Carolina Lithgow-Bertelloni

Department of Earth Sciences, University College London
Gower Street, London WC1E 6BT, United Kingdom
http://www.es.ucl.ac.uk/people/lithgow-bertelloni.html

Personal

Born: Santo Domingo, Dominican Republic
Citizenship: Multiple Italian/USA/Dominican

Education

B.Sc.: University of Puerto Rico at Mayagüez, June 1987 (Geology), Magna cum Laude
Ph.D.: University of California at Berkeley, December 1994 (Geology)
Native Languages: Spanish and Italian
Foreign Languages: English, some French

Positions Held

Slichter Chair and Full Professor, Earth, Planetary and Space Sciences, UCLA	2018-
Professor of Geophysics, Earth Sciences, University College London	2012-2018
Visiting Professor, Earth Sciences, Roma Tre, Rome, Italy	2013
Visiting Researcher, DTM, Carnegie Institution of Washington	1998-2008
Reader in Geophysics, Earth Sciences, University College London	2007-2012
Visiting Associate Professor, Geological Sciences, U. Michigan	2007-2011
Associate Chair for Graduate Studies, Geological Sciences, U. Michigan	2005-2007
Associate Professor with Tenure, Geological Sciences, University of Michigan	2004-2007
Assistant Professor, Geological Sciences, University of Michigan	1997-2004
Carnegie Fellow & NSF Postdoctoral Fellow, Carnegie Institution of Washington	1995-1997
Visiting Professor, School of Earth and Atmospheric Sciences, Georgia Tech	1995-1997
Research Fellow, Institut für Geophysik, Universität Göttingen,	1994-1995
Graduate Assistant, Dept. of Geology & Geophysics, UC Berkeley	1987-1993

Honors, Awards and Fellowships (since PhD)

Elizabeth Crosby Research Award	2004
Who's Who in Science Higher Education	2004
Alfred P. Sloan Research Fellowship in Physics	2001-2003
David and Lucile Packard Foundation Fellowship for Science and Engineering	2000-2005
Carnegie Institution of Washington, Research Fellowship	1997-1998
NSF Earth Sciences Postdoctoral Research Fellowship	1995-1997

Professional Society Membership

Member, American Physical Society	2003-present
Member, American Geophysical Union	1987-
Member, Geological Society of America	1987-
Member, Phi Kappa Phi (Honor Society)	1985-present

Professional Service

Specialty Chief Editor Geophysics, Frontiers Journal	2017-
National Science Foundation-EAR Committee of Visitors	2017
CIDER Workshop co-organizer	2018
French IUF panel for Earth Sciences	2015-2017
National Science Foundation-EAR Deep Earth Processes Committee of Visitors	2014
Secretary Tectonophysics Section American Geophysical Union	2010-2012

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Tectonophysics Early Career Award Selection Committee	2009-2012
NERC Peer Review College Members Selection Panel	2012
NERC Peer Review college	2009-2012
Chair, Nominations Committee, CIG	2011
National Science Foundation: Frontiers of Earth Sciences Panel	2011
Member of Nominations Committee for CIG:	2010
Chair Gordon Research Conference: Interior of the Earth	2011
Vice-Chair Gordon Research Conference: Interior of the Earth	2009
NERC Standard Panel	2010
NERC Fellowship Panel	2010
Long-term tectonics working group (CIG)	2007-2010
Computational Infrastructure for Geodynamics (CIG) Executive Committee	2007-2010
Editorial Board, *Geology*, Geological Society of America	2007-2009
National Science Foundation Panel:	2006-2008
National Science Foundation Panels:	2002, 2003
National Science Foundation Panels:	2000
Meetings Committee, American Geophysical Union	2006-
Member of Nominations Committee for CIG:	2006
Chair Tectonophysics Section Nominating Committee (AGU):	2002-2007
Tectonophysics Section Nominating Committee (AGU):	2000-2002
Study of the Earth's Deep Interior Committee (AGU):	1996-2000
Co-convener of 7 special sessions at national and international meetings	1997-present

Reviewer Journals and Books:
American Geophysical Union (AGU) monographs, Brooks/Cole Thomson Learning, Earth and Planetary Science Letters (EPSL), EOS, Geochemistry Geophysics Geosystems (G^3), Geology, Geological Society of America Bulletin (GSAB), Geophysical Journal International (GJI), Geophysical Research Letters (GRL), Journal of Geophysical Research (JGR), Nature, Nature Geoscience, Physics of the Earth and Planetary Interiors (PEPI), Science, Tectonophysics, Lithosphere

Reviewer Funding Agencies:
Institute of Geophysics and Planetary Physics –Los Alamos National Laboratory (IGPP-LANL), National Science Foundation (NSF), Netherlands Organization for Scientific Research, Petroleum Research Fund, European Science Foundation, National Environmental Research Council (NERC), European Research Council (ERC)

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UCL Departmental Service

Earth Sciences Open Day Taster Courses	2015-2017
Natural Sciences Stream Director	2014-
Athena Swan Committee Member	2014-
Geophysics Stream Director	2013-
International Study Abroad Tutor	2012-
Professorial Search Committees	2012, 2013, 2014
MAPS Postgraduate Open Day	2011
UCL Open Day Presenter	2011, 2015, 2016
Departmental Seminar Organizer	2010-2012
Field trip co-leader, Field Geophysics Abruzzo, Third years	2016
Field trip co-leader, Betics Mountain Range, Spain	2011
Field trip co-leader, Apennine mapping for first year students	2010

University of Michigan Service

Center for the Education of Women-Scholarship Selection Committee	2006-2007
AGEP Advocate, Geological Sciences	2006-2007
Rackham Graduate School Council of Graduate Chairs	2006-2007
Advisory Comm., Advancing Diversity and Excellence in Science & Engineering	2006
Rackham Graduate School LSA representative to University of Puerto Rico	2003
Rackham Graduate School Workshop for Graduate Students	2002
Senate Assembly University of Michigan: member	2001-2004
Learning Communities: Promoting the Faculty Role in Teaching and Learning	2000
Board Member Lloyd Hall Scholars Program	1999-2002
University Mentorship Program	1998-2000
Undergraduate Freshman Orientation	1998
Rackham Graduate School Workshop for Graduate Students	1998
Senate Assembly University of Michigan: alternate member	1998

University of Michigan Departmental Service

Curriculum Committee Chair for Geophysics, Tectonics and Structure group	2006-2007
Tenure and Promotion Committee for Chris Poulsen	2006
Associate Chair for Graduate Studies	2005-2007
Sokol Nomination Writer (ad-hoc)	2004
Chair Person-Specific Search Committee	2003-2004
Executive Committee	2003-2004
Turner Grants Committee	2002
Turner Lecture Series Organizer	2001-2003
Ombudsperson	2001-2003
Curriculum Committee	2000-2002
GSI Orientation Panel	1999-2000
Hydrology Faculty Search Committee	1998-1999
Departmental Webmaster	1998-2000

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Outreach

Careers in Earth Science and Career Workshops for 6th formers and Year 10 students
Highgate School and Chrysalis partners, London, March 16, 2016.

Women in Science career evening
Blackheath High: School for girls, London, March 14th 2016.

Provided or Organised Work Experience for
Thalia Seale (Yr 11), Marjorie Briscolane, Joe, Hilton, Fleurette des Cieux

Careers in Earth Science and Career Workshops for 6th formers and Year 10 students
Highgate School and Chrysalis partners, London, March, June 2016

How deep currents control sea-level change, YES even today
Oxford Geology Group, Oxford, 18 February 2016.

How deep earth currents make and destroy mountains
Highgate School, London, 21 January 2016

UCL Masterclass Advisor

A sweet understanding:
UCL, 19 February 2015

UCL Masterclass

Girls and Women in Science, visit to UCL Labs for year 6 girls at Trevor-Roberts school:
UCL, 11 June 2013

Friends of the Royal Astronomical Society lunchtime lecture:
Invited Speaker, Burlington House, London, May 29th, 2013

Royal Society UK-Brazil Frontiers of Science Meeting:
Speaker Interior of the Earth session, August 27-30, Sao Paulo, Brazil

Demonstration of laboratory experiments to Primrose Hill Primary School students:
UCL, 27 May 2010

15th Annual Beckman Frontiers of Science Symposium:
Invited by National Academy of Sciences, 6-8 November 2003

Women at the Center:
Journey to the center of the Earth
Center for the Education of Women, University of Michigan- 5 November 2003

Saturday Morning Seminars for Outstanding High-School Juniors:
Journey to the center of the Earth
College of Literature, Science and the Arts, University of Michigan-May 2003

Featured Newspaper Articles:
Detroit Free Press: *Ordinary girls. Extraordinary women* -28 March 2001
Ann Arbor News: *Where the ooze brews*-15 April 2000

Guest Speaker:
National Honor Society Induction Ceremony, Monroe High School, 3/8/00

General Science Magazines:
Geotimes: *Fast and Slow Lanes* –2 December 2002
Popular Mechanics, USA- April 1999
Super Interesante, Brazil- November1998
Twenty-First Century Bimonthly, Taiwan- August 1999
Science News, USA- September 1998

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Invited Lectures: Institutions

Inside out: How the Interior shapes the surface
Earth and Planetary Sciences, UCLA, Los Angeles, CA, USA, April 2017

The role of thermodynamics in the secular evolution of the Earth
CEED, University of Oslo, Oslo, Norway, February 2017

The role of thermodynamics in the secular evolution of the Earth
Department of Earth Sciences, Royal Holloway, London, UK, January 2017

Flat Slabs and Surface Uplift
Department of Earth Sciences, Durham University, Durham, UK, November 2015.

Anatomy and Entrainment of thermal plumes: An experimental perspective
Department of Earth Sciences, ETH, Zurich, April 2015

Dynamics of Planetary Interiors
Lecturer at CIDER Summer School: Kavli Institute for Theoretical Physics,
University of California, Santa Barbara, CA, July 2014 (lectures, tutorials)

What is a plume: Laboratory perspectives on plume structure and entrainment
Dept. of Applied Maths, UCL, December 2013

Slab morphology and density structure controls on dynamic topography and basin evolution
Dept. of Geology and Geophysics, Yale University, New Haven, CT, USA, November 2013

Interiors and Surfaces
Royal Astroonomical Society, Friends of RAS, Burlington House, London, UK, May 2013

Dynamics and Composition of the Mantle: From the Atomic to the Global Scale
Shortcourse Dipartimento Scienze della Terra, Roma Tre, Rome, Italy, April 2013

What is a plume: Laboratory perspectives on plume structure and entrainment
Dept. of Earth Sciences, University of Bristol, Bristol, UK, January 2013

Dynamic Topography: A window into earth's interior
School of Earth and Environmental Sciences, Leeds University, Leeds, June 2012

Dynamic Topography: A window into earth's interior
Dipartimento Scienze della Terra, Roma Tre, Rome, Italy, April 2012

Insights into plume structure and entrainment from high-resolution velocimetry and thermometry
Dept. of Earth Sciences, University of Southern California, LA, USA, December 2011

Dynamic Topography: A window into earth's interior
Dipartimento Scienze della Terra, University of Milan, Milan, Italy, September 2011

What is a plume?
Department of Earth Sciences, Cardiff University, Cardiff, UK, March 2010

Survival, stirring and entrainment in mantle plumes: An experimental perspective
Department of Earth Sciences, Durham University, Durham, UK, February 2010

Coupling between Earth's interior structure, dynamics and surface deformation
Institute of Tectonics and Geophysics, Leeds University, Leeds UK, December 2009

Coupling between Earth's interior structure, dynamics and surface deformation
Earth Sciences, Oxford University, Oxford, UK, October 2009

Earth's topography: A window into mantle dynamics
Earth Sciences, University of Edinburgh, Edinburgh, UK, December 2008

Earth's topography: A window into its dynamic interior
Mechanical Engineering, University College London, London, UK, November 2008

Earth's surface deformation: The role of topography, lithospheric structure and mantle flow

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Earth Sciences, Imperial College, London, UK, November 2008

Topography: a window into Earth's mantle

Bullard Laboratories, Cambridge University, Cambridge, UK, October 2008

Lithospheric production, ocean volume and sea-level changes in the Cenozoic

IUPUI, Indianapolis, Indiana, April 2008

Earth's topography: A window into Earth's dynamics

University College London, London, UK, May 2007

Earth under stress: mantle dynamics and surface deformation

University of Colorado, Boulder, CO, April 2007

How do plates and mantle interact: Continental deformation and great earthquakes

New Mexico Tech, Socorro, NM, October 2006

Nature and dynamics of Earth's transition zone: a multidisciplinary approach,

Lecturer at second CIDER Summer School: Kavli Institute for Theoretical Physics, University of California, Santa Barbara, CA, July 2006 (2 lectures)
[http://online.kitp.ucsb.edu/online/earth_m06/

The origin of great earthquakes: a geodynamical perspective

University of Chicago, Chicago, IL, December 2005

Earth under stress: mantle flow, surface deformation and great earthquakes

Packard Foundation Exit Seminar, Monterey Bay Aquarium, September 2005

Plate dynamics, lithospheric stress and great earthquakes

University of California, Davis, CA, May 2005

Earth under stress: plate dynamics, surface deformation and great earthquakes

Cornell University, Ithaca, NY, April 2005

Earth under stress: mantle flow and surface deformation

University of California, Berkeley, CA, February 2005

Relating geochemical and seismological heterogeneity in the Earth's mantle,

Lecturer at first CIDER Summer School: Kavli Institute for Theoretical Physics, University of California, Santa Barbara, CA, July 2004 (4 lectures)
[http://online.itp.ucsb.edu/online/earth04/]

Earth under stress: mantle flow, plate dynamics, and surface deformation

Massachusetts Institute of Technology, Cambridge, MA, May 2004

The origin of the asthenosphere

Bowling Green University, Bowling Green, OH, April 2004

The low velocity zone under continents and oceans: implications for geodynamics

Northwestern University, Evanston, IL, April 2004

Journey to the center of the Earth

Women at the Center, University of Michigan, Ann Arbor, MI, November 2003

Earth under stress: mantle flow, plate dynamics, and surface deformation

Washington University, St. Louis, MO, October 2003

Fluid dynamics of the Earth's interior

Geophysical and Environmental Fluid Dynamics Series, Department of Civil and Environmental Engineering University of Michigan, April 2002

Mantle flow and surface deformation

University of Chicago, Chicago, IL, October 2001

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The origin of the structure in the Earth's deep interior
Southern Methodist University, Dallas, TX, October 2000

The origin of the structure in the Earth's deep interior
Arizona State University, Tempe, AZ, October 2000

The origin of the structure in the Earth's deep interior
Indiana University, Bloomington, IN, October 2000

Causes and consequences of lateral heterogeneity in the Earth's mantle
Scripps Institution of Oceanography, La Jolla, CA, June 2000

Causes and consequences of lateral heterogeneity in the Earth's mantle
Seismological Laboratory, Caltech, CA, April 2000

Inside the Earth
Center for the Education of Women, University of Michigan, Ann Arbor, MI, October 1999

The surface geological record and the physics of the Earth's mantle
Department of Physics, University of Michigan, Ann Arbor, MI, October 1998

Geology and mantle dynamics
Department of Geology, Northwestern University, Evanston, IL, June 1998

Experimental investigations of mantle plumes
Department of Geophysical Sciences, University of Chicago, Chicago, IL, January 1998

Cenozoic history of continental flooding: tectonic and geodynamic considerations
School of Earth and Atmospheric Sciences, Georgia Tech, Atlanta, GA, February 1997

Uplift and subsidence history of continents and relative sea level change in the Cenozoic
Department of Earth and Planetary Sciences, Washington University, St. Louis, MO, January 1997

Plate tectonic history and mantle dynamics: Models of mantle structure, the geoid and plate motions & Convection at very high Rayleigh numbers: experimental constraints on plume dynamics
Department of Geological Sciences, University of Michigan, Ann Arbor, MI, April 1996

Plate tectonic history and mantle dynamics: Models of mantle structure, the geoid and plate motions
Department of Geology and Geophysics, University of Minnesota, Minneapolis, MN, May 1996

The forces that drive plate tectonics
Department of Physics, University of Toronto, Toronto, Canada, October 1995

The forces that drive plate tectonics
Geophysics Program, University of Washington, Seattle, WA, October 1995

What forces drive plate tectonics?
Department of Terrestrial Magnetism, Carnegie Institution of Washington, Washington, DC, December 1994

Dynamics of Cenozoic plate motions
Laboratoire de Sciences de la Terre, ENS-Lyon, France, November 1994.

The history and dynamics of plate motion **&** *The nature of mantle plumes and their role in mantle convection: new experimental results*

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School of Earth and Atmospheric Sciences, Georgia Institute of Technology, Atlanta, GA, November 1992

Temporal evolution of plate velocities and mantle convection: new observational and experimental studies,

Geophysical Laboratory, Carnegie Institution of Washington, Washington DC, September 1991

Invited Talks: National and International Meetings

Global models and global challenges
Trond Torsvik symposium, Tenerife, October 2017

Global Modeling of Early and recent earth
XV International Workshop of Mantle and Lithosphere Dynamics, Netherlands, August, 2017

Global models and global challenges
DCO Meeting, Moscow, May 2017

Mantle thermodynamics and convection: thermal stratification during evolution
Flow in the Deep Earth, Collège de France, Paris, December 2016

Experimental, Numerical and Observational Models in Geodynamics
EGU-2015, Union Symposium celebrating 200 years of modelling, Vienna, April 2015

The influence of thermodynamics on mantle dynamics
Rick-fest; Symposium in honor of Rick O'Connell, Harvard University, September 2014

Resolving the deep Earth: The sub-lithospheric contribution to topography
2014 Topo-Europe, Keynote Speaker, Barcelona, Spain, September 2014

Transition Zone Structure
Fall AGU (Fxx), San Francisco, CA December 2013

Physical and Chemical Heterogeneity in the Mantle.
Fall AGU (Fxx), San Francisco, CA December 2013

Lithosphere-Asthenosphere Coupling
Lithosphere-Asthenosphere Workshop*, College de France,* Paris, November 2013

Mantle surface coupling: A window into Earth's interior
25th Kongsberg Seminar, Institute of Planetary Physics, Oslo, Norway, May 2012

Lithospheric Structure, Mantle Flow and the State of Stress of the African Plate
Afar Meeting, Ethiopia, Addis Ababba, Jan 2012

What is a plume? An Experimental Perspective
Royal Astronomical Society/BGA Discussion Meeting, UKSEDI, November 2011

Dynamic Topography: Fact or fiction
Geological Society of London Special Meeting, London, UK, September 2011

New Perspectives and Unsolved Problems in Earth's Interior
Frontiers of Science, Royal Society, Sao Paulo, Brazil, August 2010.

Dynamic Topography Signals: Fact or Fiction
EGU (GD3.1/TS10.2): Geodynamics: Vienna, Austria, May 2010

Dynamic Topography Signals: Fact or Fiction
Fall AGU (S01): General Seismology: San Francisco, CA, December, 2009

Coupling of Earth's interior structure, dynamics and surface deformation
Crust to Core Conference, Abdus Salam International Center for Theoretical Physics, Trieste, Italy, July 2009.

Dynamical origin and consequences of chemical heterogeneity in Earth's mantle

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Modeling of Mantle Convection and Lithosphere Dynamics Workshop, Braunwald, Switzerland, July 2009.

Dynamical origin and consequences of chemical heterogeneity in Earth's mantle
New Views of Earth's Interior; joint BGA Min. Soc. Meeting, London, UK, February, 2009.

Modeling sources of topography and stress
Workshop for advancing numerical modeling of Mantle convection and lithospheric dynamics, Davis, CA, July 2008.

Models of intraplate stresses in the North and South American plates
Spring AGU (S34A): Ft. Lauderdale, FL, May 2008.

Plate-mantle coupling
Fall AGU (T03): San Francisco, CA, December 2007.

Subduction: primary driver of chemical and dynamical heterogeneity in the mantle
C2C-The fate of subducted material, Bergamo, Italy, February 2007

Origin and evolution of lithospheric stresses in the Cenozoic
Fall AGU (T03): San Francisco, CA, December 2004.

Origin and evolution of lithospheric stresses in the Cenozoic: implications for the Pacific plate
Western Pacific Geophysics Meeting (T12): Honolulu, HI, August 2004.

Past plate motions and the structure of the deep mantle
SEDI Meeting, Garmisch-Partenkirchen, Germany, July 2004.

Dynamic topography of continents and oceans
Joint Assembly, AGU, CGU, SEG, EEGS (T04): Montreal, Canada, May 2004

Earth under stress: mantle flow, plate dynamics, and surface deformation
Gordon Conference, Holyoke, MA, June 2003

Mantle convection and plate dynamics
American Physical Society, Austin, TX, March 2003

Slab-induced flow and seismic anisotropy at the core-mantle boundary
Spring AGU (S01): Boston, MA, May 2001

The dynamical consequences of phase transitions
Goldschmidt : Hot Springs, VA, May 2001

Mantle flow and the plate driving mechanism
Fall AGU (U06): San Francisco, CA, December 2000.

Is there partial melt in the upper mantle?
Fall AGU (S07): San Francisco, CA, December 2000

Causes and consequences of lateral heterogeneity in the Earth's mantle
ChiPR Workshop, Arlington, VA, June 2000

Discussion leader: Deep interior research questions
US Array Workshop, Houston, TX, September 1999

Causes and consequences of lateral heterogeneity in the mantle
Fall AGU (U22B): San Francisco, CA, December 1999

Mantle dynamics at the surface: evidence from the topography of continents
Spring AGU (U41A): Boston, MA, June 1999

The tectonic record in the deep mantle
IUGG (JS13): Birmingham, UK, July 1999

Dynamic topography and the African superswell
Fall AGU (S12): San Francisco, CA, December 1998.

Modeling plate motions and intraplate stresses

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Chapman Conference, Point Reyes, CA, June 1997
The fate of slabs

Gordon Conference, Plymouth, NH, July 1996
Subduction history, plate motions and mantle heterogeneity

Spring AGU (U07): Baltimore, MD, May 1995
What forces cause plate motions?

Spring AGU (U02): Baltimore, MD, May 1994
Plate motions since 120 Ma

NASA Geophysics Investigators Workshop, Goddard Space Flight Center, Greenbelt, MD, 10/1992
Experimental results of very high Ra# and Pr# convection in a fluid with strongly temperature dependent viscosity

Numerical Modeling: Lithospheric and Mantle Dynamics Workshop, Weilburg, Germany, 8/1991
Extensional tectonics at the eastern edge of the Puerto Rico microplate

7th Annual Symposium on Caribbean Geology, Mayagüez, PR, February 1988

Past, Current, and Pending Support

External: pending

External: current

NERC: NE/M00046X/1 £2.72M (1/9/2014-31/8/2019) (**co-I;** lead PI: J. Brodholt, UCL)

External: Past

NERC: NE/K006061/1 £270,904 (1/4/2013-31/3/2016) (**co-I**; lead PI: A. Ferreira, UCL)
NERC: NE/1024429/1 £11,420 (1/9/2011-31/08/2014) (**co-I**; lead PI: H. Davies, Cardiff)
REA: ANDYN 251954 €241,900 (1/1/11-31/3/13) Marie Curie IIF to F. Dávila,(**sole PI**)
NERC: NE/H007636/1 £502,405 (1/1/2010-12/31/2012) (**co-I**; lead PI: J. Brodholt, UCL), £11,768
NERC: NE/J024821/1 £31,249 (1/1/2012-30/6/2012) (**co-I**; lead PI: M. Walter, Bristol University)
NERC: NE/J024813/1, £17,143 (1/1/2012-30/6/2012) (**lead PI**)
NSF: EAR-111487 $40,000 (1/5/11-30/6/11) GRC: Interior of the Earth (**sole PI**)
NSF: EAR-0551991 $502,750 (3/15/2006-3/14/2009) (**lead PI**; co-PIs: A. Cotel, CEE, U. Michigan; J Whitehead and S. Hart, WHOI)
Royal Society: 2009/R4 £4,000 (15/5/2010-14/7/2010) International Travel Grants (**sole PI**)
NSF: EAR-0609553 $396,577 (6/1/2006-5/31/2009) (**lead PI**; co-PI: Clint Conrad, U. Hawaii)
Royal Society: 2008/R2 £4412 (1/1/2009-31/3/2009) International Incoming Short Visit
NSF-EAR-0551991 $10,000. (7/31/2007-6/30/2008) (**sole PI**)
NSF: EAR-0456112 $130,210 (4/1/2005-5/31/2007) (**co-PI**; lead PI: B. Romanowicz, U.C. Berkeley)
NSF: EAR-0440229 $35,553 (1/1/2005-12/31/2007) (**co-PI**: S. Bilek, New Mexico Tech)
Packard Fellowship for Science & Engineering: $625,000 (10/2000-9/2005) (**sole PI**)
NSF: EAR-9980551 $183,982 (3/15/2000-1/14/2003) (**sole PI**)
Alfred P. Sloan Foundation: $40,000 (9/2001-8/2003) Sloan Research Fellowship in Physics (**sole PI**)
NSF: EAR-0079980 $60,000 (8/01/2000-7/31/2001) (**lead PI**; co-PI: L. Stixrude, U. Michigan)
NSF: EAR-0042643 $5,000 (7/1/2000-12/31/2000) REU Supplement (**sole PI**)
NASA: Dynamics of the Solid Earth (1/97-12/99)-$377,810 (**co-PI**; lead PI: S. Solomon, DTM-CIW)
AGU-IUGG Travel Grant: -$1,500. (7/1999) (**sole PI**)
NSF: EAR-9505217 $72,000 (6/95-6/97) Earth Sciences Postdoctoral Research Fellowship (**sole PI**)

University of Michigan (proposal competition): Past

Research Partnership Program (2004) -*Stresses in Earth's crust*-$4,000

Elizabeth Crosby Research Fund (2004) - $20,000
OVPR, Distinguished Faculty/Graduate Student Seminar Program (2000)-$10,000
Research Partnership Program (1999) *3-D density structure of the Earth's mantle*-$3,000
Career Development Fund (1999)-$5,000.00
Turner Funds, Geological Sciences (spring 1998-1999) - $4000
Startup Funds: (1997)-$206,000

Postdoctoral, Graduate and Undergraduate Advising

Visiting Scholars

Teh-ru Song (May 2012)- Research Associate, JAMSTEC
Gabriele Cambiotti (Dec. 2011)-Ricercatore, U. degli studi di Milano
Federico Dávila (2011-2013)- Marie Curie International Incoming Fellow
Nico de Koker (2011)-Research Fellows, Bayerisches GeoInstitut,
Santanu Bose (2010)-Lecturer University of Calcutta, Royal Society International Travel for Collaboration
Federico Dávila (2009)- Asst. Professor, U. de Córdoba, Argentina, Royal Society International Incoming Short Visit Fellowship
Federico Dávila (2007)-Asst. Professor, U. of Córdoba, Argentina, Fulbright Scholar at U. Michigan

Postdoctoral Fellows:

Juan Gonzalez (2017-)-50%-Shared with Jeroen van Hunen, U. Durham
Neil Cagney (2013-2017)-100%-Postdoctoral Fellow, UCL
Jonathan Paul (2015-2016)-100% Honorary Research Associate, UCL, Research Associate, Imperial
Keely O'Farrell (2014-2016)-100% Postdoctoral Fellow, UCL, Assistant Professor U. Kentucky
Fabio Crameri (2014-2016)-100%-Postdoctoral Fellow, UCL, Research Fellow, University of Oslo
Joost van Summeren (2009-2012)-50%-Consulting Company, Netherlands
William H. Newsome (2011)-100%- Fluent, Michigan
Clinton P. Conrad (2001-2005)-100%-Full Professor University of Oslo
Hans Johnston (Applied Math)- (2002)-15%-Assistant Professor at University of Massachusetts
Sue Bilek (2001-2003)-50%-Full Professor at New Mexico Tech University
Margaret M. Streepey (2001)-100%- Associate Professor at Earlham College, Indiana

Graduate Students Advised

Ph.D. Secondary Advisor for Elodie Kendall (2015-
Ph.D. Advisor for Antoniette Grima (2015-)
Ph.D. Advisor for Kiran Chotalia (2015-)
Ph.D. Advisor for Tomos Kempley (2013-)
Ph.D. Secondary Advisor for Caroline Eakin, Yale University (Ph.D. 2015), Ass. Prof. ANU
Ph.D. Advisor for Peerasut Wongsureerat (2010-2014)
Ph.D. Advisor Marie B. Pears (Ph.D 2015)
Ph.D. Advisor for William H. Newsome (Ph.D. 2011)-Airflow Sciences Corporation, Michigan
Ph.D. Advisor for John Naliboff (Ph.D. 2009)-Postdoc, Geological Survey of Norway
Ph.D. Advisor for Wenbo Xu (Ph.D. 2008)-VP at Duff &Phelps
Ph.D. Co-Advisor for Lu Lu (Ph.D. 2006)-Applied Math, Wachovia Bank Analyst
Ph.D. Co-Advisor for: Margaret M. Streepey (Ph.D. 2001) Associate Professor- Earlham College
M.Sc. Advisor for Elodie Kendall, UCL (2015)

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M.Sc. Advisor for Antoniette Grima, UCL (2012)
M.Sc. Advisor for: Xin Wang (M.Sc. 2008)
M.Sc. Advisor for: Xu Xiqiao and Nico de Koker (M.Sc. 2005)
M.Sc. Advisor for: Jerome H. Guynn and Mark J. Wenzel (M.Sc. 2002)

Undergraduate Students:
Rizuko Yamaoka (2017-2018)- M.Sci 4th year projects
Carol Paige (2016-2017)- M.Sci 4th year project (Oblique subduction and strain partitioning)
Yupei Wang (2016)-Undergraduate Intern (Transdimensional modelling of viscosity structure)
Kiran Chotalia (2014-2015)-M.Sci 4th year project (Plume shearing by plate motions)
James Cook (2014-2015)-M.Sci 4th year project (Slab pull and oblique spreading)
Alexander Robson (2014-2015)-M.Sci 4th year project (Transdimensional study of mantle viscosity)
Joanna Reynolds (2013-2014)-M.Sci 4th year project (The viscosity structure of the mantle)
Rhys Shea (2013-2014)-M.Sci 4th year project (The effect of flat subduction on plate velocities)-First Prize NefTex Earth Model award.
Joel Davis (2012-2013)-M.Sci 4th year project (CCD evolution through time)
Tomos Kempley (2010-2012)-M. Sci 4th year project (Seismic detectability of plumes)
Marie B. Pears (2009-2010)-M. Sci 4th year project (Plume collapse)
Jennifer Lamp (2005-2006) (Plume structure and entrainment)
Amanda Seltzer (2005)-Independent Research (How the media reports natural disasters)
Satomi Abe (2003-2004)-Work-Study (Geodynamic lecture notes, equations and examples)
Martha Lewandowski (2003)-Work-Study
Jeff Paine (August 2002-July 2003)- (3-D temperature field of the mantle)
Vienna Lit (December 2001-December 2002) (1-D seismic velocity profiles)
Hans Hiser (Winter 2000-July 2002) (Fracture zone map of the ocean floor)

Member of Thesis Committee or Examiner:
Ph.D External Examiner Ingo Stotz, U. of Copenhagen (December 2017)
Ph.D External Examiner Matthew Price, U. of Cardiff (November 2016)
Ph.D. External Examiner: Mattia Guerri, U. of Copenhagen(September 2016)
Ph.D. External Examiner: Antoine Kraych, U. of Lille(June 2016)
Ph.D. External Examiner: Lea Bello, ENS-Lyon (January 2015)
Ph.D. External Examiner: Jeff Winterbourne, Cambridge University (November 2011)
Ph.D. Secondary Advisor for Alexis Cartwright-Taylor, UCL
Habilitation Defense for Dr. Laurent Husson, University of Rennes, (Rapporteur, January 2010)
M.Sc to Ph.D transfer: Joanna Faure Walker, Birkbeck,
M.Sc: External Examiner: Jeff Winterbourne, Cambridge University (October 2008)
Ph.D. Thesis Committee: J.P. Brandenburg
Ph.D. Thesis Committee: Jesse Otero (Math) (defended May 2002)
Ph.D. Thesis Committee: Allen McNamara (defended April 2002)
Ph.D. Thesis Committee: Boris Kiefer (defended March 2002)
Ph.D. Thesis Committee: Gerd Steinle-Neumann (defended October 2001)
Ph.D. Thesis Committee: Nazli Nomanbhuoy (defended January 1998)

Teaching Experience
Summary of Courses Taught Exclusive of Seminars: GSxx taught at University of Michigan

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Course #	Title	Format	Type	# Terms Taught
GEOL3003	Global Tectonics and Geo-dynamics	Lecture	Majors	12
GEOLG/M25	Geodynamics	Lecture	Majors	2
GS 321	Earth System Dynamics	Lecture	Majors	1 (Winter)
GS 107	Earthquakes & Volcanoes	Lecture	Non-Majors	10
GS 140	Science and the Media	Seminar	Non-Majors	6
GS 486	Geodynamics	Lecture	Majors/Grad	3
GS 117	Introduction to Geology	Lecture/Lab	Non/Majors	1.5
GS 270	Plate Tectonics	Seminar	Non-Majors	1
GS 205	Earth: Dynamic planet	Lecture	Non-Majors	1
GS 525	Tectonophysics	Lecture	Majors/Grad	1

Publications

http://orcid.org/0000-0003-0924-6587 Orcid (includes Researcher-Id from WOS and Scopus Id)
http://scholar.google.co.uk/citations?user=WyKH8v8AAAAJ&hl=en-Google Scholar
(In bold: postdoc or student at the time work was carried out; undergrad)

To be submitted shortly (drafts available upon request):

1. C. Lithgow-Bertelloni and **Rhys Shea**, *The effect of buoyant flat slabs on plate motions: Nazca-South America case study*, Geophysical Research Letters
2. R. Davies, **W. Newsome**, C. Lithgow-Bertelloni, A. Cotel, S. Hart and J. Whitehead, *Thermal vs Injection plumes and quantifying entrainment in the mantle*, EPSL.
3. **J. Davis** and C. Lithgow-Bertelloni, *Evolution of the CCD in the last 100 Ma: Implications for the carbon cycle*, Science
4. **K. O'Farrell, J. Reynolds** and C. Lithgow-Bertelloni, *The viscosity structure of the mantle from P and S tomographic models*, G3.

Submitted or in Revision:

5. **N. Cagney**, C. Lithgow-Bertelloni and L. Stixrude, *Influence of phase transformations on Earth's thermal evolution*, Science (Submitted)
6. **N. Cagney**, **F. Crameri** , and C. Lithgow-Bertelloni, *Time-scales of Mixing in Rayleigh-Bénard Convection: Implications for Earth's mantle*, J of Fluid Mechanics (in Revision)
7. **J. Naliboff** and C. Lithgow-Bertelloni, *Forever linked: Mantle flow controls surface deformation,* Geology (in Review)

Accepted, in Press or Published:

1. F. Crameri , C. P. Conrad, L. Montesi and C. Lithgow-Bertelloni, *The dynamic life of an oceanic plate* **Tectonophysics,** (in Press)
2. **C Eakin** and C. Lithgow-Bertelloni (2018), A*n Overview of Dynamic Topography: The Influence of Mantle Circulation on Surface Topography and Landscape* in Mountains, Climate and Biodiversity, Wiley, eds. Carina Hoorn and A. Antonelli, pp 544.
3. F. Dávila, F Martina, P.Ávila, J. Nóbile, G. Collo, M. Ezpeleta, H. Canelo, F. Sánchez, C. Lithgow-Bertelloni (2018) *Mantle influence on Andean and pre-Andean topography* in The evolution of the Chilean-Argentinean Andes, eds. Folguera A. et al., Springer Verlag (Invited, Accepted)
4. **F. Crameri** and C. Lithgow-Bertelloni (2017) *Abrupt upper-plate tilting during slab-transition zone collision*, Tectonophysics, (in press).

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5. F. **Crameri**, C. Lithgow-Bertelloni and P. Tackley (2017) *The dynamical control of subduction parameters on surface topography*, Geochemistry, Geophysics, Geosystems, 18, doi: 10.1002/2017GC006821.
6. J.M. Kendall and C. Lithgow-Bertelloni (2016) *Why is Africa Rifting?* ,From: Wright, T. J., Ayele, A., Ferguson, D. J., Kidane, T. & Vye-Brown, C. (eds) Magmatic Rifting and Active Volcanism. Geological Society, London, Special Publications, 420, http://doi.org/10.1144/SP420.17
7. **N. Cagney** and C. Lithgow-Bertelloni (2016) *Dynamics and excess temperature of a plume throughout its life cycle*, Geophysical Journal International, 205, 1574-1588
8. **N. Cagney, F. Crameri, W.H. Newsome,** C. Lithgow-Bertelloni, A. Cotel, S. Hart and J. Whitehead (2016) *Constraining the source of mantle plumes*, Earth and Planetary Science Letters, 435,55-63.
9. M. L. Rudolph, V. Lekic, C. Lithgow-Bertelloni (2015) *Viscosity Jump in Earth's Mid Mantle*, Science, 350, 1349-1352.
10. **F. Dávila** and C. Lithgow-Bertelloni (2015) *Dynamic uplift during slab flattening*, Earth and Planetary Science Letters, 425, 34-43.
11. **N. Cagney, W.H. Newsome**, C. Lithgow-Bertelloni, A. Cotel, S. Hart and J. Whitehead (2015) *Temperature and Velocity Measurements of a Rising Thermal Plume*, Geochem. Geophys. Geosyst., 16, 579-599, doi:10.1002/2014GC005576.
12. Tinetti, G, Drossart P., Eccleston, …et al. (2015), *The EChO science case*, Experimental Astronomy, 40, 329-391, doi: 10.1007/s10686-0159484-8.
13. C. Lithgow-Bertelloni, *Driving Forces, Slab Pull, Ridges Push* (2014) in Encyclopedia of Marine Geosciences, Eds. Harff, J., M. Meschede, S. Petersen, J. Thiede, Springer-Verlag, pp 1-6. (**Invited**)
14. C. Lithgow-Bertelloni, *The Mohorovičić discontinuity* (2014) Eds. Harff, J., M. Meschede, S. Petersen, J. Thiede, Springer-Verlag, pp 1-7. (**Invited**)
15. **C. Eakin**, C. Lithgow-Bertelloni and F. Dávila (2014) *Influence of Peruvian Flat-Subduction Dynamics on the Evolution of the Amazon basin,* Earth and Planetary Science Letters, 404, 250-260.
16. S. Bose, N. Mandal, S. Puspendu, S. Sarkar and C. Lithgow-Bertelloni (2014) *Thrust initiation and its control on tectonic wedge geometry: An insight from physical and numerical models*, J. Struc. Geo, 67, Part A, 37-49.
17. F. Dávila and C. Lithgow-Bertelloni (2014) Reply to Comment on *Dynamic topography in South America*, Journal of South American Earth Sciences, 50, 95-96.
18. J. Whitehead, A. Cotel, S.Hart, C. Lithgow-Bertelloni and **W. H. Newsome** (2013) *Numerical calculations of two-dimensional large Prandtl number convection in a box*, J. of Fluid Mechanics, 729, 584-602.
19. **F. Dávila** and C. Lithgow-Bertelloni (2013) *Dynamic topography in South America*, Journal of South American Earth Sciences, 43, 127-144. (**Invited**)
20. M. Richards, E. Contreras-Reyes, C. Lithgow-Bertelloni, M. Ghiorso and L. Stixrude (2013) *Petrological Interpretation of Deep Crustal Intrusive Bodies Beneath Oceanic Hotspot Provinces*, Geochem. Geophys. Geosyst., 14, 604-619.
21. M. Mookherjee, B. Karki, L. Stixrude and C. Lithgow-Bertelloni (2012) *Energetics, equations of state and elasticity of NAL phase: Potential host for alkali and aluminum in the lower mantle*, Geophys. Res. Lett., 39, L19306, DOI: 10.1029/2012GL053682

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23. **J. B. Naliboff**, C. Lithgow-Bertelloni, L. J. Ruff, and N. de Koker (2012) *The effects of lithospheric thickness and density structure on Earth's stress field,* Geophysical Journal International, 188, 1-17, DOI: 10.1111/j.1365-246X.2011.05248.x
24. **van Summeren, J.,** C. P. Conrad, and C. R. Lithgow-Bertelloni (2012) *The Importance of Slab Pull and a Global Asthenosphere to Plate Motions,* Geochem. Geophys. Geosyst.,13, Q0AK03, doi:10.1029/2011GC003873.
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31. **J. B. Naliboff,** C. Lithgow-Bertelloni and C. P. Conrad (2009) *Modification of the lithospheric stress field by lateral variations in plate-mantle coupling,* Geophysical Research Letters, *36*, L22307, doi:10.1029/2009GL040484. **(Highlighted in EOS)**
32. S. L. Bilek , C.E., Elliott and C. Lithgow Bertelloni (2009) *Triggered Seismicity Associated with the 1990 Nicoya Gulf, Costa Rica (M_w=7.0) Earthquake*, Geochemistry, Geophysics and Geosystems(G3), 10, Q04S13, doi:10.1029/2008GC002317.
33. **B. Wu**, C. Conrad, A. Heuret, C. Lithgow-Bertelloni and S. Lallemand (2008) *Reconciling strong slab pull and weak plate bending: The plate motion constraint on the strength of mantle slabs*, Earth and Planetary Science Letters, 272, 412-421.
34. **W. Xu**, C. Lithgow-Bertelloni, L. Stixrude and J. Ritsema (2008) *The effect of bulk composition on seismic structure,* Earth and Planetary Science Letters, 275, 70-79, doi:10.1016/j.epsl.2008.08.012 .
35. A. M. Courtier, M. Jackson, J. Lawrence, Z. Wang, Cin-Ty Lee*, R. Halama, J. Warren, R. Workman, W. Xu, M. Hirschmann, A. M. Larson, S. Hart, C.Lithgow-Bertelloni, L.Stixrude, W-P. Chen (2007) *Correlation of seismic and petrologic thermometers argues for deep thermal anomalies*, Earth and Planetary Science Letters, 264, 308-316.
36. **C. P. Conrad** and C. Lithgow-Bertelloni (2007) *Faster seafloor spreading and lithosphere production during the Mid-Cenozoic,* Geology, 35, 29–32; 10.1130/G22759A.1.
37. L. Stixrude and C. Lithgow-Bertelloni (2007) *Influence of phase transformations on lateral heterogeneity and dynamics in Earth's mantle*, Earth and Planetary Science Letters, 263, 45-55.

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38. L. Stixrude, C. Lithgow-Bertelloni, B. Kiefer and P. Fumagalli (2007) *Phase stability and shear softening in $CaSiO_3$ perovskite at high pressure*, Physical Review B, 75, 024108-024117, 10.1103/PhysRevB.75.024108.
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40. **X. Xu,** C. Lithgow-Bertelloni and C. P. Conrad (2006) *Global Reconstructions of Cenozoic seafloor ages: Implications for bathymetry and sea level*, Earth and Planetary Science Letters, vol. 243, 552-564, doi:10.1016/j.epsl.2006.01.010.
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46. **S. L. Bilek** and C. Lithgow-Bertelloni (2005) *Stress changes in the Costa Rica subduction zone due to the 1999 M_w=6.9 Quepos earthquake*, Earth and Planetary Science Letters, 230, 97-112, 10.1016/j.epsl.2004.11.020.
47. L. Stixrude and C. Lithgow-Bertelloni (2005b) *Thermodynamics of mantle minerals I: Physical properties*, Geophysical Journal International, vol. 162, 610-632, 10.1111/j.1365-246X. 2005.02642.x.
48. **M. M. Streepey**, C. Lithgow-Bertelloni, B. van der Pluijm and E. Essene (2004) *Exhumation of a collisional orogen: A perspective from the North American Grenville province*, in Tollo, R.P., Corriveau, L., McLelland, J., and Bartholomew, M. J., eds., Proterozoic Tectonic Evolution of the Grenville Orogen in North America: Geological Society of America Memoir, no. 197, 391-410.
49. **C. P. Conrad, S. L. Bilek** and C. Lithgow-Bertelloni (2004) *Great earthquakes and slab-pull: Interaction between seismic coupling and plate-slab coupling* Earth and Planetary Science Letters, vol. 218, 109-122, 10.1016/j.epsl.2003.10.045.
50. **C. P. Conrad**, C. Lithgow-Bertelloni and K. Louden (2004) *Iceland, the Farallon slab and dynamic topography of the North Atlantic,* Geology, vol. 32, 177-180, 10.1130/G20137.1.
51. C. Lithgow-Bertelloni and **J. H. Guynn** (2004) *Origin of the lithospheric stress field*, Journal of Geophysical Research, vol. 109, B01408, 10.1029/2003JB002467.
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54. **C. P. Conrad** and C. Lithgow-Bertelloni (2002) *How mantle slabs drive plate tectonics,* Science, vol. 298, 207-209.
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57. P.G. Silver, R. Russo, C. Lithgow-Bertelloni (1998) *Coupling of South American and African plate motion and plate deformation,* Science, vol. 279, 60-63.
58. C. Lithgow-Bertelloni and P.G. Silver (1998) *Dynamic topography, plate driving forces and the African Superswell,* Nature, vol. 395, 269-272.
59. C. Lithgow-Bertelloni and M. A. Richards (1998) *Dynamics of Cenozoic and Mesozoic plate motions,* Reviews of Geophysics, ***INVITED***, vol. 36, 27-78.
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3. C. Lithgow-Bertelloni (1996) *Mantle dynamics and the geological record*, Deep Earth Dialog (SEDI newsletter), 9, 11-12.

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4. C. Lithgow-Bertelloni (1994) *History and dynamics of plate motions*, Ph.D. Thesis. U.C. Berkeley signed by M.A. Richards (chair), M.S.T. Bukowinski, R. Jeanloz, and P. Marcus.

Teaching Publications:

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Columbia University Press-at http://www.earthscape.org 2000

GS107: Earthquakes & Volcanoes-Syllabus & Lectures
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