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## Michael C. Gurnis

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California Institute of Technology  
Pasadena, California 91125

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*Personal:* Born October 22, 1959, Boston, Massachusetts

### *Research Interests*

Global geodynamics: Mantle convection, plate tectonics and the dynamic coupling between mantle processes and continental & sea floor geology. Chemical and thermal evolution of the mantle and crust. Sea-level change and marine geophysics. Computational geophysics: frameworks, finite element analysis, and parallel processing.

### *Education*

1982: B.S., Geosciences, The University of Arizona, Tucson  
1987: Ph.D., Geophysics Australian National University, Canberra. Thesis: *Convective Mixing in the Earth's Mantle*

### *Professional Experience*

1986-1988: Research Fellow in Geophysics, California Institute of Technology  
1988-1993: Assistant Professor of Geological Sciences, University of Michigan  
1991: Visiting Fellow, Australian National University  
1993: Associate Professor of Geological Sciences, University of Michigan  
1994-1996: Associate Professor of Geophysics, California Institute of Technology  
1995-2003: Associate Director, Seismological Laboratory, Caltech  
1996-2005: Professor of Geophysics, California Institute of Technology  
2004-2010: Founding Director, Computational Infrastructure for Geodynamics (CIG), Caltech  
2005-: John E. and Hazel S. Smits Professor of Geophysics, Caltech  
2009-: Director, Seismological Laboratory, Caltech

### *Honors and Awards*

1989: Presidential Young Investigator Award, National Science Foundation  
1991: Fellow, The David and Lucile Packard Foundation  
1993: James B. Macelwane Medal, American Geophysical Union  
1993: Fellow, American Geophysical Union  
1993: Donath Medal (Young Scientist Award), Geological Society of America  
1993: Senior Fellow, Geological Society of America  
1997: University of Arizona, Geosciences Alumni Achievement Award  
2005: John E. and Hazel S. Smits Professorship  
2008: Gordon Bell Prize Finalist [Burstedde *et al.*, 2008]  
2010: Gordon Bell Prize Finalist [Burstedde *et al.*, 2010]

- 2012: Allday Endowed Lecturer, Jackson School of Geosciences, The University of Texas, Austin
- 2013: Excellence in Refereeing (Geochemistry, Geophysics, Geosystems), American Geophysical Union
- 2013: Augustus Love Medal of the European Geosciences Union
- 2013: Elected Foreign Member, Norwegian Academy of Science and Letters
- 2014: Wallace E. Pratt Memorial Award, American Association of Petroleum Geologists

### *Professional Service*

#### *American Geophysical Union (AGU)*

- Member, Committee for the Study of the Earth's Deep Interior (1994-1999)
- Convenor, Chapman Conference on *The History and Dynamics of Global Plate Motions* (1997)
- Member, Publications Committee (1998-2000)
- Associate Editor, **JGR-Solid Earth** (1998-2001)
- Associate Editor, **G<sup>3</sup>, Geochemistry, Geophysics, Geosystems** (1999-2004)
- Member, Inge Lehmann Medal Committee (2000-2002)
- Member, Joint Focus Group Fellows Committee (2013-)

#### *California Integrated Seismic Network (CISN)*

- Member, Steering Committee (2009-)

#### *Canadian Institute for Advanced Research (CIAR)*

- Member, External Review Panel for Earth System Evolution Program (1998)

#### *EarthScope*

- Member, IRIS USArray Steering Committee (1999-2003)
- Member, IRIS USArray Advisory Committee (2004-2006)
- Member, EarthScope Steering Committee (ESSC) (2010-2013)
- Chair, EarthScope Cyber Infrastructure Subcommittee (ESCISC) (2010-2013)

#### *European Geosciences Union (EGU)*

- Member, Augustus Love Medal Committee (2013-)

#### *Geological Society of America (GSA)*

- Editorial Board, **Geology** (1993-1995).
- Member, Arthur L. Day Medal Committee (1999-2002)

#### *Gordon Research Conference (GRC)*

- Chair, *Interior of the Earth* (1998)

#### *Integrated Ocean Drilling Program (IODP)*

- U.S. Member, Science Steering and Evaluation Panel (2006-2009)

*MARGINS and GeoPRISMS*

Member, MARGINS Steering Committee (2008-2010)

Member, GeoPRISMS Steering and Oversight Committee (2010-2011)

*National Research Council (NRC)*

Member, Geodynamics of Sedimentary Basins Panel (1995-1997)

*National Science Foundation (NSF)*

Member, Advisory Panel on Collaborative Mathematical and Geosciences (2002)

Member, Advisory Panel on Information Technology Research, Geosciences (2003)

Member, Task Group on Earth Science Cyberinfrastructure (2003-2004)

Member, Site Visit Panel for Information Technology Research (2004)

Member, Office of Cyber Infrastructure (OCI), Task Force on Grand Challenge (2009-2011)

*University of Oslo, Centre for Earth Evolution and Dynamics (CEED)*

Member, Scientific Advisory Board (2012-)

*Field and Marine Experience:*

Jan.-Feb. 2002. Fiordland, New Zealand. Sample collection by boat (*M/Y Huia*) and helicopter for thermochronology.

Nov. 9-Dec. 6, 2002. NBP0207 (*R/V Nathaniel B. Palmer*). Port Hueneme, CA to Lyttleton, NZ. Underway geophysics/SCS. Focus survey of Kermadec Trench.

May 22-June 12, 2003. NBP0304, Chief Scientist *R/V N. B. Palmer*. Lyttleton, NZ to Honolulu, HI. Underway geophysics. Target, survey of Kermadec Trench.

*Advisors and Recent Collaborators:* Geoffrey F. Davies (Ph.D. advisor), Bradford H. Hager (Post Doc advisor), B. Aagaard (USGS); B. Appelbe (VPAC, Australia); M. I. Billen (U. C. Davis); G. Biros (Penn); J. Bloxham (Harvard); O. Ghattas (Texas); B. H. Hager (MIT); M. House (PCC); G. Ito (Hawaii); P. J. J. Kamp (Univ. Waikato, NZ); L. Kellogg (U.C. Davis); L. Lavier (UTIG); L. Montesi (Maryland); L. Moresi (Monash, Australia); R. D. Müller (Sydney, Australia); O. Ghattas (U. Texas), S. Quenette (VPAC, Australia); X. Song (UIUC); M. Spiegelman (LDEO); R. Sutherland (GNS, NZ); T. Torsvik (Oslo); H. J. Van Avendonk (UTIG); P. van Keken (Michigan); S. Willett (ETH); C. Williams (RPI); M. E. Wysession (Wash. U.); S. Zhong (Colorado).

*Students and Post Docs:*

## Current:

Vishagan Ratnaswamy (PhD)  
 Xiaolin Mao (PhD)  
 Dunzhu Li (PhD)  
 Ting Yang (PD)  
 Dan Bower (PD)

## Former:

Wei Leng (PD, now Professor, University of Science and Technology, China)  
 Erin Burkett (PD, now Geophysicist, USGS)  
 Dan Bower (PhD, now PD, Caltech)  
 Laura Alisic (PhD, now PD, Cambridge University, UK)  
 Sonja Spasojevic (PhD, now at British Petroleum)  
 Fraser Keppie (PD, now Geophysicist, Nova Scotia Department of Energy, Canada)  
 Lijun Liu (PhD, now Assistant Professor, Dept. of Geology, University of Illinois)  
 Lydia DiCaprio<sup>1</sup> (PhD, Sydney University, now at Chevron Energy Technology Company)  
 Nathan J. Downey<sup>2</sup> (PhD, Now at ExxonMobil Production Research Company)  
 Eun-seo Choi (PhD, now Assistant Professor, University of Memphis)  
 Laura Hebert<sup>3</sup> (PhD, Assistant Research Scientist, University of Maryland)  
 Frederic Herman (PD, now Professor, University of Lausanne)  
 Laetitia Le Pourhiet (PD, now Assistant Professor, University of Paris, France)  
 Vlad Constantin Manea (PD, now Professor of Geophysics, National University of Mexico)  
 Eh Tan (PhD, now Assistant Research Fellow, Institute of Earth Sciences Academia Sinica, Taipei)  
 Chad Hall (PD, now with the Georgia EPA)  
 Luc Lavier (PD, now Assistant Professor, The University of Texas at Austin)  
 Magali I. Billen (PhD, Now Associate Professor, University of California, Davis)  
 Clint Conrad (PD, now Associate Professor, University of Hawaii)  
 Lijie Han (PD, now Senior Scientist, Planetary Science Institute, Tucson, AZ)  
 Jishu Deng (PD, now in the Financial Industry, Wall Street)  
 Igor Sidorin (PhD, now in the computer industry, Moscow Russia)  
 John Toth (PD, now Shell Oil)  
 Mark Simons (PD, now Professor of Geophysics, Caltech)  
 Louis Moresi (PD, now Professor of Computational Mathematics and Geophysics, Monash University)  
 Peter Burgess (PD, now Professor of Earth Sciences, Royal Holloway University of London)  
 Shijie Zhong (PhD, University of Michigan, now Professor of Physics, University of Colorado)  
 Stuart A. Weinstein (PD, University of Michigan, Now Assistant Director, Pacific Tsunami Warning Center, Hawaii)

<sup>1</sup>Co-advised with R. D. Müller; <sup>2</sup>Co-advised with J. M. Stock; <sup>3</sup>Co-advised with P. D. Asimow.