

## DR JOHN COLIN MUTTER

Professor of Earth and Environmental Sciences

<http://www.ldeo.columbia.edu/user/jcm>

Professor of International and Public Affairs

<http://sipa.columbia.edu/academics/directory/jcm7-fac.html>

Faculty of the Earth Institute

<http://www.earth.columbia.edu/>

Director of Graduate Studies, PhD in Sustainable Development

[http://sipa.columbia.edu/academics/degree\\_programs/phd/](http://sipa.columbia.edu/academics/degree_programs/phd/)

Director of the Earth Institutes post-doctoral fellows program

<http://www.earth.columbia.edu/articles/view/55>

Faculty Fellow, Institute for Social and Economic Research and Policy (ISERP)

<http://www.iserp.columbia.edu/>

Faculty Member SIPA Energy and Environment concentration

Columbia University in the City of New York

845 365 8730 (Earth Sci.); 212 854 0716 (Intl. Affairs)

Alliance Visiting Professor at Ecole Polytechnique Spring 2013

<http://www.columbia.edu/cu/alliance/archives.html>

Place of Birth: Melbourne, Australia

Permanent Resident USA, 7/28/83

Citizen USA, 5/2/2008

### ***Education –***

B.Sc., Physics/Pure Math (University of Melbourne, Melbourne, Australia) 1969

M.Sc., Geophysics (University of Sydney, Sydney, Australia) 1971

Ph.D., Marine Geophysics (Columbia University, New York, New York, U.S.A) 1982

Research Advisor, Manik Talwani

### ***Professional Experience –***

2013

[Ecole Polytechnique](#), Palaiseau, France c/o Columbia [Global Center](#) at Reid Hall, Paris.

7/1/2005 – present

[Professor of International and Public Affairs](#), Columbia University.

7/1/1991 – present

[Professor of Earth and Environmental Sciences](#), Columbia University.

7/1/2009 – present

Member of the Faculty of the Earth Institute of Columbia University

7/1/2008 – present

Member of the Faculty, Energy and Environment concentration, School of International and Public Affairs, Columbia University.

8/1/2009 – present

Faculty Fellow, Institute for Social and Economic Research and Policy (ISERP)

7/1/2008 – present

Director of Graduate Studies [PhD in Sustainable Development](#), School of International and Public Affairs. Columbia University

7/1/2004 – present

Director of the Earth Institute [Post-doctoral Fellows](#) program

1/1/2003 – 6/30/07

Deputy Director, the Earth Institute of Columbia University

12/1/00 -- 6/30/07 Associate Vice Provost, Columbia Earth Institute of Columbia University  
 12/1/00 - 2/28/03 Executive Deputy Director, Lamont-Doherty Earth Observatory  
 5/1/99 - 11/30/00 Interim Director, Lamont-Doherty Earth Observatory of Columbia University.  
 1/1/99 - 4/30/99 Executive Deputy Director, Lamont-Doherty Earth Observatory, Columbia University.  
 9/1/96 – 12/31/98 Deputy Director, Lamont-Doherty Earth Observatory of Columbia University.  
 3/1/94 – 8/31/96 Interim Director, Lamont-Doherty Earth Observatory of Columbia University.  
 1/1/94 – 4/30/99 Director of Research, Lamont-Doherty Earth Observatory of Columbia University.  
 1/1/93 – 2/28/94 Associate Director, Division of Geophysics and Geology, Lamont-Doherty Earth Observatory, Columbia University.  
 7/1/89 – 7/1/1991 Senior Research Scientist, Lamont-Doherty-Geological Observatory of Columbia University.  
 7/89 – 6/91 Adjunct Associate Professor of Geology, Columbia University.  
 7/87 – 6/89 Research Scientist, Lamont-Doherty Geological Observatory of Columbia University.  
 7/84 – 6/89 Adjunct Assistant Professor of Geology, Columbia University.  
 7/83 – 6/87 Associate Research Scientist, Lamont-Doherty Geological Observatory of Columbia University.  
 7/82 – 6/83 Research Associate, Lamont-Doherty Geological Observatory of Columbia University.  
 1978 – 1982 Columbia University Faculty Fellow.  
 1970 – 1980 Geophysicist, Bureau of Mineral Resources, Canberra, A.C.T., Australia (promoted from Grades 1 through 3 between 1970 and 1976).

### **Research Interests –**

My field of research at **SIPA** centers on understanding the role of natural disasters in reducing or enhancing development opportunities, especially in poor and emerging societies and issues of equity that surround them. How much of the global inequality in development status can be attributed to the particular burden that the poorest people face from natural extremes such as hurricanes and earthquakes? Meteorological extremes are expected to increase as a result of human-induced climate change, and my work attempts to assess who are the most vulnerable to horrific natural disasters like [Hurricane Katrina](#). I also examine these questions through the lens of human rights, asking whether rights attainment can predict disaster's worst outcomes, such as the response to Cyclone Nagris in Myanmar, where I recently traveled and how the norms and principals of human rights can provide guidance for climate adaptation strategies. The general theme of research follows the relationship between natural systems and human well-being, with particular focus on the vulnerability of poor societies to natural variations and extreme environmental conditions, as this could inform an understanding of the human response to natural changes at all scales and intensity. One of the major outcomes of this work is a book, [Disaster Profiteers](#), published by Palgrave Macmillan/ Saint Martins Press. An interview about the book is at <http://blogs.ei.columbia.edu/2015/08/10/the-disaster-profiteers/>. The book was first in the listing of books that made waves in 2016 <https://www.nrdc.org/experts/rob-moore/climate-change-literature-made-waves-2016>

My close collaborator on several of these projects is Prof Sonali Deraniyagala who is a development economist at SIPA and SOES London, and author of Wave (for instance, among many outstanding reviews: <http://www.nytimes.com/2013/03/24/books/review/wave-by-sonali-deraniyagala.html> ). We obtained funding from SIPA and from the Earth Institute to look at the effects disasters using welfare metrics such as the Human Development Index (instead of standard metrics like GDP) that might be more

revealing of effects in poor countries. We also studied the effect of corruption in post-disaster recovery under funding from SIPA. With Prof Deraniyagala and a student in the sustainable development PhD program, Stephanie Lackner, we have a project to examine the nature of earthquake risk in rapidly developing cities in Myanmar under funding from the Earth Institute's Earth Clinic program. This follows from fieldwork done by Deraniyagala and I in Myanmar to study the recovery following Cyclone Nargis. I also supervise Stephanie in her work on earthquake indicators for social science. She has a post-doc at Princeton and a job offer of a tenure track position at a university in Spain. Stephanie also co-taught Disasters and Development with me last Spring – fabulous reviews.

Professor Deraniyagala and I have indicated to EI that we will prepare a Primer similar to the one I have done as single author for CU Press on Disasters and Development.

I led the Earth Institute's partnership with the UNEP's Post-Conflict and Disaster Management Branch, researching environmental degradation as both an outcome and driver of disasters and conflicts. I also work with a political scientist [Elisabeth King](#) on understanding the underlying similarities natural disasters and armed conflicts that go beyond the superficial imagery of the news media and speak to the development of underlying causes and the convergence of proximate triggers as climate change emerges as a common driver. King was an Earth Institute post-doctoral fellow and is now an assistant professor at NYU.

Following the semester spent at Ecole Polytechnique in Spring 2013 as Alliance Visiting Professor, I developed a collaboration with Eric Strobl in their economics department. The first involves the use of nightlights data to study the immediate after effects and rebuilding after major natural disasters. Ideally this requires monthly data that is not readily available but can be produced in some areas. The second is with Strobl and Rob Elliot from Birmingham, UK to work with a Chinese partner to study earthquake resilience in China: <http://www.nerc.ac.uk/research/funded/programmes/resilience/news/preannouncement/>.

A more local project underway is a study of the changes in life expectancy of female survivors of natural disasters with Shuo Goa (MA economics Columbia). This project was based on extending a study published in the literature that claimed they could see evidence for reduced life expectancies but our study showed that their methodology was flawed and with better data we could see no signal – important, but not very publishable.

At **Lamont** my focus of research is on the use of marine seismology technologies to study processes in the formation of the earth's crust and mantle at mid-ocean ridge and continental rift settings. Most recently I was chief scientist aboard the Marcus G. Langseth, conducting the first 3-D [seismic imaging experiment](#) of seafloor spreading at the East Pacific Rise. This study will reveal how magma rises from deep in the earth's interior to create new crust and controls the distribution of biological communities at hydrothermal vent systems. The work is the foundation for two PhD theses at Lamont – one completed in Fall 2012 by Milena Marjanovic and the other in progress by Shuoshuo Han – and one at Dalhousie supervised by Mladen Nedimovic. We have presented numerous abstracts at the Fall AGU meeting, have one paper published with Pablo Canales as lead author in *Nature Geoscience* and several more in different stages including one with Suzanee Carbotte as lead author that has been revised and resubmitted to *Nature Geoscience*.

Current project involves the comparison analysis of two generations of seismic reflection data on the EPR to determine time-evolved effects of the magma chamber. This is with Helene Carton now at IPG Paris (I will be in Paris during May/June to work on this project). This has been slow going in part because of Helene's move but also because the project is very difficult in a technical sense.

I have been one of the principal investigators on the National Science Foundation-funded ADVANCE program (<http://www.earthinstitute.columbia.edu/advance/>), which is designed to create institutional change that will improve the opportunities for women in earth science and engineering at Columbia. The active period of this project has now been completed.

I convened two NSF-sponsored workshops; “A Leadership Workshop to Meet the Challenge of Global Change” held in Washington DC, June 16-17<sup>th</sup> 2009 and prior to that an “Expert Roundtable on Research Priorities in Sustainable Development” held March 6, 2008. Each of these is designed to set goals for future research directions in these emerging areas and could be influential in funding allocations. The latter is available at [http://www.earth.columbia.edu/roundtable/sustainable\\_development/](http://www.earth.columbia.edu/roundtable/sustainable_development/).

### ***Field Work –***

**Hurricane Katrina** deceased victims project: five research trips to New Orleans, one each to Houston and Atlanta to interview survivors and officials involved in disaster management, body recovery etc. This involves many interviews with local coroners and the State epidemiologist to determine causes of death, and obtain access to records as well as numerous individuals, relief workers etc.

Field studies of **Cyclone Nargis** recovery in Myanmar with Sonali Deranyagala.

Thirty-five **Marine Seismology** research cruises, twenty-two with Lamont-Doherty Earth Observatory, all cruises from 1981 onward as Chief or Co-Chief Scientist –

R/V MARCUS G LANGSETH MGL 08012	2008
R/V MAURICE EWING Cruise EW-9910	1999
R/V MAURICE EWING Cruise EW-9503	1995
BARGE (Basin and Range Geoscientific Experiment, Lake Meade)	1993
R/V MAURICE EWING Cruise EW-9203	1992
R/V MAURICE EWING Cruise EW-9101	1991
R/V MAURICE EWING Cruise EW-9102*	1991
R/V MAURICE EWING Cruise EW-9103	1991
R/V ROBERT D. CONRAD Cruise C-3001	1989
R/V ROBERT D. CONRAD Cruise C-2911 *	1988
R/V ROBERT D. CONRAD Cruise C-2902	1988
R/V ROBERT D. CONRAD Cruise C-2810 *	1987
R/V ROBERT D. CONRAD Cruise C-2809	1987
R/V ROBERT D. CONRAD Cruise C-2702 *	1986
R/V ROBERT D. CONRAD Cruise C-2607 *	1985
R/V ROBERT D. CONRAD Cruise C-2606	1985
R/V ROBERT D. CONRAD Cruise C-2412 *	1983
R/V KANA KEOKI - Hawaii Experiment *	1982
S/V PROSPEKTA - No. Atlantic Transect *	1981
R/V ROBERT D. CONRAD Cruise C-2114 *	1978
R/V ROBERT D. CONRAD Cruise C-2113	1978
R/V VEMA Cruise V-3405	1977
R/V VEMA Cruise V-3303	1976
R/V LADY CHRISTINE - Thirteen cruises (1970-1972) for Bureau of Mineral Resources, Canberra, Australia	

- *two-ship seismic programs*

### Activities in educational programs

Director of Graduate Studies for [PhD in Sustainable Development](#) at the School of International and Public Affairs.

Member of the faculty of the Energy and Environment Concentration at SIPA.

Member of the faculty of the [undergraduate](#) program in sustainable development in Columbia College managed by the Earth Institute.

Member of the Earth Institute's Education committee.

### *Courses taught –*

#### Graduate

Topics on the environment and economic development: Natural disasters and Development (given with Eric Strobl at AgroParisTech, Spring 2013, in negotiation for subsequent years). Lectures in the same program 2014.

Complexity Science SDEV4015 given Spring 2015, led by James Rising and Marion Dumas.

Marine Seismology, given in alternate years EESC 6490 (Spring)

Environmental Science for Sustainable Development SDEV6240 (Fall)

Climate Change, Development and Human Rights (Spring)

Disasters and Development SDEV6260 (with Sonali Deraniyagala or Stephanie Lackner, Spring)

Climate Change, human rights and development SDEV6235 (previously taught with Heather Grady, new co-instructor to be named).

#### Undergraduate

Science for Sustainable Development EESC2240 (with Ruth deFries, Fall)

Disasters and Development SDEV3360 (with Stephanie Lackner, Spring and Sonali Deraniyagala fall)

### *Student Advising –*

#### *Major Professor:*

Ph.D. completed: R. Mithal, E. Vera\*, J. Lorenzo, C. Zehnder, G. Barth, W. Su\*, J. Fang, G. Correa\*, J. Floyd\*, Shoushou Han. Stephanie Lackner (Sustainable development, SIPA)

PhD in Progress: **Note** that all first and second year students in the sustainable development PhD at SIPA program have a three person advisory committee that I chair as director of

graduate studies. In the same capacity I chair the Orals committee for all the PhD students in the program, as well as many of the defenses.

*Advisory Committee:*

Ph.D. completed: Marjanovic Milena, A. Malinverno, N. Bangs, S. Spangler, A. Holmes, A. Macario, J. McGinnis, J. Hopper\* (M. Phil.), G. Hu, W. He, X. Wang, Stephanie Lackner, Denyse Dookie

M. Phil.: L. Xu (passes oral exam, chose to terminate)  
Hannah Abend (IGERT Fellow, left the program)

*\*Heezen Award recipient*

*Masters and Undergraduate advising:*

Masters of Climate and Society:

Ipsita Kumar 2014/15 and Cari Shimkus 2013/14  
Jennifer Stephens (2007), Elizabeth Thornton (2008), Jessica Rosen, Anna Maria Podgorska, Kira Sullivan-Wiley (2009/2010), Svetla Marinova (2010/2011), Saira Qureshi and Phoebe Leung (2010/2011). Anna Louazeax 2018

SIPA Masters: Audrey Desiderato, Jennifer Davis, Rumi Naito: Integrating a pilot REDD project into Indonesia's National Policy Framework. Workshop project

Economics Shuo Gao Masters of Economics 2015/16  
Ipsita Kumar Climate and Society

Undergraduate:

Faculty sponsor for Leila Wisdom, Barnard Senior Thesis (2014/2015)  
Faculty sponsor for Meran Killackey CUSP Summer Enhancement Fellowship (2014)  
Brenden Cline, Belinda Archibong, Danni Pi (2010-2012)  
Erin Stahmer, SD major RA on foreign media coverage of disasters, assistance for *Why Disasters Matter* book proposal. Mentor for her senior thesis. (2012)  
Erica Bower and Jodie Liu RAs to assist in the preparation of book proposal for *Science Fundamentals for Sustainable Development* (2013)  
Alena Zhang, 2018-2019

## ***Selected Awards, Memberships and Service Activities –***

(Those indicated with \* are associated with position of Interim or Executive Deputy Director, Lamont)  
(Those indicated with \*\* are associated with position of Deputy Director Earth Institute and/or Associate Vice Provost, Columbia)

† Alternate to President George Rupp

Member of the expert group for the UN DESA (Department of Economic and Social Affairs) drafting annual report – *Climate Change and Inequality 2017, sustainable development impacts of climate, conflict 2018*.

Member of the Advisory Board for [The Center for Science and Society](#) at Columbia University and member of the Earth Science Cluster of the Center on Science and Society

Member of the selection committee Whitman Family Foundation Summer Fellowship 2016 and 2018

Fellow of the American Association for the Advancement of Science

Member of University of Renne, France advisory group on sustainable development programs.

Member of DEES Diversity Committee.

Member of DEES PhD student admissions committee 2018/19

Member of SIPA PhD admissions committee 2013 --

Chair Earth Institute Post-doc Fellows admissions committee.

Member of SIPA Committee on Instruction (COI).

Member Earth Institute Education Committee.

Member of the Steering Committee of the NSF [RCN-CCUS](#) Research Coordination Network on Carbon Capture Use and Sequestration: Ah-Hyung (Alissa) Park, Chair

Member of the [Executive Committee](#) of the Graduate School of Arts and Sciences (GSAS).

Member of the University Senate and Senate Budget Review Committee; Chair of the sub-committee on undergraduate tuition. Member of the Senate Rules Committee. Senate sub-committee reviewing SPS.

Member of the Columbia [Beijing Global Center](#) Faculty advisory board.

Member of the Haiti Task Force for Columbia University and the Haiti regeneration Initiative.

Chair of the Steering Committee for the NSF Roundtable on Research Priorities in Sustainable Development.

Member 2008 Equator Prize Technical Advisory Committee (TAC) for the UNDP

Member of the Advisory Board for Consilience: The Journal of Sustainable Development.

<http://consiliencejournal.readux.org/>

Panel member for NSF MG&G proposal review panel.

Member of the Associate Board of the *Journal of Disaster Medicine and Public Health Preparedness*  
<http://www.dmph.org/>.

Member Advisory Board of *Cogito*; an internet-based program from the Center for Talented Youth at Johns Hopkins University.

Editor (with two others) *Journal of Geophysical Research*, Solid Earth 2005-2009; remained emeritus through 2010.

Chair American Association for the Advancement of Science Section on Geology and Geography, 2006.

Chair of the Steering Committee for Columbia State of the Planet Conferences; five conferences 1999-2008. <http://www.earth.columbia.edu/sop2008/>. Note the statement from the 2004 Conference at

<http://www.earthinstitute.columbia.edu/sop2004/consensus.html> .

Convener; Understanding Katrina Conference at Columbia University, November 2006.  
 Member Steering Committee Global Roundtable on Climate Change, Moderator of first delegates meeting, May 2005.  
 Co-Chair (with Gregg Moore) of the Steering Committee for the NSF sponsored workshop on Opportunities for 3D reflection seismology in Geoscience research, held at Lamont 2005.  
[EOS 3d Workshop.pdf](#)  
 Coordinate of Sciences for PhD in Sustainable Development in School of International and Public Affairs, 2004 - 2007  
 Co-chair with Mike Purdy of the Steering Committee for the Columbia 250<sup>th</sup> symposium on the Earth's Future: Taming the Climate.  
 Member *Praxair Corp* Sustainability Council, June 2003-2007  
 Member, New York State Greenhouse Gas Task Force – July, 2001 – 2004  
 Co-Chair, Task Force - London School of Economics – Columbia collaboration – January, 2001 – present  
 Chair, Biosphere2 Executive Committee, July, 2002 – Dec 2003 \*\*  
 Earth Institute Academic Committee Member \*\* - December 1, 2000 - Present  
 Chair, Earth institute Council of Directors \*\*  
 Member Board of Directors, Center for Environmental Research and Conservation (CERC) \*\*  
 Member, Waldo E. Smith Medal Committee, July 1, 2000-June 30, 2002; Chair, July 1, 2002 – June 30, 2004  
 †Hudson River Institute Strategic and Operations Planning Sub-Committee, 2000-Present  
 †Hudson River Institute full Advisory Committee, 2000-2003  
 Co-Chair, Lamont Planning Committee, 1999 - 2002  
 Member, Columbia University Library Information Systems Subcommittee, October, 1999-2002  
 Member, Rockland Economic Development Corp. Board, August, 1999  
 Co-Chair, Columbia Earth Institute Planning Committee. 1996-1999  
 Member, Columbia's Government Relations Advisory Group  
 Member, Earthscape Advisory Board for Columbia University Press, 1997-Present  
 Member, Planning Committee for "Oceanography: The Making of a Science" colloquia series, supported by ONR and The Heinz Center for Science, Economics and the Environment\*  
 Member, Earth Institute Transition Team\*  
 Member, Columbia University, DEES Planning Committee, September, 1999 - 2004  
 Columbia University Representative, JOIDES Executive Committee 1994-2002; presently alternate to M Purdy.  
 Columbia University Representative, CORE (Consortium for Ocean, Research and Education)\* alternate to M Purdy  
 MARINE GEOPHYSICAL RESEARCHES, Editorial Board, July 1992-1998  
 GEOLOGY Editorial Board, July 1991-June, 1994  
 JOURNAL OF GEOPHYSICAL RESEARCH, Associate Editor, 1985-1987  
 Member, Society of Exploration Geophysicists  
 Member, American Geophysical Union  
 Member, American Association for the Advancement of Science  
 Member, New York Academy of Science  
 Member, Sigma Xi  
 Member, American Geophysical Union, 1994 Federal Budget Panel  
 Lamont-Doherty representative to JOIDES Planning Committee, 1991-1996  
 Chairman, International Lithosphere Program, Working Group 4, "Nature and Evolution of the Oceanic Lithosphere" 1990-1992  
 Member U.S. Geodynamics Committee (USGC), Jan. 1991-June, 1993  
 Member Ewing medal selection committee for AGU, 1990-1994  
 Chairman, Columbia University Press, Advisory Committee on Geosciences 1989-1996



Member Columbia Univ. Press, Faculty Advisory Comm. on Publications, 1987-1996  
Chairman, MARGINS Research Initiative Comm., Oceanic Studies Board, National Research Council, 1988-1994  
Member JOIDES Lithosphere Panel 1986-1990  
Steinbach Visiting Scholar, Woods Hole Oceanographic Institution, August, 1989  
Steering Comm., JOI/USSAC Workshop on Drilling Oceanic Lower Crust & Mantle, March, 1989  
Organizing Committee Member RIDGE (Ridge Interdisciplinary Global Experiments) Mapping and Sampling Workshop, 1988  
Representative to National Oceanographic Reflection Profiling Org. (NORPO) 1986-1988  
Co-Convenor Vertical Seismic Profiling Workshop for the Ocean Drilling Program, 1987, sponsored by JOI/USSAC  
Member JOIDES North Atlantic Regional Panel 1984-1986  
ARCO Research Fellow, 1984  
Conoco Distinguished Lectures, Woods Hole Oceanographic Institution, April, 1984.

### ***Publications –***

The following list does not include numerous articles contributed to publications including OECD [Insights](#) and [Earth](#) Magazine, which are not refereed in the normal way. Additional information is available at my [personal web site](#) accessible from Earth Institute or Lamont main sites.

Requested articles that followed publication in Slate.

[http://www.slate.com/articles/business/moneybox/2015/08/katrina\\_and\\_other\\_disasters\\_they\\_almost\\_always\\_make\\_the\\_poor\\_poorer\\_and.html](http://www.slate.com/articles/business/moneybox/2015/08/katrina_and_other_disasters_they_almost_always_make_the_poor_poorer_and.html)

And in Foreign Affairs <https://www.foreignaffairs.com/articles/2016-04-18/opportunity-crisis>

And in Earth Magazine

An Economic Argument for Reframing the Geoscientist's Job, Feature article, May 2017 (pdf available)

After a Disaster, Should You Gamble on Returning? Paradise Edition. March 2019 (pdf available)

### ***Books***

#### ***Published Book***

John C Mutter. *The Disaster Profiteers: How natural disasters make the rich richer and the poor even poorer.* Palgrave Macmillan/ St Martins Press, New York. 2015. Agent Jean V Nagger Literary Agency Inc, New York.

#### ***Journal publications and books in process:***

John C.. Mutter. *Climate change: A primer for sustainable development studies.* Under contract to CU Press. Intended to be part of a series for EI by CU Press. To be published in Fall 2019. Approximately 42,000 words.

John C. Mutter. *Talking sense about climate change; for a change*. Trade book in process. Expected to be 60-70,00 words, 45,000 are complete. JVNA agency handling the determination of a publisher, hopefully by mid-year.

John C. Mutter and Sonali Deraniyagala. *Disasters and Development: A Primer for sustainable development studies*. In preparation for CU Press series. Professor Deraniyagala will be at SIPA in 2019 to work on the manuscript.

Stephanie Lackner *Earthquake are not more deadly at night*. In preparation for GRL or Nature Geosciences, submit by end of Spring semester.

With Milena Marjanovic and others Investigation of relationships between seafloor structural segmentation and the crustal magmatic system along the East Pacific Rise 8°20' to 10°10'.

Carton, H., Carbotte, S.M., Mutter, J.C., Nedimovic, M.R., Canales, J.P., Marjanovic, M., Aghaei, P., and Xu, M., Architecture of the axial magma lens along an erupting mid-ocean ridge: insight from three-dimensional seismic images on the East Pacific Rise 9°42' to 9°57'N, in prep. for *Geology*

Mutter, John C., Sonali Deraniyagala, Valentina Mara, Svetla Marinova, Welfare effects of natural disasters in developing countries: an examination using multi-dimensional socio-economic indicators. In preparation for *Journal of Economic Perspectives* (AGU abstract published).

Deraniyagala Sonali and Mutter, John C. The economics of natural disaster shocks: a critical review. For *Oxford Development Reviews*. In preparation

Mutter, J C, Carton, H D, Marjanovic, M Carbotte, S M, Canales, J, and Nedimovic, M R. Eruption-related changes in magma chamber structure at 9° 50' N on the EPR from coincident reflection images, 1985 and 2008, In preparation for *Nature*

### ***East Pacific Rise geophysical work***

**2017**

Milena Marjanovic et al. Segmentation of the multi-level magmatic system on the East Pacific Rise 8°20' to 10°10' N in preparation for GCubed, authorship order not decided, probably 4th of seven after Helene, and Suzanne.

## 2015

Marjanović, M, Helene Carton, Suzanne Carbotte, Mladen R. Nedimović, John C. Mutter and J. Pablo Canales. Distribution of melt along the East Pacific Rise from 9°30' to 10°N from an amplitude variation with angle of incidence (AVA) technique. *Geophysical Journal International*, 2015

## 2014

Xu, M., Canales, J.P., Carbotte, S.M., Carton, H., Nedimovic, M.R., and Mutter, J.C., Variations in axial magma lens properties along the East Pacific Rise (9°30'-10°00'N) from swath 3D seismic imaging and 1D waveform inversion, in review at *Journal of Geophysical Research*. 2014

Marjanovic, M., S.M. Carbotte, H. Carton, M.R. Nedimovic, J.C. Mutter, and J.P. Canales, A multi-sill magma plumbing system beneath the axis of the East Pacific Rise, *Nature Geosci*, 7, June 2014

Aghaei, O., Nedimovic, M., Carton, H., Canales, J.P., Carbotte, S.M., and Mutter, J.C., Crustal thickness and Moho character from post-stack migrated 3D MCS data collected over the fast-spreading East Pacific Rise from 9°42' to 9°57'N, *Geochem. Geophys. Geosyst.*, article first published online 18 March 2014, doi:10.1002/2013GC005069.

Han, S., Carbotte, S.M., Carton, H., Mutter, J.C., Aghaei, O., Nedimovic, M.R., Canales, J.P., Architecture of off-axis magma bodies at EPR 9°37-40°N and implications for oceanic crustal accretion, *Earth. Planet. Sci. Lett.*, vol. 390, 31-44, doi:10.1016/j.epsl.2013.12.040.

## 2013

Mutter, J.C. and H.D. Carton The Mohorovicic discontinuity in ocean basins: Some observations from seismic data *Tectonophysics* special issue 2013.

Carbotte, S.M., Marjanovic, M., Carton, H., Mutter, J.C., Canales, J.P., Nedimovic, M.R., Han, S., and Perfit, M. (2013) - Fine-scale segmentation of the crustal magma reservoir beneath the East Pacific Rise, *Nature Geoscience*, vol. 6, 866-870, doi:10.1038/ngeo1933.

## 2012

Canales, J.P., Carton, H., Carbotte, S.M., Mutter, J., Nedimovic, M., Xu, M., Aghaei, O., Marjanovic, M., and Newman, K. (2012) - Network of off-axis melt bodies at the East Pacific Rise, *Nature Geoscience*, vol. 5, 279-283, doi:10.1038/ngeo1377.

Carbotte, S.M., Canales, J.P., Nedimovic, M., Carton, H., and Mutter, J.C. (2012) - Insights into mid-ocean ridge hydrothermal and magmatic processes from recent seismic studies at the EPR 8°20'-10°10'N and Endeavour Segments, *Oceanography* 25-1, 100-112.

Canales, J.P., Carton, H., Mutter, J.C., Harding, A., Carbotte, S.M., and Nedimovic, M. (2012) - Recent advances in multichannel seismic imaging for academic research in deep oceanic environments, *Oceanography* 25-1, 113-115.

## 2009

Mutter, J.C., Carbotte, S.M., Nedimovic, M., Canales, J.P., and Carton, H. (2009) - Seismic imaging in three dimensions on the East Pacific Rise, *EOS*, vol. 90 no. 42, 374-375.

## **Abstracts resulting from the 2008 3D multichannel survey of the EPR:**

## 2013

- Marjanovic, M., Carbotte, S.M., Carton, H.D., Mutter, J.C., Nedimovic, M.R., Canales, J.P. (2013), Seismic images of multiple magma sills beneath the East Pacific Rise, Abstract OS42A-05 presented at 2013 Fall Meeting, AGU, San Francisco, Calif., 9-13 Dec.
- Han, S., Carbotte, S.M., Carton, H.D., Mutter, J.C., Aghaei, O., Nedimovic, M.R., Canales, J.P. (2013), Architecture of Off-Axis Magma Bodies at EPR 9°37-40'N and Implications for Oceanic Crustal Accretion (Invited), Abstract OS42A-04 presented at 2013 Fall Meeting, AGU, San Francisco, Calif., 9-13 Dec.

## 2012

- Marjanovic, M., Carton, H.D., Carbotte, S.M., Mutter, J.C., Nedimovic, M.R., Canales, J.P. (2012), Distribution of melt along the East Pacific Rise 9°50'N from amplitude variation with angle (AVA) of incidence technique, Abstract OS13D-1760 presented at 2012 Fall Meeting, AGU, San Francisco, Calif., 3-7 Dec.

## 2011

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