

Biographical Sketch for Milija Zupanski

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a. Professional Preparation

1980 B.S. in Meteorology, University of Belgrade, Serbia
1987 M.S. in Meteorology, University of Oklahoma
1990 Ph.D. in Meteorology, University of Oklahoma

b. Appointments

2003-present Research Scientist III, CIRA/CSU
2002-2003 Research Scientist II, CIRA/CSU
2001-2002 CIRA Associate Fellow, CIRA/CSU
1992-2001 Visiting Scientist, UCAR/NOAA/NCEP
1990-1992 Post-Doctoral Fellowship, UCAR/NOAA/NMC
1985-1990 Research Assistant, University of Oklahoma
1980-1985 Chief, Regional Radar Center, Hydro-meteorological Institute of Serbia, Yugoslavia

c. Selected Publications

- Zupanski, M., I. M. Navon, and D. Zupanski, 2008: The Maximum Likelihood Ensemble Filter as a non-differentiable minimization algorithm. *Q. J. R. Meteorol. Soc.*, **134**, 1039-1050.
- Zupanski, M., and I. M. Navon, 2007: Predictability, observations, and uncertainties in the geosciences. *Bull. Amer. Meteor. Soc.*, **88**, 1431-1433.
- Zupanski, D., A.S. Denning, M. Uliasz, M. Zupanski, A.E. Schuh, P.J. Rayner, W. Peters, and K.D. Corbin, 2007: Carbon flux bias estimation employing Maximum Likelihood Ensemble Filter (MLEF). *J. Geophys. Res.*, **112**, D17107.
- Fletcher, S.J., and M. Zupanski, 2006: A data assimilation method for lognormally distributed observation errors. *Q. J. Roy. Meteorol. Soc.*, **132**, 2505-2520.
- Zupanski, D. and M. Zupanski, 2006: Model error estimation employing ensemble data assimilation approach. *Mon. Wea. Rev.*, **134**, 1337-1354.
- Zupanski, M., S.J. Fletcher, I.M. Navon, B. Uzunoglu, R.P. Heikes, D.A. Randall, T.D. Ringler, and D. Daescu, 2006: Initiation of ensemble data assimilation. *Tellus*, **58A**, 159-170.
- Zupanski, M., 2005: Maximum Likelihood Ensemble Filter: Theoretical Aspects. *Mon. Wea. Rev.*, **133**, 1710-1726.
- Zupanski, M., D. Zupanski, T. Vukicevic, K. Eis, T. Vonder Haar, 2005: CIRA/CSU four-dimensional variational data assimilation system. *Mon. Wea. Rev.*, **133**, 829-843.
- Zupanski, M., D. Zupanski, D. Parrish, E. Rogers, and G. DiMego, 2002: Four-dimensional variational data assimilation for the Blizzard of 2000. *Mon. Wea. Rev.*, **130**, 1967-1988.
- Zupanski, M., and E. Kalnay, 1999: Principles of Data Assimilation. *Global Energy and Water Cycles*, Cambridge Univ. Press. Ed. K.A. Browning and R.J. Gurney, 48-54.
- Zupanski, M., 1996: A preconditioning algorithm for four-dimensional variational data assimilation. *Mon. Wea. Rev.*, **124**, 2562-2573.
- Zupanski, M., 1993: Regional four-dimensional variational data assimilation in a quasi-operational forecasting environment. *Mon. Wea. Rev.*, **121**, 2396-2408.
- Sasaki, Y.K. and M. Zupanski, 1992: A mechanism of Alpine lee cyclogenesis as revealed by a quasigeostrophic variational filter. *Meteorol. Atmos. Phys.*, **47**, 91-105.

d. Synergistic Activities

Principal developer (with D. Zupanski) of the 4DVAR data assimilation system for the NOAA/NCEP Eta-model

Principal developer (with D. Zupanski and T. Vukicevic) of the 4DVAR data assimilation system for the CIRA/CSU RAMS model

Principal developer (with D. Zupanski) of the Maximum Likelihood Ensemble Filter (MLEF). This system is currently used at Colorado State University, Florida State University, NOAA, NASA, and South Korea.

Member of the WRF Data Assimilation Science Team

Member of the NOAA/THORPEX ensemble data assimilation inter-comparison group

Member of the NSF Science & Technology Center CMMAP Science Team

Co-Editor of Journal of Advances in Modeling Earth Systems (JAMES)

Co-organizer (with I. M. Navon), Workshop on Predictability, Observations, and Uncertainties in Geosciences, March 2006 (<https://www.scs.fsu.edu/workshop.php>)

Professional Societies

Member of the American Meteorological Society

Member of the American Mathematical Society

Member of the Society for Industrial and Applied Mathematics

Member of the European Geosciences Union

Recent Collaborators

(i) Collaborators

David Randall	Colorado State University
Graeme Stephens	Colorado State University
Scott Denning	Colorado State University
Tom Vonder Haar	CIRA/Colorado State University
Dusanka Zupanski	CIRA/Colorado State University
Mark DeMaria	CIRA/RAMM/ Colorado State University
Bob Dumais	Army Research Laboratory
Zoltan Toth	NOAA/NCEP/EMC
Michael Navon	Florida State University
Geir Evensen	Norsk Oil & Hydro
Dacian Daescu	Portland State University
Sara Zhang	NASA Goddard (GMAO)

(ii) Thesis Advisors

Yoshi Sasaki	University of Oklahoma
John McGinley	NOAA/ESRL

(iii) Postgraduate and graduate Scholars Sponsored

Steven Fletcher	CIRA/Colorado State University
Arif Albayrak	CIRA/Colorado State University