $KClO_3$ decomposition: O_2 gas volumes at 36-76 kbar. *EOS Trans. AGU, 74,* 680, 1997.

Walker, D, SM Clark, MC Johnson and RL Jones. The B1-B2 transformation of KCl: Orthorhombic distortion then translation. *EOS Trans. AGU, 74,* 680, 1997.

Plank, T and MC Johnson. Experimental study of trace element partitioning in fluids and melts generated during sediment subduction. Seventh annual V. M. Goldschmidt Symposium, Adelaide University, June 1997.

Walker, D and MC Johnson. Synchrotron investigation of compression, transformation mechanisms, and thermal decomposition of potassium chlorides and chlorates. Submitted to the Boyd Symposium. May 1997.

Plank, T and MC Johnson. Do subducted sediments melt beneath arc volcanoes? Some experimental answers. *Geol. Soc. of Australia, Abstracts, Number 45, 76-78*, 1997.

Johnson, MC and D Walker. Brine mobility in matrices with retrograde solubilities. Department of Energy Invited Symposium on Migration of Geologic Fluids. Oak Ridge National Lab, January 1996.

Johnson, MC and D Walker. Retrograde solubility and brine mobility in $Li_2SO_4 \cdot H_2O$: Role in nuclear waste backfill. *EOS Trans. AGU, 75,* 697, 1994.

Johnson, MC and T Plank. Experimental constraints on sediment melting during subduction. *EOS Trans. AGU, 74,* 680, 1993.

Johnson, MC and D Walker. Thermal compaction assists interpretation of poorly quenchable reactions: $Mg(OH)_2 \leftrightarrow MgO + H_2O$. *EOS Trans. AGU*, *73,* 619, 1992.

Johnson, MC and D Walker, and S. Saxena. Brucite dehydration and the compressibility of water at very high pressures. *EOS Trans. AGU*, *72,* 564, 1991.

Johnson, MC and MJ Rutherford. Low pressure crystal fractionation of transitional and silica-undersaturated magmas. *EOS Trans. AGU, 71,* 1712, 1990.

Johnson, MC, MJ Rutherford, and PC Hess. Intensive parameters of SNC petrogenesis. Submitted to *MEVTV Workshop on the Evolution of Magma Bodies on Mars.* Lunar and Planetary Institute, Houston, 20 - 21, 1990.

Johnson, MC and MJ Rutherford. Alkali basalt evolution at low pressures under anhydrous and hydrous conditions: effect of amphibole. *EOS Trans. AGU, 70,* 1395, 1989.

Johnson, MC and MJ Rutherford. Experimental study of igneous kaersutite stability with application to SNC petrogenesis. *Lunar and Planetary Science XX,* 472 - 473, 1989.

Johnson, MC and MJ Rutherford. Experimental calibration of an aluminum-in-hornblende geobarometer applicable to calc-alkaline rocks. *EOS Trans. AGU, 69,* 1511, 1988.

Johnson, MC and MJ Rutherford. P, T, and X(H_2O) conditions in the Fish Canyon Tuff, Colorado, magma chamber as determined experimentally. *EOS Trans. AGU, 68,* 1542, 1987.

Johnson, MC and MJ Rutherford. Pre-eruptive conditions in the Fish Canyon Tuff magma chamber, Colorado: melt inclusion and experimental data. *EOS Trans. AGU, 68*, 434, 1987.

Johnson, MC. Pyroxene compositions in the most reduced chondrules of UOC's as a measure of O/H in the nebula. *Lunar and Planetary Science XVI,* 402 - 403, 1985.