

H.J. MELOSH

ATTENDED: Princeton University, 1965-1969, A.B. (physics) magna cum laude
Caltech 1969-1972, Ph.D. (physics and geology)

Academic Experience

Graduate Teaching Assistant, Caltech, 1969-1971
Visiting Scientist, CERN (Geneva, Switzerland), 1971-1972
Research Associate, University of Chicago, Enrico Fermi Institute, 1972-1973
Instructor in Geophysics and Planetary Science, Caltech, 1973-1975
Assistant Professor of Planetary Science, Caltech, 1976-1978
Associate Professor of Planetary Science, Caltech, 1978-1979
Associate Professor of Geophysics, SUNY, Stony Brook, 1979-1982
Associate Professor of Planetary Science, Univ. of Arizona, 1982-1985
Professor of Planetary Science, Univ. of Arizona, 1985-present
Halbouty Distinguished Visiting Chair, Texas A&M University, October, 2000
Regents Professor of Planetary Science, Univ. of Arizona, January, 2004.
Distinguished Professor of Earth and Atmospheric Science, Purdue University,
August, 2009.

Fellowships and Honors:

Gravity Research Foundation Essay, Honorable Mention 1966
Phi Beta Kappa
Sigma Xi
NSF Fellowship, 1969-1972
Best Scientific Secretary Prize, Int'l Summer School of Theoretical
Physics, Erice, Sicily, 1972
Fellow of the Meteoritical Society (July, 1988)
Fellow of the Geological Society of America (November, 1988)
AGU Editor's Citation for Excellence in Refereeing, Tectonics (July,
1989)
Fellow of the American Geophysical Union (January 1993)
John Simon Guggenheim Fellow, 1996-1997.
Barringer Medal of the Meteoritical Society, 1999
Asteroid 8216 name "Melosh" Approved by the IAU, 2000
Gilbert Award of the Geological Society of America, 2001
Fellow of the American Association for the Advancement of Science,
October 2001
Member, National Academy of Sciences, Elected 29 April 2003
Humboldt Prize Fellowship, August 2005-2006
Hess Medal of the American Geophysical Union, 2008
Leon Blitzer Teaching Award, January 2009
Sigma Xi Research Award, April 2010
American Academy of Arts and Sciences, April 2011

Current: February 2016

McCoy Award of Purdue University, June 2014

Member: American Geophysical Union
Geological Society of America
Meteoritical Society
American Astronomical Society, Division of Planetary Sciences
AAAS

National and International Committees and Panels

Lunar and Planetary Review Panel, 1980-1983
COMPLEX 1982-1985
NASA Planetary Geology & Geophysics Working Group, 1984-1986
IASPEI commission on Quantitative Methods in Geodynamics, member 1984-present
Ames Vertical Gun Steering Committee, 1984-present
Planetary Geology Strategy Committee, 1986-1988
Associate Editor, JGR Solid Earth, 1987-1989
Editor, Reviews of Geophysics, Dec. 1988-1992
Member, Origin of Sedimentary Basin Task Force, International Lithosphere Program, French Petroleum Institute, Malmaison, France
Lunar and Planetary Review Panel, 1991-1993
Scientific Observer, European Science Foundation, Network on "The role of impact processes in the geological and biological evolution of planet Earth". 1993-1996.
Planetary Geology and Geophysics Management Operations Working Group, 1991-1995.
Editorial Committee, Annual Reviews of Earth and Planetary Science, 1997-2006.
AGU Macelwane Award Committee, 1998-1999.
Dwornik Prize Judge, 1999.
Strategic Planning Group of the SETI Institute, 2000-2002
Hess Award Committee, AGU 2000-2002
Consultant to the Hayden Planetarium of the American Museum of Natural History, 2003-2005
NRC Panel, Defending Planet Earth, 2009-2010.
NRC Panel, Steering Committee, Evaluation of NASA Technology Roadmaps, 2010-2011.

PhD Graduate Students Supervised

W. B. McKinnon
A. M. Vickery
D. M. Janes

Current: February 2016

C. A. Williams
W. B. Tonks
E. A. Ryan
M. Wallace
E. Asphaug
E. Pierazzo
A. M. Freed
E. P. Turtle
J. N. Head
J. E. Richardson
G. D. Bart
A. Sheffer
T. J. Goldin
B. C. Johnson
T. Bowling
L. Chappaz
J. Steckloff
J. Kendall
R. Sood
D. Parkos

BIBLIOGRAPHY

Papers in Peer-Reviewed Journals

H.J. Melosh

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- STEIN, S., MELOSH, H.J. and MINSTER, J.B. (1977) Ridge migration and asymmetric seafloor spreading. *Earth and Planetary Sci. Lett.* **36**, 51-62.
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- MELOSH, H.J. and DZURISIN, D. (1978) Mercurian tectonics: A consequence of tidal despinning? *Icarus* **35**, 227-236.
- MELOSH, H.J. and DZURISIN, D. (1978) Tectonic implications for the gravity structure of Caloris basin, Mercury. *Icaurs* **33**, 141-144.
- MELOSH, H.J. (1978) Dynamic support of the outer rise. *Geophys. Res. Lett.* **5**, 321-324.
- MELOSH, H.J. (1978) The tectonics of mascon loading. *Proc. 9th Lunar Science Conf.*, pp. 3513-3525.
- MELOSH, H.J. (1978) Reply [to J.C. Savage and W. Prescott]. *J. Geophys. Res.* **83**, 5009-5010.
- MELOSH, H.J. and MCKINNON, W. (1978) The mechanics of ringed basin formation. *Geophys. Res. Lett.* **5**, 985-988.
- MELOSH, H.J. and EBEL, J. (1979) A simple model for thermal instability in the upper mantle. *Geophys. J. R.A.S.* **59**, 419-436.
- PECHMANN, J. BURT and MELOSH, H.J. (1979) Global fracture patterns of a despun planet: Application to Mercury. *Icarus* **38**, 243-250.
- MELOSH, H.J. (1979) Acoustic fluidization: A new geologic process? *J. Geophys. Res.* **84**, 7513-7520.

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- MELOSH, H.J. (1980) Cratering mechanics: Observational, experimental, and theoretical. *Annual Rev. Earth and Planet. Sci.* **8**, 65-93.
- MELOSH, H.J. (1980) Rheology of the earth: Theory and observation. In *Physics of the Earth's Interior* (eds. Dziewonski and Boschi), pp. 318-336, North-Holland Publishing Company.
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- MELOSH, H.J. (1980) Tectonic patterns on a reoriented planet: Mars. *Icarus* **44**, 745-751.
- McKINNON, W.B. and MELOSH, H.J. (1980) Evolution of planetary lithospheres: Evidence from multiringed basins on Ganymede and Callisto. *Icarus* **44**, 454-471.
- MELOSH, H.J. and RAEFSKY, A. (1981) A simple and efficient method for introducing faults into finite element computations. *Bull. Seis. Soc. Am.* **71**, 1391-1400.
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- MELOSH, H.J. (1983) Reply [to R.J. Pike]. *J. Geophys. Res.* **88**, 2505-2507.
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- PIERAZZO, E., KRING, D. A., and MELOSH, H. J. (1998) Hydrocode simulation of the Chicxulub impact event and the production of climatically active gases, *JGR planets* **103**, 28607-28625.
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