Arthur D. Storke Professor & Vice Chair
Dept. of Earth & Environmental Sciences, Columbia University
Lamont Doherty Earth Observatory, Palisades NY 10964
email: peterk@ldeo.columbia.edu
web: http://www.ldeo.columbia.edu/user/peterk

Born in Wilmington Delaware, on Feb. 15, 1956. Married Rachel L. Cox on Sept. 6, 1987.
Two daughters: Sara C. Kelemen, born Jan. 21, 1994 & Lucille B. Kelemen, born Dec. 2, 1997.

Education

1987 Ph.D., University of Washington. Thesis advisor: Dr. Bernard Evans. Assimilation of Ultramafic Rock in Fractionating Magma.
1985 M.Sc., University of Washington. Research Project advisor: Dr. Bernard Evans. Geology of the Big Jim Complex, Washington Cascades.
1980 A.B. cum laude, with high distinction in Earth Sciences, Dartmouth College.

Academic Employment & Awards

2013– present Geochemistry Fellow, Geochemical Society & European Assoc Geochemistry
2013-16 Visiting Professor, Ocean & Earth Science, University of Southampton, UK
2012-14 Vice Chair, Dept. of Earth & Environmental Sciences, Columbia University
2012 Chapman Lecturer, University of Alaska
2010 CIRES Distinguished Lecturer, University of Colorado
2009 Visiting Professor, Université de Lausanne
2008 MARGINS Distinguished Lecturer
2007 Hallimond Lecturer, Mineralogical Society
2006– present Fellow, Mineralogical Society of America
2004– present Arthur D. Storke Professor, Dept. of Earth & Environmental Sciences, Columbia University and Lamont Doherty Earth Observatory
Associate Research Scientist, Dept. of Earth and Planetary Sciences, American Museum of Natural History
Adjunct Scientist, Woods Hole Oceanographic Institution
Fellow, American Geophysical Union
2004 Bowen Award, Volcanology, Geochemistry, Petrology Section, AGU
2003 Co-Chief Scientist, Ocean Drilling Program Leg 209 (May-June 2003)
2001-04 Charles Francis Adams Chair, Woods Hole Oceanographic Institution
2000-04 Senior Scientist, Woods Hole Oceanographic Institution
1997-00 Tenured Associate Scientist, Woods Hole Oceanographic Institution
1994-97 Associate Scientist, Woods Hole Oceanographic Institution
1993 Visiting Scientist, CNRS Centre Géologique et Géophysique, Montpellier, France
1990-94 Assistant Scientist, Woods Hole Oceanographic Institution
1990 Postdoctoral Investigator, Woods Hole Oceanographic Institution
1990 Visiting Assistant Professor of Earth Sciences, Dartmouth College
1988-90 Postdoctoral Scholar, Woods Hole Oceanographic Institution
1988 Postdoctoral Research Associate, University of Washington
1986-87 Research Assistant, University of Washington
1982-86 NSF Graduate Fellow, University of Washington
1981-82 Teaching Assistant, University of Washington. Also 82, 84, 85
1980-81 Reynolds Fellowship for Foreign Study, Dartmouth College, shared with Mark Sonnenfeld (Dartmouth '80): geologic mapping, NW Himalaya, India

Professional Employment

1980-92 Founding partner, Dihedral Exploration, mineral exploration consultants. Contracts with: Bull Moose Resources 81; Falconbridge Ltd. 83; Klukwan Iron Ore 83; Noranda (Alaska) 84; Long Lac Mineral Exploration (US) 85; Cominco (Alaska) 86, 87, 88; Geddes Resources 87; Platinova Resources Ltd. 88-91. Mapping and sampling of potential ore deposits in Alaska, British Columbia, and Greenland.

1978 Physical Science Aide, U.S. Army Cold Regions Research and Engineering Laboratory (CRREL), Hanover, NH. Modeling of climate, north slope of Alaska.

Education

Primary doctoral advisor to:

Jun Korenaga	(WHOI/MIT; 1999)	Einat Aharonov	(WHOI/MIT; 1995)
Jill VanTongeren	(Columbia, 2009)	Mike Braun	(WHOI/MIT; 2004)
Janelle Homburg	(Columbia, 2012)	Martin Collier	(Columbia 2010, co-advisor)
		Lisa Streit	(Columbia, 2012)

Generals committee/PhD committee member for: Jake Eichenbaum-Pikser (Columbia 2013)

Claire Bendersky	(Columbia 2013)	Alex Lloyd	(Columbia 2012)
Antonio Buono	(Columbia 2011)	Wei Du	(Columbia, 2011)
Jason Jweda	(Columbia 2011)	Evelyn Mervine	WHOI/MIT 2011)
Byrdie Renick	(Columbia 2009)	Chris Waters	(WHOI/MIT 2009)
Sam Krevor	(Columbia, 2008)	Pierre Bouilhol	(ETH-Z, 2008)
Matthew Jackson	(WHOI/MIT 2008)	Kyla Simons	(Columbia, 2008)
Gideon Simpson	(Columbia, 2008)	Lynne Elkins	(WHOI/MIT 2008)
Jason Bryant	(Univ. S. Carolina 2008)	Nicholas Austin	(MIT; 2008)
Jessica Warren	(WHOI/MIT, 2007)	Michael Johnsen	(W Wash U, MSc 2007)
Kevin Wheeler	(Columbia 2007)	Richard Katz	(Columbia 2006)
Anna Cipriani	(Columbia, 2006)	Zachary Morgan	(Brown 2006)
Matt Rioux	(UCSB 2005)	Andrew Greene	(W Wash U, MSc 2003)
Mark Behn	(WHOI/MIT; 2003)	Robyn Kelly	(WHOI/MIT; 2003)
Ken Koga	(WHOI/MIT; 1998)	Mathieu Benoit	(Toulouse; 1997)
Eichi Takazawa	(MIT; 1996)	Dan Lizaralde	(WHOI/MIT; 1996)
Carlos Garrido	(Granada; 1995)	Margarite Godard	(Montpellier; 1993)
Malika Remaidi	(Montpellier; 1993)	Jon Snow	(WHOI/MIT; 1993)

Postdocs supervised

Carlos Garrido	(1995-98)	Matthew Jull	(1998-02)	Othmar Muentener	(1998-99)
Karen Hanghøj	(1999-00)	Laurent Montesi	(2001-02)	Magali Billen	(2002-03)
Ben Holtzman	(2004-05)	Taber Hersum	(2005-06)	John Rudge	(2007-08)
Stacia Gordon	(2010)	Kristoffer Szilas	(2012-14)	Sarah Lambart	(2013-)

Courses

2011-present	Co-convenor, with A. Hofmann and others, Solid Earth Geochemistry seminar
2010- present	Earth Resources and Sustainable Development, Columbia University
2007	Graduate field course, Columbia, Brown, … with Greg Hirth
2006- present	Introduction to Petrology, Columbia University, every other spring
2005-present	Reading seminars in petrology & geochemistry, usually Fall semester
2006-present	Co-convenor, with T. Plank, E. Lev, Lamont Geodynamics Seminar, both semesters
2005	Seminar on melt transport & crustal accretion, LDEO
2004-12	Earth: Origin, Evolution, Processes, Future, Columbia University
2003	Graduate field course WHOI, MIT, Brown University, with Greg Hirth
2002	Convenor of Geodynamics Seminar (Joint Program course 12.753)
1995-04	WHOI/MIT Joint Graduate Program, Igneous Processes …, Fall every other year
1994-96	WHOI Summer Student Fellowship Committee
1992-04	Co-Convenor, WHOI Geochemistry Seminar
1989-2004	WHOI Keck Geodynamics Seminar participant and planning committee

Outreach and Community Service

Outreach publications

P.B. Kelemen, Melt extraction from the mantle beneath ocean ridges, Oceanus 41, 23-28, 1998
P.B. Kelemen, Unraveling the tapestry of oceanic crust, Oceanus 42, 40-43, 2004.
P.B. Kelemen, The origin of the land under the sea, Scientific American 300, no. 2, 52-57, Feb. 2009
Fall 2009 op ed pieces in Popular Mechanics and Huffington Post
Fall 2012 op ed piece in Popular Mechanics

Outreach presentations

Alliance Bernstein panel discussion 2010
Annual Coalition for National Science Funding (CNSF) Exhibition and Reception on March 2009
BP Panel on Air Capture of CO2, 2009
Brearley School, NY 2012
Bruce Museum, Greenwich CT 2012
Children's School of Science, Woods Hole MA, 2005
Columbia University Energy Symposium Technology Showcase, April 2011
Columbia Westchester Alumi Assoc 2006
Earth2Class Workshop for Teachers, NY 2007
Explorer's Club NY 2005, 2012
Farragut Middle School, Hastings on Hudson NY, 2005, 2011
Hillside Elementary School, Hastings on Hudson, NY 2005-2007
JP Morgan Private Bank short course 2009
Lamont Advisory Board 2006, 2009, 2011
Lamont Doherty Earth Observatory, Earth Day presentation 2012
MARGINS Distinguished Lecturer 2007-08
Mullen Hall School, Falmouth MA, 2003, 2004
Riverdale Country School, NY 2008, 2009
Trinity School, NY 2012
Science-Engineering-Technology Congressional Visits Day (SET-CVD) for AGU, April 2011, 2012

Science planning

9/12 Convener: ICDP Workshop on Scientific Drilling in the Samail ophiolite, Oman
9/11: keynote: GeoPRISMS Alaska Workshop
9/11: keynote: EarthScope Workshop on the Lithosphere/Asthenosphere Boundary
1/11: keynote: IODP/ICDP Workshop on Mineral Carbonation for CO2 Storage, Oman
9/10: keynote, IODP & Deep Carbon Observatory Workshop, Reaching the Mantle Frontier, DC
9/09: keynote, Integrated Ocean Drilling Program (IODP) Decadal Science Planning, Bremen, GE
7/09: keynote, InterRidge Planning Meeting, Southampton UK
6/09: rapporteur, air capture of CO2, National Acad. Sci. Workshop on Geoengineering
3/09: invited participant, American Physical Society CO2 Air Capture Meeting, Princeton Univ.
3/09: presentation, Coalition for National Science Funding Exhibition for the US Congress
2/09: invited speaker, British Petroleum CO2 Capture from Air Symposium, New York
08-present: member CO2 Sub-Committee, Soc. Exploration Geophysicists Research Committee
11/07: Keynote speaker MARGINS Izu-Bonin-Marianas Workshop
3/07 Lead Proponent (1 of 5), Mission Moho Proposal, IODP
9/06: Keynote speaker, IODP Mission Moho Workshop

04: keynote, RIDGE2000 Slow Spreading Ridge Workshop
02: keynote, MARGINS Izu-Bonin-Marianas Workshop
00: keynote, RIDGE 2000 Integrated Studies Workshop
99: NSF OCE Decadal Planning Meetings (Working Group 6, Solid Earth)
99: COMPLEX Meeting, Vancouver, BC, planning International Ocean Drilling Program
98: Subduction Factory Workshop, NSF MARGINS Initiative
98- …, Member, Architecture of Oceanic Lithosphere Program Planning Group, ODP
97-…, Member, InterRidge Working Group on 4D Architecture of Oceanic Lithosphere
96: Invited participant, JOI/CORE Workshop on the Future of Marine Geosciences
96: keynote, ODP-INTERIDGE-IAVCEI Workshop on the Oceanic Lithosphere and Scientific Drilling into the 21st Century
94: RIDGE Workshop: Exper. Approaches to Ridge Segment Structure & Dynamics (RISES)
93: JOI Workshop on Magmatism and Mass Flux at Continental Margins
90: JOI/USSAC Workshop on Large Igneous Provinces
90: ONR Workshop on the Physical Properties of Volcanic Seafloor
89: JOI/USSAC Workshop on Drilling the Oceanic Lower Crust and Mantle

Meeting and short course convener

9/12 Convener, keynote, ICDP Workshop on Scientific Drilling in the Samail ophiolite, Oman
8/12 Chair, keynote, Gordon Conference on Rock Deformation
1/12 scientific committee, Int'l Conf on Geology Arabian Plate & Oman Mtns , Oman
1/11 convenor, IODP/ICDP Workshop on Mineral Carbonation, Muscat, Oman
8/10 vice-chair, Gordon Conference on Rock Deformation
9/08 convenor, Chapman Conf./5th Int'l Workshop on Orogenic Lherzolites, Mt Shasta, CA
7/06 convenor, Penrose Conference on Arc Crustal Genesis and Evolution, Valdez, Alaska
12/05 convenor AGU Special Session, Results from Talkeetna Arc Continental Dynamics Project
6/05 convenor, ODP Leg 209 Scientific Meeting, Samani, Japan
04 convenor, Goldschmidt Conference Special Session on Slow- and Ultra-Slow Spreading Ridges
02 organizing committee, 4th International Workshop Orogenic Lherzolites ..., Hokkaido, Japan
00 Scientific Organizing Committee, International Conference on the Geology of Oman
99 convenor, Fall AGU Special Session on Results of MODE 98 Cruises
99 organizing committee, 3rd International Workshop Orogenic Lherzolites …, Pavia, Italy
99 convenor, Goldschmidt Conference Session on Continental Genesis
99 convenor Spring AGU Special Session on Melt Migration in the Mantle and Lower Crust
1/98 convenor, RIDGE Winter School on Oman ophiolite
97 convenor, Fall AGU Special Session on Origin of Cratonic Mantle
95 organizing committee, 2nd International Workshop Orogenic Lherzolites …, Granada, Spain

Press coverage of recent work on geological CO2 capture and storage

paper: print, radio and video including The Economist 08, Christian Science Monitor 09, Popular Mechanics 09, OnEarth (NRDC) 09, NPR Earth & Sky 08, BBC Naked Scientists 08, MSNBC 08, ABC Online 08, Der Spiegel 08, Times of India 08, Times of Oman 08, Shanghai Daily 08, China Post 08, Frankfurter Allgemeine Zeitung 08, El Mundo 08, El Pais 08, Technology Review 08, 10, Physics Today 08, Nature Reports 08

Field Work

1976-77	two months climbing and sampling snow for oxygen isotope study, Cordillera Blanca, Peru
1980	five months reconnaissance mapping of Indus Suture Zone, Spongtang Ophiolite, and "Tibetan Zone", Ladakh, NW India
1981	two weeks, Ag and Au exploration, Snippaker valley, Iskut Region, British Columbia
1981-83	four months mapping, Big Jim intrusion, Mt. Stuart batholith, Washington
1983	one month mapping and sampling, Kigluaik Mountains, Seward Peninsula, Alaska
1983	two weeks Pt, Pd exploration, Klukwan ultramafic intrusion, SE Alaska
1983, 87	six weeks, Cu and Au exploration, Windy Craggy massive sulfide deposit, St Elias Mountains, British Columbia
1984	two months climbing & thermochronology sampling, Gasherbrum IV, Karakoram Range, Pakistan
1984-85	two months Au, Ag, Zn exploration, Prince of Wales Island, SE Alaska
1985-86	three weeks mapping and sampling, Emigrant Gap intrusion, Sierra Nevada, California
1986-87	three weeks mapping and sampling Chilliwack batholith, N Cascades, Washington
1986-88	three months Au exploration, Rainy Pass area, Alaska Range, central Alaska
1988	two months climbing & thermochronology sampling, Kulu area, NW Himalaya, India
1988,89,91	four months Pd, Pt, Au exploration & NSF supported research, Skaergaard, Kap Edvard Holm and Lilloise intrusions, East Greenland
1990	two months climbing & thermochronology sampling, Lahaul area, NW Himalaya, India
1990-2008	lead PI, mapping & sampling, Josephine, Trinity and Ingalls peridotites, SW Oregon, N California, Washington, total of six months accumulated over 17 years
1994	Shinkai 6500 submersible cruise, western ridge-transform intersection, Kane Fracture Zone, Mid-Atlantic Ridge
1994-2001	lead PI, two to five weeks per year, every year, mapping and sampling, Samail ophiolite, Oman
1995	four weeks mapping and sampling, Lilloise intrusion, Weidemann Fjord dikes, East Greenland
1996	co-PI, SIGMA onshore-offshore seismic experiment, East Greenland, one month
1998	Co-Chief Scientist, Shinkai 6500 submersible cruise, 14-16°N, Mid-Atlantic Ridge, site survey for future ODP drilling
2000-2002	lead PI, Talkeetna Arc Continental Dynamics Project, three months mapping and sampling of Jurassic arc section, south central Alaska
2000	five weeks mapping and sampling, flood basalts, Weidemann Fjord and Borgtinderne intrusion, East Greenland
2003	Co-Chief Scientist, Ocean Drilling Program Leg 209, Sampling peridotite along the Mid-Atlantic Ridge, 14-16°N
2004	co-PI, WAVE Expedition, dredging from Russian border to Unalaska Island, Aleutian arc, Alaska
2007-13	lead PI, lead PI, two to five weeks per year, every year, mapping and sampling, Samail ophiolite, Oman

Research and Education Grants

2012-14	NSF EAR-1147763: "Collaborative Research: Immersive Audio-visualization of Seismic Wave Fields in the Earth (EarthScope Education & Outreach)", Ben Holtzmann, PI; P Kelemen, D Ebel (AMNH), J Tromp (Princeton) co-PI's, $94,708 at Columbia
2012-13	NSF OCE-1144759: "Collaborative Research: Plutons as ingredients for continental crust: Pilot study of the difference between intermediate plutons and lavas in the intra-oceanic Aleutian arc", Kelemen, PI, Steve Goldstein, Sidney Hemming, M. Rioux(UCSB) co-PI's, $99,105 at Columbia
2012	NSF EAR-1238362: "Partial Support of 2012 Gordon Conference on Rock Deformation, Proctor Academy, Andover NH", P Kelemen PI, $22,505 to GRC
2012	DOE, BES Geoscience Program, Program Director Nick Woodward, Partial Support of 2012 Gordon Conference on Rock Deformation, $10,000 to GRC
2012	Alfred P. Sloan Foundation, Columbia Univ. Grant #B2012-20, "Planning Workshop, Oman Drilling Project", P. Kelemen PI, $30,000
2012	International Continental Drilling Program (ICDP), support for "Workshop on Scientific Drilling in the Samail Ophiolite, Sultanate of Oman, Palisades NY, September 2012, P. Kelemen PI, $50,000
2011-14	NASA 10-EXO10-0138 "Production of Organic Compounds During Serpentinization: Biotic or Abiotic?", Kelemen is "Team Member", lead PI: Everett Shock, Arizona State University, no direct support at Columbia University
2011-14	NASA 10-MFRP10-0098 "Aqueous Alteration of Ultramafic Rocks in Oman as an Analog for Understanding Martian Carbonates: a Remote, Field and Laboratory Investigation", Kelemen is "Team Member", lead PI: Bethany Ehlmann, Caltech, no direct support at Columbia University
2011-14	NSF EAR-1049905: "Petrologic Study of Peridotite Carbonation in Oman: Temperature, Timing and Fluid Composition", P Kelemen PI, $300,203
2010-13	NSF EAR-0961359: "Constraints on the Composition of the Subducting Oceanic Crust in the Northwest Pacific Ocean Basin", S Straub, PI; P Kelemen, S Goldstein, co-PI's, $200,735
2008-12	NSF EAR-0742368: "Collaborative Research: Element recycling from UHP metasediments: Evidence and consequences", P Kelemen, B Hacker (UCSB) PI's, $160,590 at Columbia.
2010-11	NSF OCE 1059175: "Partial support for US participation in a workshop geological carbon capture & storage in mafic and ultramafic rocks", Kelemen PI, $29,000
2010	NSF EAR-1053122: "2010 Rock Deformation Gordon Research Conference at Tilton School, New Hampshire", P. Kelemen PI, $25,000 to GRC
2010-13	DOE DE-FE0002386: Geo-chemo-mechanical studies for permanent CO2 storage in geologic reservoirs, Kelemen PI, co-PI's J Matter (LDEO), A Park (Dept Earth & Environmental Engineering, Columbia), approximately $300,000
2008-13	NSF EAR 0739010: "Collaborative Research: Microstructural and Modeling Constraints on Strain Localization, LPO Development and Rheology of the Upper Mantle", P Kelemen, M Spiegelman, G Hirth (Brown), $241,347 at Columbia
2008-12	NSF EAR 0727013: "Collaborative Research: Genesis of Primitive, High-Sr Lavas in the Western Aleutians", P Kelemen, G Yogodzinksi (U S Carolina), J Vervoort (Washington State) PI's, $31,027 at Columbia
2006-08	Columbia Initiative in Science and Engineering Gant, Natural Carbon Sequestration in Ophiolite Peridotites – Rates and Mechanism of Serpentinization and Carbonation, P Kelemen, J Matter, PI's, $200,000

2006-07 NSF EAR-0632774:" Support for the Penrose Conference on Arc Crustal Genesis and Evolution; July 9-15, 2006; Valdez, Alaska", P Kelemen, G Hacker (UCSB) PI's, $15,000 to UCSB

2006-09 NSF EAR-0610138: "Geochemical Consequences of Melt Channelization: Exploring New Models for U-Series Variability", P Kelemen, M Spiegelman PI's, $154,980

2004-05 NSF EAR-0409092, 0512369 "Collaborative Research: Volatiles in Aleutian-Alaska Arc Magmas", E Hauri (CIW DTM) P Kelemen, T Plank (Boston U) PI's, $48,447 to WHOI and Columbia

2004-11 NSF OCE-0405572, 0520378, 0539118,: "Collaborative Research: Seismic of Magma Flux, Arc Composition, and Lower-Plate Serpentinization in the Central American Subduction Factory"; S. Holbrook, lead PI; co-PI's P. Kelemen, D. Lizarralde; approx. $60,000 to WHOI and Columbia

2004-09 NSF OCE0-0426160, 0520391: "Accomplishment Based Renewal: Comparing the Thermal Histories of Fast- and Slow-Spreading Oceanic Crust", P. Kelemen, $162,820 to WHOI and Columbia

2004-07 NSF EAR-0337677: "Rhenium-Osmium Isotope and Platinum Group Element Systematics of Lower Oceanic Crust", P Kelemen, B Peucker-Ehrenbrink, $299,725

2004-05 UAF 04-0117: University of Alaska subcontract to WHOI (now LDEO) as part of NOAA prime award to the University of Alaska: Primitive Plutonism in an Island Arc: A Study of Deep Submarine Canyons in the Western Aleutians, Kelemen PI, about $10,000

2004-05 Texas A&M Task #F001831: Thermobarometry of Samples from ODP Leg 209; about $30,000

2004-05 NSF OCE 0242233:, 0533226 "Collaborative Research: Primitive Magmatism and Crustal Genesis in an Island Arc", P Kelemen, G Yogodzinski (U S Carolina), $101,536 to WHOI and Columbia

2003-05 NSF OCE-0327588: Localization of Melt Transport at Mid-Ocean Ridges, P Kelemen, L Montesi, $147,738

2002-04 ODP grant for Kelemen's stipend & support as Co-Chief Scientist, ODP Leg 209

2002-03 Deep Ocean Exploration Institute (WHOI) grant: "Morphology of fluid flow channels in reactive porous media", Kelemen, Whitehead, Braun, Bradley

2002-04 NSF OCE-0137327, "Collaborative Research: Geochemical Consequences of Melt Channeling: Exploring a New Class of Models for Geochemical Variability", P Kelemen, M Spiegelman (Columbia), $19,391 to WHOI

2002-04 NSF EAR-0125919, "Convection of the Mantle Wedge in Subduction Zones", P.Kelemen, G Hirth PI's, $99,971

2001-04 NSF 0115433: "Support of a National Ion Microprobe Facility at Woods Hole Oceanographic Institution", N Shimizu, G Layne, P Kelemen PI's, $268,682

2001-03 NSF OCE-0118572, "Detailed Study of Focused Melt Transport in the Upper Mantle Section of the Oman Ophiolite", P Kelemen, G Hirth PI's, $134,265

2001-03 NSF EAR-0087706, "Tectonic Consequences of Lower Crustal Convective Instability", M Jull, P Kelemen PI's, $58,055

2000-06 NSF EAR-9910899: Continental Dynamics Program, "Constraints on the Genesis of Continental Crust via Arc Magmatism: Geology, Geochemistry, Structure and Physical Properties of the Talkeetna Arc Crustal Section, South Central Alaska", P Kelemen, PI; S DeBari (WWU), N Christensen (U Wisconsin), T Pavlis (U New Orlians), R. Coleman (Stanford), S Hart, G Hirth, B Hacker (UCSB), J Mattinson (UCSB), co-PI's, $1,840,627

2001-04 NSF 9904400: "Support of a National Ion Microprobe Facility at Woods Hole Oceanographic Institution", N Shimizu, G Layne, P Kelemen PI's, $184,259

1999-03 NSF OCE-9819666: “Melt extraction and crustal accretion at mid-ocean ridges: Continued study of the mantle and lower crust in the Oman ophiolite”, P Kelemen PI, $115,341

1999-01 Mellon Independent Study Award (WHOI), "Thermodynamics of Fluid Flow in the Earth ", Peter Kelemen

1999-00 NSF EAR-9814632: "The genesis of ultra-depleted mantle peridotites in continental upper mantle", P Kelemen PI, $180,000

1998-00 NSF OCE-9731136: “ODP Site Survey via Shinkai 6500 submersible and geophysical observations: JAMSTEC/WHOI expedition to the Mid-Atlantic Ridge from 14° to 16°N, P Kelemen PI, $125,000

1997-99 NSF OCE-9711170: "Constraints on the accretion of lower oceanic crust: A quantitative textural and geochemical study of gabbros from the Oman ophiolite and mid-ocean ridges", P Kelemen, G Hirth, $140,814

1996-00 NSF EAR-9628749: “Support of a National Ion Microprobe Facility at Woods Hole Oceanographic Institution”, N Shimizu, G Layne, P Kelemen PI’s, $174,742

1996-99 NSF OCE-9530307, "Causes and consequences of flow organization during melt transport", PI: Marc Spiegelman; WHOI subcontract PI: Peter Kelemen.

1996-98 NSF EAR-9419240, "Regional variability in primitive Aleutian magmas and implications for processes in the mantle wedge: ... an ion microprobe and isotopic study", P Kelemen, G Yogodzinski (U S Carolina) PI’s, $75,000 to WHOI

1996-98 NSF OCE-9416631, "Deep Structure of a Hotspot Influenced Rifted Volcanic Margin: A Joint U.S.- Danish Seismic Experiment off SE Greenland", S Holbrook, R Detrick, P Kelemen G Kent PI’s, $386,393

1996-97 Mellon Independent Study Award (WHOI), "Development of low-altitude, aerial photo mosaic technique and measurement of size-frequency distribution of melt flow channels in the upper mantle", Peter Kelemen & Greg Hirth

1995-99 NSF OCE-9416616, "Melt extraction and crustal accretion at mid-ocean ridges: Collaborative study of the mantle and lower crust in the Oman ophiolite", P Kelemen, N Shimizu, $124,999

1995-98 NSF EAR-9418228: “Mapping of Textural, Modal and Compositional Variations in the Shallow Mantle: Implications for the Dynamics of Melt Flow and Segregation”, P Kelemen PI, $156,200

1994-97 NSF OCE-9314013 "Fluid flow in partially soluble porous media: Experimental and theoretical study of melt extraction from the mantle beneath mid-ocean ridges", P Kelemen, J Whitehead, $90,000

1994 NSF INT-9313822, "US-France Cooperative Research: Integrated studies of oceanic spreading centers of the Oman ophiolite", N Shimizu, P Kelemen PI’s, $18,000

1993-96 NSF OCE-9305508: “Support of a regional ion-microprobe facility at Woods Hole Oceanographic Institution”, N Shimizu, P Kelemen

1992-93 Mellon Independent Study Award (WHOI), "Evolution of volcanic rifted continental margins"; W. Steven Holbrook & Peter Kelemen

1993-95 NSF OCE-9217556 "A Study of a Mid-Atlantic Ridge Harzburgite-Dunite Complex at 15 Degrees 15' North", H Dick, P Kelemen PI’s, $200,000

1991-93 NSF EAR-9018482, "Parental Magmas and Magmatic Fluids of the Lilloise Intrusion, East Greenland, and their Possible Relation to the Iceland Hotspot", P Kelemen, M Kurz PI’s, $100,000

1990-92 Mellon Independent Study Award (WHOI), "Experimental investigation of the effects of H_2O on phase equilibria and trace element partitioning in the upper mantle", Peter Kelemen

1990-93	NSF EAR-9005306, "Field and Laboratory Study of Discordant Dunite in Alpine Peridotite: Melt-Rock Interaction During Magma Transport in the Shallow Mantle", P Kelemen, H Dick PI's, $165,000
1986-88	Wrote proposal for NSF EAR-8600534, "Assimilation of ultramafic rock in fractionating magma", Mark Ghiorso & Bernard Evans, NSF Petrology & Geochemistry
1986-87	Achievement Rewards for College Scientists, dissertation support grant.
1985-86	David A. Johnston Memorial Fellowship, Dept. of Geological Sciences, University of Washington.
1983-84	Chevron Scholarship.
1983	GSA Penrose Grant for geologic field work: Outstanding Mention.
1983	Sigma-Xi Grant-in-Aid for geologic field work.
1982-85	University of Washington Department of Geological Sciences Corporation Fund Grants, '82, '83, '85.
1980-81	Reynolds Fellowship for Foreign Study, Dartmouth College, shared with Mark Sonnenfeld (Dartmouth '80): geologic mapping, NW Himalaya, India
1977	Explorer's Club of North America Grant: Oxygen isotope fractionation as a function of altitude, Cordillera Blanca, Peru.

Patents

US Patent Application 61/673,825: Reaction driven cracking for unconventional hydrocarbon extraction, geothermal power generation, and geological capture and storage of carbon dioxide, Peter B. Kelemen, Heather Savage, Theodore A. Koczynski and Columbia University

US Patent Application 13/383,082: Systems and methods for enhancing rates of carbonation of peridotite, Peter B. Kelemen, Jürg M. Matter, and Columbia University

Editorial

2009-10	Editor, Special Lherzolite Volume of Journal of Petrology
2001	Editor, Current Research on the Oman Ophiolite, special collection G-cubed
2000-04	Associate Editor, G-cubed
1999-2000	Editor, Special Lherzolite Volume of Journal of Petrology
1996-1999	Editorial Board, Geology
1995-96	Editor, Special Lherzolite Volume of Chemical Geology

PUBLICATIONS

Editor

Menzies, M., **P. Kelemen**, H. Dick, J.-L. Bodinier, F. Boudier, G. Hirth, T. Grove, A. Tommasi and E. Takazawa, Shallow mantle composition and dynamics: Fifth International Orogenic Lherzolite, Conference, J. Petrol. 51, 570 pp., 2010. DOI: 10.1093/petrology/egp098

Kelemen, P.B., Kikawa, E., and Miller, D.J. (Eds.), Proc. ODP, Sci. Results, 209 : College Station, TX (ODP), doi:10.2973/odp.proc.sr.209.001.2007.

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