

## **Mingshi Chen**

**Title:** Environmental Scientist

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### **Education and/or Training**

B.S. 1982 Wuhan University of Electrical and Hydraulic Engineering in China, Mathematics

M.S. 1985 Huazhong University of Science and Technology in China, Applied Mathematics

M.S. 1999 University of Illinois at Urbana-Champaign, Civil and Environmental Engineering

Ph.D. 1998 City University of Hong Kong, Applied Mathematics

### **Areas of Specialization and/or Research Interests**

Since 2005 my research activities have focused on development of advanced data assimilation and its applications to improvement of analysis for terrestrial carbon dynamics from plot to regional scale. From 1997 to 2004 my research activities were associated with using data assimilation techniques to improve analyses of some dynamic models in fields of hydrology and oceanology. From 1983 to 1996 my research interests focused on numerical solutions of partial differential equations.

### **Professional Experience**

2005-present Environmental Scientist, various contractors at USGS EROS, Sioux Falls, SD

1997-2005 Research Scientist, Universities of Colorado, Southern Mississippi, and Illinois at Urbana-Champaign

1993-1996 Research assistant, Department of Mathematics, City University of Hong Kong

1986-1992 Assistant professor, Department of Applied Mathematics, Huazhong University of Science and Technology, Wuhan, P.R. China.

### **Professional Activities and/or Memberships**

American Mathematics Association

### **Foreign Languages**

Chinese (Mandarin) and English

### **Significant Recent Publications**

Chen, M., S. Liu, L.L.Tieszen and D.Y. Hollinger (in press, 2008). An improved state-parameter analysis of ecosystem models using data assimilation, *Ecological Modelling*.

Chen, M., S. Liu, and L.Tieszen (2007). Optimization of an Ecosystem Model through the Assimilation of Eddy Flux Observations using a Smoothed Ensemble Kalman Filter, proceedings of [2007](#) summer computer simulation conference (SCSC07), July 15 ~ 18, 2007. San Diego Marriot Mission Valley, San Diego, CA

Chen, M., S. Liu, and L.Tieszen, State-parameter estimation of ecosystem models using a smoothed ensemble Kalman filter. *Proceeding at 3<sup>rd</sup> Environmental Modelling and Software(iems)* at Burlington, Vermont, USA on July 9-12, 2006.

G. A. Alexandrov, D. Chan, M. Chen, K. Gurney, K. Higuchi, A. Ito, C. Jones, A. Komarov, K. Mabuchi, D. M. Matross, F. Veroustraete, W. Verstraeten, Model-data fusion in the studies of climate impact on terrestrial carbon sink, (position paper in workshop 16) *Proceeding at 3<sup>rd</sup> Environmental Modelling and Software(iems)* at Burlington, Vermont, USA on July 9-12, 2006.

Chen, M., S. Liu, and L.Tieszen (2005), Estimation of diurnal to seasonal ecosystem parameters using an ensemble Kalman filter, presented at American Geophysical Union (AGU) fall meeting of 2005 at San Francisco, CA, USA