

## CURRICULUM VITAE      **Mark A. Cane**

**Address:** Lamont-Doherty Earth Observatory, Palisades, NY, 10964  
Office (845) 365-8344 Fax (845) 365-8736  
Email: mcane@ldeo.columbia.edu

**Education:** Harvard College, 1961-65, A.B. (Applied Mathematics)  
Harvard University, 1965-66, M.S. (Applied Mathematics)  
Geophysical Fluid Dynamics Program, Woods Hole Oceanographic Institute, 1974  
Massachusetts Institute of Technology, 1972-75, Ph.D. (Meteorology)  
Goddard Institute for Space Studies, Postdoctoral 1975-1977

**Honors:** Phi Beta Kappa; A.B. *magna cum laude*; NSF Traineeship;  
National Science Foundation Creativity Award 1984-1986  
Sverdrup Medal of the American Meteorological Society, 1992  
Fellow, American Meteorological Society, 1993  
Fellow, American Association for the Advancement of Science, 1995  
Fellow, American Geophysical Union, 1995  
Fellow, American Academy of Arts and Sciences, 2002  
Cody Award in Ocean Sciences from Scripps Institution of Oceanography, 2003  
Bronze Award for Magazines Feature Article, 25,001 to 100,000  
“Ethnoclimatology in the Andes” in *American Scientist* 2003  
*Earth and Planetary Science Letters* Most Cited Paper 2004-2007  
California Department of Water Resources – Climate Science paper award, 2007  
Norbert Gerbier-MUMM International Award from the World Meteorological Organization, 2009  
Maurice Ewing Medal of the American Geophysical Union, 2013  
Member, National Academy of Sciences, 2013  
Fellow, The Oceanography Society, 2015

### **Professional Experience (1979 - present)**

|                                                                                                                                                             |            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| G. Unger Vetlesen Professor of Earth and Climate Sciences in Dept. of Earth and Environmental Sciences and Dept. of Applied Physics and Applied Mathematics | 1998-      |
| Chair, Dept. of Earth and Environmental Sciences, Columbia University                                                                                       | 2006-2008  |
| Professor, Dept. of Earth and Environmental Sciences, Columbia University                                                                                   | 1997-1998  |
| Doherty Senior Research Scientist, Lamont-Doherty Geological Observatory                                                                                    | 1987 -1997 |
| Adjunct Associate Professor & Professor, Dept of Geological Sciences, Columbia University                                                                   | 1984 -1997 |
| Sr. Research Scientist, Lamont-Doherty Geological Observatory                                                                                               | 1984-1987  |
| Visiting Scientist, University of Paris VI                                                                                                                  | 1984       |
| Assistant and Associate Professor, MIT Dept. of Meteorology and Physical Oceanography                                                                       | 1979-1984  |

**Memberships:** Phi Beta Kappa; American Meteorological Society; American Geophysical Union; American Association for the Advancement of Science; The New York Academy of Sciences; Oceanography Society.

### **5 Publications Related to proposed project (\* indicates student first author):**

\*Hsiang, S., K. Meng, and M.A. Cane, 2011 Civil conflicts are associated with the global climate, *Nature*, **476**, 438-441, doi:10.1038/nature10311

\*Shaman, J., J.F. Day, M. Stieglitz, S.E. Zebiak and M.A. Cane, 2004: A Seasonal forecast of St. Louis Encephalitis Virus Transmission in Florida. *Emer. Infect. Dis.* 10 (5): 802-809, 2004.

Cane, M.A., 2002: Understanding and predicting the world's climate system in impacts of El Niño and climate variability on agriculture. *American Society of Agronomy* (ASA Special Publication). p. 1-20.

Orlove, B.S., J.C.H. Chiang and M.A. Cane, 2000: Forecasting Andean rainfall and crop yield from the influence of El Niño on Pleiades visibility. *Nature*, 403, 68-71.

Cane, M.A., G. Eshel, R.W. Buckland, 1994: Forecasting maize yield in Zimbabwe with Eastern equatorial Pacific sea surface temperature. *Nature*, 370, No. 6486, pp. 204-205.

### **5 Other Publications (of ~250; \* indicates student first author):**

Sarachik, E.S. and M.A. Cane, 2010: *The El Niño-Southern Oscillation Phenomenon*, Cambridge University Press, London. 384pp.

Cane, M.A., 2005: The evolution of El Niño, past and future. *Earth and Planetary Science Letters*, 230, 227-240.

Seager, R., A. Karspeck, M. Cane, Y. Kushnir, A. Giannini, A. Kaplan, B. Kerman, J. Velez, 2004: Predicting Pacific decadal variability. *In The Ocean-Atmosphere Interaction*, Eds. C. Wang, S.-P. Xie and J.A. Carton, AGU, 105-120.

\*Zebiak, S.E., M.A. Cane, 1987: A model El Niño Southern Oscillation. *Mon. Wea. Rev.* 115, 2,262-2,278.

Cane, M.A., S.E. Zebiak and S. Dolan, 1986: Experimental forecasts of El Niño. *Nature*, 322, 827-832.

**Synergistic Activities:** Founder and Director, MA Program in Climate and Society. Lectures at forums on interdisciplinary education. Numerous public lectures (e.g. American Museum of Natural History; New York Academy of Science), lectures and panels at colleges (often as Phi Beta Kappa Lecturer) and interdisciplinary forums; Lamont summer intern program for undergraduates; frequent press contacts; articles in popular science magazines and in a book aimed at high school students; outreach via Lamont Open House. Founder of IRI; IRI Chief Physical Scientist. CO-I on NSF ADVANCE grant. Member, NRC BASC.

**Collaborators (last 48 months, excluding students, postdocs, and those still at Columbia U)** C. Karamperidou – Hawaii, A.T. Wittenberg – GFDL, Deplazes, G., A. Lückge, L.C. Peterson -- Miami, A. Timmermann – Hawaii, Y. Hamann - ETH, U. Röhl - Bremen, K.A. Hughen - WHOI, C. Laj - LSCE, D.M. Sigman – Princeton, G.H. Haug – ETH, J. Liu - Nanjing, B. Wang - Hawaii, S.-Y. Yim – Hawaii, Y. Lee – Hawaii, C. Wolff – GFZ, Potsdam, J. S. Sinninghe Damste - Utrecht , A. Brauer -- GFZ, D. Verschuren -- Ghent, E. Sarachik – Washington, N. Harnik – Tel Aviv, D.W. Stahle – Arkansas, M. Ghil – UCLA, M. Chekroun – UCLA, D. Kondrashov – UCLA

**Post-Docs Supervised:(19)** S. Zebiak, B. Blumenthal, B. Tang, D. Archer , G. Bürger, B. Rajagopalan, W. Wang, N. Tzitzverblit, D. Witter, R. Canizares, B. Reichert, P. Goodman, H. Gildor, S. Khatiwala, N. Harnik, M. Khodri, J. Smerdon, K. Karneckas, I. Pal, D. Chapman

**Graduate Students Supervised (30+4)**, S. Zebiak - IRI, S. Wacongne - FSU, R. Kuklinsky, R. Patton, H. Nelkin; R. Seager - Lamont, R. Murtugudde - Univ. of Maryland, V. Shukla - Rutgers U, Y. Xue - National Center for Environmental Prediction, Y. Zhao, A. Krupitsky - Prudential, G. Eshel - Bard College, K. Rodgers - Princeton, M. Evans - Univ. of Maryland, A. Clement - Univ. of Miami, H. Cullen - Climate Central, A. Giannini - IRI, J. Chiang – UC Berkeley, J. Shaman – Columbia Public Health, A. Karspeck - NCAR, J. Emile-Geay - U. Southern California, C. Herweijer – PwC, UK, I. Gordetskaya - K.U. Leuven, C. Ihara, D. Grass - Vermont Dept. of Environ. Protection, D. Wang - Northeastern, S. Hsiang – UC Berkeley, Y. Wu - Purdue, D. Ruiz - IRI, K. Meng - UCSB, W. Yang - UCI. Current: C. Chen, N. Ramesh, J. Rising.

**Thesis Advisor:** Prof. J.G. Charney

**Post-Doc Supervisor:** Dr. M. Halem