

CURRICULUM VITAE - MAURIZIO FANTINI – February 2015

Born: Bologna 20 March 1954

Current Position: Senior Researcher, Institute of Atmospheric Sciences and Climate, National Research Council of Italy (ISAC-CNR)

Degrees:	1988	Ph.D. (Meteorology), Massachusetts Institute of Technology, Cambridge, MA
	1977	“Laurea” in Physics, University of Bologna
Work:	1989-current	Researcher, CNR
	1988	Post-Doctoral Fellowship, National Center for Atmospheric Research, Boulder, CO
	1982-1988	Research Assistant, Dept. of Earth, Atmospheric and Planetary Sciences, Massachusetts Institute of Technology, Cambridge, MA

RESEARCH INTERESTS

Theory and modelling of atmospheric dynamics. Baroclinic instability and the life cycle of extra-tropical cyclones. Non-adiabatic effects in large and meso-scale dynamics.

ROLE IN RESEARCH PROJECTS

P.I.:

PNRA (1996-98): *Dynamics of the Antarctic Atmosphere: genesis and development of subsynoptic vortices*

PNRA (2000-2001): *Katabatic winds and large scale circulations over Antarctica*

Sinapsi (2000-2004): *Physical processes and idealized study of the climate system*

Italy-USA Cooperation on Climate Change (2007-2008): *Influence of Climate change on the characteristics of extra-tropical cyclones*

RSTL (2008): *Diagnostic study and climatological variability of atmospheric vortices*

Participant:

HERA (ENV4-CT96-0332)

Anomalia (EV5V-CT94-0442)

AMMA (FP6-SUSTDEV-4089)

RITMARE

OTHER

Convenor, session *Cyclone Structure and Development* at XVIII EGS General Assembly (Wiesbaden 1993)

Guest Editor *Physics and Chemistry of the Earth* for session *Extreme Weather Events in the Mediterranean* at XXIII EGS General Assembly (Nice 1998)

Convenor, session *Developments in Dynamic Meteorology* at XXV EGS General Assembly (Nice 2000)

Convenor, session *Developments in Dynamic Meteorology* at XXVI EGS General Assembly (Nice 2001)

Invited speaker “*Non-adiabatic effects on the life cycle of baroclinic cyclones*”
LXXXVIII National Congress SIF (Alghero 2002)
Associate Editor *Quart.J.Roy.Meteor.Soc.* 2006-2012
Referee for *J.Atmos.Sci.*, *Mon.Wea.Rev.*, *Quart.J.Roy.Meteor.Soc.*, *Clim.Dyn.,U.S.*
National Science Foundation, *IGARSS* and others

SELECTED PUBLICATIONS

- K. Emanuel, M. Fantini, A. J. Thorpe, 1987 : Baroclinic instability in an environment of small stability to slantwise moist convection. Part I: two dimensional models. *J.Atmos.Sci.*, **44** , 1559 – 1573
- M. Fantini, K. K. Tung, 1987 : On radiating waves generated by barotropic shear instability of a western boundary current. *J.Phys.Ocean.*, **17**, 1304 -1308
- R. Rotunno, M. Fantini, 1989 : Pettersen’s “Type B” cyclogenesis in terms of discrete, neutral Eady modes. *J.Atmos.Sci.*, **46**, 3599 – 3604
- M. Fantini, 1990 : The influence of heat and moisture fluxes from the ocean on the development of baroclinic waves. *J.Atmos.Sci.* , **47**, 840 – 855
- M. Fantini, 1990 : Non-geostrophic corrections to the eigensolutions of a moist baroclinic instability problem. *J.Atmos.Sci.* , **47**, 1277 – 1287
- M Fantini, 1993 : A numerical study of two-dimensional moist baroclinic instability. *J.Atmos.Sci.*, **50**, 1199 – 1210
- M. Fantini, A. Buzzi, 1994 : Short baroclinic waves of small amplitude in a moist environment. *Quart.J.Roy.Meteor.Soc.*, **120**, 1069 - 1084
- M. Fantini, 1995 : Moist Eady waves in a quasi geostrophic three-dimensional model. *J.Atmos.Sci.*, **52**, 2473 - 2485
- M. Fantini, S. Davolio, 2001 : Instability of Neutral Eady waves and orography. *J.Atmos.Sci.*, **58**, 1146 – 1154
- M.Fantini, 2004: Baroclinic Instability of a Zero-PVE Jet: Enhanced Effects of Moisture on the Life Cycle of Midlatitude Cyclones, *J.Atmos.Sci.*, **61**, 1296 – 1307
- M. Fantini, P. Malguzzi, 2008 : The slope of moist symmetric instability with water loading. *J. Atmos. Sci.*, **65**, 2922 – 293
- M. Fantini, P. Malguzzi, A. Buzzi, 2012 : Numerical study of slantwise circulations in a strongly sheared prefrontal environment. *Quart. J. Royal Meteor. Soc.*, **138**, 585 - 5955