

Curriculum Vitae  
**Dr. Dusanka Zupanski**  
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### **Education**

- B.S. 1981, University of Belgrade, Yugoslavia - Atmospheric Sciences
- M.S. 1989, University of Belgrade, Yugoslavia - Atmospheric Sciences
- Ph.D. 1994, University of Belgrade, Yugoslavia - Atmospheric Sciences
- 1994-1996, Postdoctoral, UCAR/NOAA/NCEP, Camp Springs, Maryland

### **Appointments:**

2005-present	Research Scientist III, CIRA/CSU
2002-2005	Research Scientist II, CIRA/CSU
2001-2002	Associated Scientist, CIRA/CSU
1996-2001	Associated Scientist, UCAR/NCEP
1994-1996	Postdoctoral Fellow, UCAR/NCEP
1991-1994	Graduate Student Fellow, UCAR/NCEP

### **Carrier Overview**

Dr. Dusanka Zupanski joined Colorado State University, Cooperative Institute for Research in the Atmosphere in 2001. Prior to that Dr. Zupanski held positions at the NOAA/National Centers for Environmental Prediction (NCEP), where she worked on developing variational data assimilation techniques. Dr Zupanski's current research focus is on ensemble data assimilation techniques and their applications to different areas in geosciences. Major research topics include model error and parameter estimation, information content analysis of data, and covariance localization.

### **Research Projects**

- NASA/GPM, NOAA/GOES-R, NASA/North American Carbon Program

### **Recent Collaborators**

Milija Zupanski (CIRA/CSU, Colorado), Scott Denning (CSU, Colorado), Arthur Hou (NASA/Goddard, Maryland), Sara Q. Zhang (NASA/Goddard, Maryland), Mark DeMaria (NOAA/NESDIS/CIRA, Colorado), Lewis Grasso (CIRA/CSU, Colorado), Thomas Vonder Haar (CIRA/CSU, Colorado), Seon Ki Park (Ewha Womans University, S. Korea), Tomislava Vukicevic (CIRA/CSU, Colorado), Graeme Stephens (CSU, Colorado), David Randall (CSU, Colorado), Christian Kummerow (CSU, Colorado), and Wouter Peters (NOAA/CMDL, Colorado).

### **M.S. and Ph.D. Advisors**

Zavisa Janjic (NOAA/NCEP), Fedor Mesinger (NOAA/NCEP)

### **Postdoctoral Advisors**

Eugenia Kalnay (NOAA/NCEP, currently at University of Maryland), sponsored by UCAR postdoctoral program

### **Synergistic Activities**

- A team member of the NACP core project: “Mesoscale Carbon Data Assimilation for NACP”, lead by S. Denning and D. Zupanski.
- A team member of the NACP core project: “Syntheses of carbon dioxide flux and mixing ratio measurements in support of the North American Carbon Program Mid-continental Regional Intensive”, lead by S. Denning and K. Davis.
- A team member of the NSF Center for Multi-Scale Modeling of Atmospheric Processes (CMMAP), lead by D. Randall.
- An affiliated member of the NASA Global Precipitation Mission (GPM) Science Team.
- A Joint Faculty at the Department of Atmospheric Science at Colorado State University

### **Selected recent publications (peer reviewed)**

- Zupanski D., 2008: Information measures in ensemble data assimilation. Chapter in the book titled “*Data Assimilation for Atmospheric, Oceanic, and Hydrologic Applications*”, S. K. Park, Editor, (in press).
- Lokupitiya, R. S., D. Zupanski, A. S. Denning, S. R. Kawa, K. R. Gurney, and M. Zupanski, 2008: Estimation of Global CO<sub>2</sub> Fluxes at Regional Scale Using the Maximum Likelihood Ensemble Filter. *J. Geophys. Res.*, (in press).
- Carrio, G.G., W.R. Cotton, D. Zupanski, and M. Zupanski, 2008: Development of an Aerosol Retrieval Method: Description and Preliminary Tests. *J. Appl. Meteor. and Climat.*, doi: 10.1175/2008JAMC1729.1 (in press).
- Zupanski, M., I. M. Navon, and D. Zupanski, 2008: The maximum likelihood ensemble filter as a non-differentiable minimization algorithm. *Quart. J. Roy. Meteor. Soc.* **134**, 1039-1050.
- 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, doi:10.1029/2006JD008371.
- Zupanski, D., A. Y. Hou, S. Q. Zhang, M. Zupanski, C. D. Kummerow, and S. H. Cheung 2007: Applications of information theory in ensemble data assimilation. *Quart. J. Roy. Meteor. Soc.*, **133**, 1533-1545.
- Zupanski, D. and M. Zupanski, 2006: Model error estimation employing an ensemble data assimilation approach. *Mon. Wea. Rev.* **134**, 1337-1354.
- Zupanski M., D. Zupanski, T. Vukicevic, K. Eis and T. Vonder Haar, 2005: CIRA/CSU four-dimensional variational data assimilation system. *Mon. Wea. Rev.*, **133**, 829-843.